IS THIS "IT"? On the concept of depression

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I. Introduction

A wide consensus was established in the aftermath of the 2007 financial meltdown in the United States around the proposition that the economic crisis that followed it was the worst on record since the Great Depression of the 1930's. In fact, many analysts writing in late 2008 and early 2009 considered the current crisis to be another episode of the same class of phenomena.[1] Traditional and unorthodox fiscal and monetary policies were mobilized, beginning in late 2008, and not only in the United States, to prevent the crisis from transforming itself into a new depression. Those policies were not uniformly successful everywhere, but some countries did recover and in some others the fall at least decelerated sensibly, leading some economists to consider that the risk of a new depression had been drastically reduced or even eliminated. It is almost audible the sigh of relief of economists and journalists as it is said that this time a depression was in fact prevented, even though the recovery continues to be fragile, unequal and uncertain.

What was it that was prevented? What happened in the Great Depression of the 1930's, the mother of all depressions, that was not repeated this time? In fact, what is a depression?

During the financial meltdown, the general public and the economics academic community were introduced to the name, if not necessarily the works and ideas, of Hyman Minsky. Most of the few economists who had actually read his name before tended to think he was just a minor precursor of Charles Kindleberger, inspiring the latter's *Manias and Panics*. The few references to his works made by orthodox authors tended at most to reveal their low degree of familiarity with his works.[2]

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[1] See the various versions of Eichengreen and O'Rourke's study "A Tale of Two Depressions" posted in www.voxeu.org.

[2] For instance, Bernanke (2000) dismissed Minsky's, as well as Kindleberger's, arguments "for the inherent instability of the financial system, [because] in doing so [they] have had to depart from the assumption of rational economic behavior." (p. 43) The identification of Minsky's ideas with Kindleberger's was actually unfortunate. Kindleberger's book is, in fact, a more respectable version of Mackay's *Extraordinary Popular Delusions*, presenting in an almost amusing way how irrational assets markets can become in certain periods. Economists who came to know Minsky through Kindleberger's acknowledgement of him as his source of inspiration assume that Minsky's model is based on the assumption that investors and financial agents are irrational, which could not be further from the truth. In fact, Minsky never departed from the assumption that economic agents are rational, as it will be shown later in this paper. Few analysts seem to have actually read him, as Andrew Haldane (quoted later) did and they are given out precisely by classifying Minsky's approach as *manias*.

Depressions seem to have been Minsky's main interest. His model of financial fragility was built precisely to show how likely it was that a prosperous economy would accumulate financial imbalances strong enough to trigger contractive processes typical of depressions. According to Minsky, the probability of a depression taking place at the end of a boom was higher than usually assumed, because successful post-Great Depression anti-cyclical policies had done their job. Nevertheless, "it", the unmentionable, was permanently lurking in the shadows, waiting for complacency to rule among economists, politicians and the general public, forgetful of the events of the 1920's and 1930's. Minsky saw a real risk of a new depression occurring in the United States in the 1980's and seemed to be vindicated in the 2000's. But as the perception of disaster seems to be fading, many authors already speak of how a depression was avoided, while others warn that, on the contrary, the depression is still unfolding. Others still argue that the crisis has ended but difficult times are here to stay, at least for an extended period.

So the general question inspiring this paper is: is (was) this "it"? Are we living the great depression of the 2010's? Or, perhaps, have we stood at the edge of the abyss in 2008 and 2009 but were taken back back to safer ground by whatever reason, like, for instance, the enlightened use of economic policy instruments?

An appropriate answer to these questions involves two parts. The first is conceptual and demands that depressions be properly defined. In fact, as we will see, at least in part different views as to the character of the events initiated in the United States in 2007 result from different conceptions of what a depression is and the economic processes that are involved in such a phenomenon. The aim of this paper is precisely to examine the most influential views put forward as to the distinctive character of a depression, if any, to arrive at a workable definition useful to proceed to empirical research. The second part, to be explored in a companion text, will be to present the results of such an empirical research.

To understand what a depression is, what kind of peculiarities this concept exhibits, and the specific economic dynamics it is supposed to describe we will organize this paper in seven sections, besides this introduction. Section two, next, will discuss views as to the specificity, if any, of a depression, with respect to related, but perhaps different, concepts, such as crises and recessions. The views of authors such as Friedman, Temin, Galbraith, Bernanke and Krugman, among others, will be examined in that section. Sections three, four and five are dedicated to a more detailed examination of the views of the three authors that arguably influenced Minsky's views more directly, Keynes in section three, Schumpeter in section four and Fisher in section five. Section six focuses on Minsky, relying not only in his own works but also on the sources examined in sections two to four. Section seven tries to present a unified view of the phenomenon of depression that could be useful to proceed to an empirical research of the events since 2007, in the United States and elsewhere. Section eight concludes the paper.

II. The Specificity of Depression

The term depression is found in the literature with at least three different meanings. For some, it is just a synonym for recession, applicable to particularly deep recessions to convey its higher drama content, but without any real theoretical specificity. Others call depression a really steep fall, much beyond what

is considered a recession. For these authors, normal recessions tend to be rather benign. The economic losses they entail may be even seen as prophylactic, purging the economy of its less productive factors of production. Depressions are a different phenomenon only in the sense they entail "unjustifiable" losses, beyond what one would expect as a normal "purge", as embodied in the concept of creative destruction. Finally, a third group uses the term depression to mean a prolonged period of semi-stagnation or, alternatively, an exceptionally long period of weak and fragile recovery from a crisis, with recurrent falls in the level of activity, low rates of growth and high unemployment. The second and third senses of the term are not mutually exclusive, but most authors tend to focus on one or another. In this case, as we will see, policy implications may be different depending on which meaning is chosen.

a. Depression versus cyclical recession

Many analysts seem to use the term depression without associating to it any particular meaning other than a crisis or a cyclical recession. Haberler (1943) is an important reference in this group. Capitalist economies are assumed to fluctuate according to a regular pattern whereby the phase of prosperity or expansion is necessarily followed by a phase of contraction. To call the contraction period recession or depression seems to depend only on an arbitrary choice of words. In particular, a depression is not assumed to be of any particular depth or duration in comparison to what would be called a recession.

Business cycle theories (or trade cycle theory as it used to be also called) come in many varieties. There are "real" and monetary cycles, money-based or credit-based cycles, mechanical repetitive cycles with definite periodicities or looser patterns where the only observable feature is that the economy alternately over and undershoots some supposedly sustainable level of activity (or rate of economic growth) . Recessions are the phase in which the excesses of the boom are purged. Capacity created in excess of sustainable demand, savings accumulated in excess of the availability of profitable investment opportunities, aggregate demand boosted by excess creation of credit or of money supply, are all assumed, by alternative models and approaches, to require a subsequent period of contraction to bring the markets to balance. Cyclical (or normal) recessions are thus at the same time *necessary* and *limited* in extent, since once the excesses of the boom are eliminated a further prolongation of the recession is no longer needed. A deeper recession may follow a boom only if the latter was more intense than the norm exhibited in past cycles. It is not a particular phenomenon with particular characteristics, since the severity of the contraction only mirrors the intensity of the preceding expansion.

Haberler (1943) presented a catalog of the most influential business cycle theories in the 1920's and 1930's. In his text, the term of preference for the contraction phase of the cycle is *depression*, but it is clear that he means what most authors came to call a cyclical recession. Other authors took a similar stand, notably Peter Temin (1976) and Charles Kindleberger (1975). Temin presented what became the "Keynesian" explanation of the Great Depression, based mainly on the behavior of aggregate consumption in the 1920's and 1930's. Kindleberger adopted a more eclectic view, listing various aspects of the expansion of the United States economy in the 1920's and pointing out the many imbalances that emerged in that time that contributed to make the depression in the 1930's as deep and intractable as it was.

b. Depression as pathology versus a normal reaction to strong upward impulses

A first, and related to the preceding, debate opposes a concept of depression to *normal* recessions. Recessions, as argued above, as supposed to be functional to the normal operation of the economy because it serves to eliminate the excesses left over by booms. Thus, a recession will be deeper, the larger the excesses that marked the preceding boom. What is important, though, is that *recessions play a role* in the normal functioning of a capitalist economy.

If it is accepted that recessions play a positive role in economic dynamics, if there are such thing as depressions they would be differentiated from recessions precisely by their pathological nature. As will be seen in section four, that was, for instance, the view defended by Schumpeter. In this class of theories, depressions may be generated by many factors, but their central feature would be its *dysfunctionality*, that is, the fact that they represent a net waste of resources, an unnecessary loss that cannot be justified by any favorable situation that could result from its occurrence. Specific theories offer particular lists of specific causes and negative impacts of depressions, but, in general, they tend to coincide in two aspects: first, it is not *necessary* that a depression occurs, in contrast to normal cyclical recessions, and thus nothing is gained by allowing a depression to unfold and prevail; second, being a pathological state of the economy, nothing guarantees that a depression will resolve itself, or that normal economic processes will lead to the end of a depression and succeeding recovery. In fact, for many of the authors subscribing this line of argument a depression is a *unique* event, not a link in a chain of events, responding to particular sets of causes not likely to be repeated in quite the same way elsewhere or at some other time.

c. Depressions as episodes of steep and deep fall

Perhaps the meaning most frequently ascribed to the term depression refers to the depth (and sometimes velocity) of a contractionary movement of the economy. Thus, for many authors the Great Depression is what happened in the United States economy from 1931 to 1933, excluding the Stock Exchange crash of 1929, which could be related to subsequent events but was not a necessary element of the depression, and what followed the adoption of the anti-crises policies, particularly those associated with the New Deal, after 1933.

A depression in this sense can be a unique event, as the pathological state argued above, or an amplification of a normal cyclical contraction resulting from the impact of random factors, such as mistakes of economic policy, changes in the political situation, autonomous changes in expectations, or external events.[3] What matters is the intensity of the downfall, which may trigger other contractionary impulses making the situation uniquely dire.

[3] The most commonly accepted class of external events are economic policy mistakes. Although disagreeing about which mistake was responsible for the Great Depression, Friedman and Schwartz, Temin and Kindleberger showed that Monetarists and Keynesians could at least agree that the depression was not a natural or unavoidable event rooted in the development process of the affected economies. Thus, according to Friedman and Schwartz (1963): "The monetary system collapsed, but it clearly need not have done so. The actions required to prevent monetary collapse did not call for a level of knowledge of the operation of the banking system or of the workings of

Certainly the best known expression of this argument was that of Milton Friedman and Anna Schwartz in their monumental *Monetary History of the United States* (1963). In their view, monetary policy mistakes were the main cause of the depression. This view was slightly modified by Bernanke (2000).[4]

d. Depression as a feeble and fragile recovery

There are at least two senses in which what happens *after* the downfall is the really defining aspect of a depression and the distinction between them does not seem to be clear to most of the analysts who actually advance this concept. One often finds in the literature, particularly in assessments of the effectiveness of anti-depression policies, the statement that it was not the New Deal or any particular policy adopted by the United States government that ended the Great Depression but the beginning of World War Two. Thus, a depression may be *rooted* in a severe meltdown but should not be confused with it. For these authors, the depression lasted at least seven to eight years after President Franklin D. Roosevelt adopted the policies that are associated to his name, and could have lasted much longer were it not for the strong revival of demand caused by the outbreak of the war.[5]

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monetary forces or of economic fluctuations which was developed only later and was not available to the Reserve System. On the contrary, … pursuit of policies outlined by the System itself in the 1920's, or for that matter by Bagehot in 1873, would have prevented the catastrophe." (407) Also, p. 300. Kindleberger (1975) also attributed the depression to errors in economic policy: "The explanation of this book is that the 1929 depression was so wide, so deep and so long because the international economic system was rendered unstable by British inability and United States unwillingness to assume responsibility for stabilizing it in three particulars: a. maintaining a relatively open market for distress goods; b. providing counter-cyclical long-term lending; and c. discounting in crisis." (291/2)". Temin (1991), who presented a Keynesian view of the depression also blamed monetary factors but in his case the culprit was the gold standard after the shock represented by World War One: "The postwar gold standard spread the shock of the war in two ways, by imparting a deflationary bias to national economic policies of gold-standard countries in the late 1920s and by indicating that deflation was the appropriate remedy for the ills of the early 1930s." (42) This, however, was not in fact Temin's first interpretation of the depression. About twenty years earlier, Temin opposed to Friedman's monetary explanation of the depression the view that blamed real factors for the contraction, such as the fall in construction activity, because of oversupply of houses in the United States in the twenties and a fall in consumption caused by the Stock Exchange crash. In the thirties a fall in international trade, caused by those problems amplified the phenomenon and made it durable. Cf. Temin (1976) .

[4] According to Bernanke, a more durable influence on the economy was played by the collapse of the banking system and the loss of "information capital" of banks. Cf. Bernanke (2000), p. 42.

[5] The durability of the depression is stressed by many authors. Not all of them, however, isolate it as "the" defining feature of the concept. Bernanke (2000), for instance, stresses that duration is the central "mystery" of the depression for orthodox eyes: "Further, the effects of monetary contraction on real economic variables appeared to be persistent as well as large. Explaining this persistent non-neutrality is particularly challenging to contemporary macroeconomists, since current theories of non-neutrality (such as those based on menu costs of the confusion of relative and absolute price levels) typically predict that the real effects of monetary shocks will be transitory." (p. 24) In his view, it is essential to explain why the effects of the crisis in the beginning of the thirties was still having effects so much later. His own explanation goes as it follows: "The basic premise is that, because markets for financial claims are incomplete, intermediation between some classes of borrowers and lenders requires nontrivial market-making and information-gathering services. The disruptions of 1930/33 … reduced the effectiveness of the financial sector as a whole in performing these services. As the real costs of intermediation increased, some borrowers (especially households, farmers, and small firms) found credit to be expensive and difficult to obtain. The effects of this credit squeeze on aggregate demand helped convert the severe but not

A depression should be defined as a form of *stasis*, the inability of the economy to recover from an unsatisfactory level of activity or of unemployment for indefinitely long periods of time. As already mentioned, such a prolonged state of unsatisfactory economic performance may take two forms: i. recovery may follow the meltdown, but marked by weaknesses and lapses that permanently threaten to take the economy back to the crisis situation; ii. the recovery may actually be so weak and "artificial" (supported by unsustainable policies, for instance) that the state of the economy should be more precisely characterized as stagnation rather than a recovery. Here we will discuss the first possibility, reserving the second for the next item.

The economy of the United States actually grew from 1933 until 1937, when a new recession took place.[6] Rates of growth were not unduly low in that time, but several authors point out that they were not enough to allow the economy to reach the pre-crisis level of output and that unemployment remained quite high for the whole decade. Moreover, the economy remained very sensitive to changes in macroeconomic policy. An attempt at balancing the fiscal budget in late 1936, early 1937 would have caused the new contraction. Friedman and Schwartz (1963) argued that it was the increase in reserve requirements on banks that caused the contraction, another alleged mistake by the Federal Reserve. Others offered the hypothesis that the anti-capitalist bias of Roosevelt's policies had scared businessmen who refused to resume investment. Friedman and Schwartz considered the possibility without enthusiasm, but for Schumpeter, as we will see in section four, this was of paramount importance.

In any case, there still remains the fact that even if the 1937 recession had not happened, the United States economy was still in a weak condition, so the country was still living through the depressive process initiated at the end of the twenties or beginning of the thirties. As observed by Friedman and Schwartz (1963), "the most notable feature of the revival after 1933 was not its rapidity but its incompleteness. Throughout the revival, unemployment remained large. Even at the cyclical peak in 1937, seasonally adjusted unemployment was 5.9 million; by the through thirteen months later, it had risen to 10.6 million out of a labor force of nearly 54 million." (p. 493) Recent authors, like Koo (2009)) explain the stagnationist bias to deleveraging. As long as private agents have to liquidate debts to avoid bankruptcy, they will not spend and the economy will not recover. Koo uses this hypothesis to explain Japan's performance in the 1990's. An argument that is close to Keynes's comes from a surprising

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unprecedented downturn of 1929-30 into a protracted depression." (p. 42) A few authors have recently stated that in fact every recession leaves durable traces in the form of reduced output for years after recovery (e.g. Cerra and Saxena (2007)). Others say that only major recessions durably affect output levels, but not necessarily depressions (e.g. Furceri and Mourogagne (2009)).

[6] The 1937 recession actually complicates the picture. The United States economy was recovering before that, although unemployment was still very high and pre-crisis output levels had not been attained. In this sense, the post-1933 period could qualify as a depressed period in which the economy grows but not enough to actually recover. This characterization is independent of the 1937 recession. However, if the depression is characterized by a feeble recovery, the fall of 1937 could illustrated how vulnerable the economy still was, four years after the recovery had began.

quarter: Friedman and Schwartz (1963) explain the long-term weakness of the US economy on the sharp rise of banks' liquidity preferences.[7]

e. Depression as protracted stagnation

A variant of the above argument is that what follows a meltdown is a depression when it could be properly characterized as a state of stagnation from which the economy seems unable to get out. Some appearance of growth may emerge due to the wide implementation of expansionary policies, but the appearance is considered illusory because it masks the permanence of fatal imbalances that prevent the normal recovery of the economy.

The most cited example of such a situation is actually Japan in the 1990's and 2000's. After the burst of the construction and stock market bubbles of the 1980's, the Japanese economy didn't suffer any meltdown comparable to what happened in the 1930's. Nevertheless, the economy entered a protracted state of paralysis in which not even expansionary macroeconomic policies seem to have been very effective to induce effective recovery. Many false starts gave the impression since the early 1990's that the cycle of stagnation would finally be broken only to be aborted a few months later. The economy seems to lack any endogenous impulse to resume growth, depending on external shocks of sufficient dimension to restart its engines.

III. Keynes on Depression

It is widely believed that the Great Depression was the main inspiration for Keynes's *The General Theory of Employment, Interest and Money*. But at least until 1933, Keynes still saw the situation as a particular tough cyclical recession. Some years would pass before the 1930's were to be seen as a peculiar patch of capitalist economic history. The General Theory was already written when the notion of a Great Depression of the 1930's was established. On the other hand, as Schumpeter once noted, Keynes usually relied on the British experience to derive general propositions about the nature and dynamics of capitalism. Great Britain was in fact witnessing high unemployment rates and economic stagnation since the mid-1920's, as a result of the return to the gold standard at overvalued exchange rates. This experience, perhaps more than the Great Depression (a name more appropriate to the events in the United States in the 1930's) itself, seems to be the fundamental phenomenon to trigger Keynes's perception that a new economic theory was needed.[8] The fundamental insight Keynes would ultimately

[7] Cf. Friedman and Schwartz (1963): "No doubt changes in the demand for loans and in the supply of investments, and the large increase in available reserves produced by the gold inflows – all of which constituted changes in the supply of assets for banks to hold – played a role in the shifts in asset composition. However, the major factor was not those but rather a shift in the liquidity preference of commercial banks, that is, a change in the demand by banks for assets, which is to say, in the portfolio composition they sought to attain for any given structure of yields." (p. 453) For Friedman and Schwartz, although this was, in theory, a "short-term" influence, as it is well known, in the real world their short-term could last a very long time. In fact, according to Friedman and Schwartz, the increase in liquidity preference by banks was still strong enough to influence the operation of the economy in 1940 (cf. Friedman and Schwartz, 1963, p. 459).

[8] Many of the features one associates with the General Theory model were in fact characteristic of the British experience with the gold standard. The overvaluation of the pound led to a loss of competitiveness of British industries and unemployment, but the price system, contrary to what was expected by the British authorities, did

derive from reflection on those developments was that the price system, contrary to what was proposed by conventional theory, would not guarantee the adjustment of real quantities to monetary shocks. Some exogenous intervention was required, and the agent to do it was the government.

Keynes introduces the idea that an appeal to an exogenous lever is needed to put the economy back in motion, however, without abandoning the view that the world economy (not only Great Britain's) was living through a cyclical crisis. The cyclical perspective was perfected in his 1930's work, *A Treatise on Money*. In that book, Keynes proposed a Wicksellian mechanism in which business cycles resulted from divergences between the *natural* rate of interest (a measure of the profitability of investments in real capital) and the *market* rate of interest. Keynes had long insisted that long-term profitability of investments had fallen since the beginning of the Twentieth Century.[9] The market rate of interest, however, remained too high and in fact goy higher in the 1920's (cf CWJMK, XX, pp. 372/3), resulting in higher desired savings and lower investments than was needed to sustain full employment.

Keynes presented this view in the lectures he gave at the University of Chicago in 1931 (cf CWJMK XIII pp. 350/1). Keynes was still maintaining that the recession was cyclical and, therefore, that the economy would eventually find its way out of it endogenously as late as January 1933 (CWJMK XXI, p. 141). But he didn't propose to wait. The government should put the ball rolling, not private spenders (id. pp. 148, 151, 158).

Perhaps the most important change in Keynes's approach to the issues under discussion was the abandonment of the cyclical view characteristic of the Treatise on Money and the works that surround it, in favor of the unemployment equilibrium model proposed in the General Theory. The main innovation of *The General Theory* resided in the proposition that in monetary economies any level of involuntary unemployment could persist indefinitely without any adjusting mechanism being triggered to make it disappear.[10] This was in fact a revolutionary proposition. However, to argue that persistent unemployment was a "normal" characteristic of a monetary economy somehow implied to consider that a depression, at least in the sense of the persistence of unsatisfactory states of the economy, as defined in section two above (items d and e), should not be considered a particular dynamic configuration of this class of economies. It would seem, at first sight, that Keynes had accepted the idea a depression, as a situation where the "capacity to rebound" is lost. However, the change is somewhat paradoxical, since the stability of unemployment equilibrium would not only characterize special circumstances, as it is the

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not move to restore equilibrium. Falling prices generated bankruptcies rather than adjustment. Workers in the sectors most immediately threatened by the loss of competitiveness refused to accept wage reductions (at least until the unions in sectors such as coal production) were severely repressed by the government, as Keynes argued in chapter two of the General Theory. Monetary policy could not be used against the recession since interest rates under the gold standard are set according to the need to preserve international reserves. Only fiscal policy could work in such a context, as Keynes insisted in the period between the publication of *Can Lloyd George Do It?* and *The Means to Prosperity*.

[9] This hypothesis had been raised already in his *Economic Consequences of the Peace*.

[10] The innovative argument was not, of course, as some authors seem to believe, that involuntary unemployment was possible or that crisis might happen, which most of business cycle theories proposed in some sense, but that an economy could remain in a state of involuntary unemployment for indefinitely long period of times, that is, of *unemployment equilibrium*.

core of the concept of depression, but would in fact be present all the time in all situations. Given the context when the book was published, many interpreters, following John Hicks (Hicks, 1967) stated that the General Theory was the *economics of depression*, because of the concern with the possibility of stable equilibria with deficient effective demand. *But Keynes argued this possibility for any level of output and of employment, not only the ones that would be characteristic of a depression and result from a special configuration of economic variables.*

There were a few glimpses, though, that perhaps Keynes was acknowledging some peculiarities in the situation. First, despite the fact that Keynes rejected the idea that a financial crisis was the cause of the recession or depression of the 1930's (Cf CWJMK XX p. 370), he did explore the dimensions of the banking meltdown in the first years of the decade. In a short article that Minsky acknowledged as one of the major influences on his own views, Keynes described how a financial crisis could result from a general deflation of a certain dimension.[11] The starting point is that typically assets (and particularly *real* capital assets) are purchased with borrowed money from banks. (Keynes, 1963, p. 169). Changes in prices, by changing the real burden of debt, tend to redistribute income between debtors and creditors, affecting thereby the balance sheet position of banks who are the intermediaries between the two groups. Keynes suggests that banks already allow for "normal" fluctuations in prices by imposing "margins" on the loans they concede to guarantee solvency of their loan contracts in the face of price changes.[12] But the situation may be different when price changes are more drastic:

"Modest fluctuations in the value of money such as those which we have frequently experienced in the past, do not vitally concern the banks which have interposed their guarantee between the depositor and the debtor. For the banks allow beforehand for some measure of fluctuation in the value both of particular assets and of real assets in general, by requiring from the borrower what is conveniently called a 'margin'. … But consider what happens when the downward change in the money value of assets within a brief period of time *exceeds* the amount of the conventional 'margin' over a large part of the assets against which money has been borrowed." (idem, pp. 170/1)

Banks may become insolvent when their debtors are unable to honor their debts because of a drastic loss of real income in a deflationary situation. When this happens, the contagion to non-financial sectors may become unavoidable:

"For, so long as a bank is in a position to wait quietly for better times and to ignore meanwhile the fact that the security against many of its loans is no longer as good as it was when the loans were first made, nothing appears on the surface there is no cause for panic. Nevertheless, even at this stage the underlying position is likely to have an adverse effect on new business. For the banks, being aware that many of their advances are in fact 'frozen' and involve a larger latent risk than they would voluntarily carry, become particularly anxious that the remainder of their assets should be as liquid and as free from risk as it is possible to make them. This reacts in all sorts of silent and unobserved ways on new

[11] "The Consequences to the Banks of the Collapse of Money Values", in *Essays in Persuasion*.

[12] Readers familiar with Minsky's works will recognize the origin of his stress on the importance of margins of safety to determine the financial dynamics of a capitalist economy.

enterprise. For it means that the banks are less willing than they would normally be to finance any project which may involve a lock-up of their resources." (idem, pp. 172/3)

The discussion just reported is important for at least two reasons. First, it introduces a financial crisis as a crucial link between price deflation and an economic crisis because of a collapse in the supply of credit to non-financial firms, going beyond the *debt deflation* mechanism proposed by Fisher, discussed below. Second, it stresses the non-linear nature of a financial crisis. The banking system is usually prepared to absorb "normal" shocks, but not "large" shocks. In other words, systemic properties depend on the size of the shock it receives. This is potentially a very important notion for the development of meaningful concepts of depression even if Keynes originally downplayed the peculiarity of a depression as such.

In fact, Keynes also referred to other possible sources of non-linear behavior of monetary economies. He referred, for instance, to a change in behavior (he referred to it as "abnormal psychology") witnessed in 1931 when risk aversion and liquidity preference had increased dramatically (e.g., CWJMK XX: 536/7). It is significant that earlier in the same year, Keynes was still proposing, in more conventional fashion, that businessmen's expectations were down because demand was down, but that they would improve as soon as an increase in expenditures could be induced. Even more interesting was the perception, a little later, that the economy was operating then under different "rules of the game". He observed that the crisis had perhaps gone too far: "by now they have allowed the collapse to reach a point where the whole system may have lost its resiliency and its capacity for a rebound." (CWJMK XXI: 41). Despite these glimpses, Keynes basically stuck, in the period, to his main explanatory model, based on the notion that it was a recession after all, and that it would eventually give way to a recovery, although the latter could be accelerated if the right policies were implemented.

As to immediate causes of the recession Keynes was less particular He observed that the crisis in America was initiated by a financial collapse, but in Great Britain the problem had begun with balance of payments problems. A financial meltdown could make things worse, but they were not "the" cause of deep crises, as Minsky, for example, would suggest. Deflation, the result of an aggregate demand deficiency was the real culprit.

IV. Schumpeter on Depression

Schumpeter too was uncertain about the appropriate characterization of a depression. In his opus magnum, *Business Cycles*, Schumpeter offered in fact two sometimes inconsistent views of how the concept should be defined.

Always concerned with the formulation of precise definitions, truthful to his Continental European roots, Schumpeter proposed to clearly distinguish *depressions* from *recessions*. Recessions were a normal phase of his model of business cycles. Introduction and dissemination of innovations explained the ascending phases of the cycle. Not all firms would be able to innovate or to imitate innovators, however. The ones that lagged behind, trapped in less productive production functions, would be destroyed by competition (Schumpeter called it *creative destruction*). A recession was the stage of the cycle where capital and labor would be released from their less productive uses to expand production in

the progressive industries, raising the general level of productivity of the economy. As such, recessions played a prophylactic role and should not be prevented from "purging" the economic system.

Depressions, in contrast, were a different matter. Schumpeter assumed this much, but seemed to be uncertain as to what exactly was the difference. In fact, *Business Cycles* offers two theories. In both cases, depressions are a fundamentally pathological state, with no positive roles to play in economic dynamics. The first theory defines a depression as a result of extraordinary pressures emerging in some post-boom situations due to additional complications Schumpeter generally called *secondary waves*. The second explained depressions through the coincidence of troughs of several cyclical mechanisms acting simultaneously.

A depression should be seen as an extraordinarily violent economic contraction that, because of its violence, should exercise a protracted contractionary influence on the economy. So, Schumpeter extracted from the experience of the 1930's and of other depressions he identified in the historical sections of his book the two visible features of a depressions: a steep fall in activity and a great difficulty in reaching a new growth path.

The first theory stated that a "secondary wave" would hit the economy in parallel to the primary waves involved in the introduction of innovations in capitalist economies. Secondary waves was a omnibus concept, including practically any non-essential mechanism that operated while the fundamental cyclical mechanism based on the behavior of Schumpeterian entrepreneurs and their imitators. Inducements to increased consumption in the boom phase (and conversely in the recession), similar to Keynesian consumption multipliers, were an element of these secondary waves. Errors as well as autonomous changes in optimism and pessimism were also included. "Among the logically nonessential, but practically most important facts we now mean to insert, one … may deserve a further remark. We will discuss it in terms of Professor Irving Fisher's Debt-Deflation Theory … of Great Depressions." (Schumpeter, 2005, v. I, p. 146)

Schumpeter's main point was that these secondary waves are of minor importance as explanations of economic fluctuations but could have a major impact in practice because "the phenomena of this secondary wave may be and generally are quantitatively more important than those of the primary wave." (idem, p. 146)

If these pressures were strong enough, they could take the economy farther away from equilibrium positions instead of returning it to them, as it should happen with normal recessions: "While in recession a mechanism is at work to draw the system toward equilibrium, new disequilibrium develops now: the system again draws away from a neighborhood of equilibrium as it did during prosperity, but under the influence of a different impulse. For this phase we shall reserve the term Depression." (id., p. 149)

Thus, if to the forces of a normal recession was added a downward secondary wave destructions could go exceed what was functional for releasing production factors. In this case, instead of creative destruction, one would witness *abnormal liquidations*. Under these circumstances, Schumpeter argued, even if the economy was able to recover it would reach a lower equilibrium position because of the

destruction of production factors. Moreover, recovery could take “several years” (id., p. 150), instead of the normal cyclical period. In fact, it could even last indefinitely: “Depression … has not simply a definite work to do. On the contrary, it has a way of feeding upon itself and of setting into motion a mechanism which, considered in isolation, could in fact run on indefinitely under its own steam.” (id., p. 151) Schumpeter insisted in the same idea a few pages later: “As long as we keep our argument perfectly general, we must recognize the possibility of a system so conditioned and of a spiral so violent that the tendency [to recover] may fight a losing battle at any given moment and that, theoretically, the system may never conquer the breathing space in which it could recover of itself.” (id., p. 154)

A depression therefore was a *pathological* state, with no positive role to play. “Whether it occurs or not is a question of fact and depends on accidental circumstances … Moreover no theoretical expectation can be formed about the occurrence and severity of depressions.” (id., p. 150, italics in the original)

Many of these notions would be denied on the second theory of depression, mostly developed by Schumpeter in the second volume of *Business Cycles*. Analyzing actual historical episodes, Schumpeter chose to downplay secondary waves at least as a cause of the Great Depression of the 1930’s. Now the culprit was a coincidence of the trough phases of the three types of cycles he proposed as representatives of the multiplicity of cyclical mechanisms that were supposed to shape the trajectory of the economy.[13] Abnormal liquidation in this case should be explained by the mutual strengthening of the contractionary stage of the three cycles. Fisher’s theory of debt-deflation could explain the crisis episode in the aftermath of the stock exchange crash of 1929, but this was a “nonessential” element. (Schumpeter, 2005, v. II, p. 909)

This conception of a depression is very dissimilar to the first. Depressions are now predictable, since the occurrence of each phase of each class of cycles are predictable. (id., pp. 906/7) As each recession has a role to play before fading out, a depression also has to fade out eventually: “ … we need not ask whether the system could have recovered without political action stimulating it out of a state of prostration. For it did.” (id., p. 984) Why then the American economy relapsed into a prostrated state by the second half of the 1930’s? Schumpeter’s answer was probably inspired by his old Austrian soul: anticapitalist attitudes and policies pursued by the Roosevelt administration after 1934, favoring labor, raising taxes, combating monopolies and threatening to have the state to enter in the utilities sector discouraged businessmen and reduced investment. (id. pp. 1038ss).

V. Fisher on Depression

Fisher also posed the question of when an adverse shock can end up being so destructive that the natural recovery mechanisms of the economy break down. In his words:

“There may be equilibrium which, though stable, is so delicately poised that, after departure from it beyond certain limits, instability ensues, just as, at first, a stick may bend under strain, ready all the time

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[13] Schumpeter suggested a three-cycle scheme, considering short-term cycles, lasting about two to three years, medium-term cycles (lasting about ten years) and long-term cycles (lasting about fifty years). He called them Kitchen, Juglar and Kondratieff cycles, after the names of the statisticians that isolated each of them.

to bend back, until a certain point is reached, when it breaks. This simile probably applies when a debtor gets 'broke', or when the breaking of many debtors constitutes a 'crash', after which there is no coming back to the original equilibrium." (Fisher, 1933, p. 339)

What causes "the stick to break"? Fisher's hypothesis is that when over-indebtedness meets a deflation, a snowfall-like process of contraction ensues. This combination creates a cumulative disequilibrium process that will only stop when bankruptcies are widespread:

" … deflation caused by the debts reacts on the debt. Each dollar of debt still unpaid becomes a bigger dollar, and if the over-indebtedness with which we started was great enough, the liquidation of debts cannot keep up with the fall of prices which it causes. In that case, the liquidation defeats itself. While it diminishes the number of dollars owed, it may not do so as fast as it increases the value of each dollar owed. Then, *the very effort of individuals to lessen their burden of debts increases it, because of the mass effect of the stampede to liquidate in swelling each dollar owed*. Then we have the great paradox which, I submit, is the chief secret of most, if not all, great depressions: *The more the debtors pay, the more they owe*. The more the economic boat tips, the more it tends to tip. It is not tending to right itself, but it is capsizing." (idem, p. 344, emphases in the original)

This is what Fisher called the debt-deflation theory of depressions, which became a central element in Minsky's approach.

VI. Minsky on "It"

Minsky acknowledged Keynes, Schumpeter and Fisher as the three most important influences on his own approach. The Great Depression of the 1930's was the most important *economic* event of the Twentieth Century and the possibility of its repetition haunted economic policy-making for decades. Minsky called it "It". In his works, however, he often used the term to refer to the financial crisis he proposed preceded a big economic crisis, not necessarily the "real" crisis itself that followed a financial meltdown or the difficulty to reach a sustainable recovery after the collapse. In the very first lines of his 1982 book, Minsky explained:

"Fifty years ago, in the winter of 1932-33, the American financial and economic system came to a halt: the collapse was well nigh complete. Two generations of the public (and the politicians they elect) have been haunted by the specter of "It" (such a great collapse) happening again." (Minsky, 1982, p. vii)

A few pages later, Minsky clarified his concept: "Can 'It' – *a Great Depression* – happen again?" (Minsky, 1982, p. xi, italics added).

In these two quotations, Minsky not only defined "it" as a depression, but he did it in a way that included both the problems of the "*financial and* [the] economic system" (italics added). Subsequent argument, however, made it clear that in his approach *economic* problems *follow* the financial collapse.[14] The contraction of the *real* economy, the fall in aggregate demand and of output prices that

[14] One should not exaggerate the importance of this distinction though. As it is well-known, a central feature of the Post Keynesian branch of theory more directly influenced by Keynes's own ideas is that there is no distinction

bankrupted many firms, rising unemployment, and so on, *resulted* from the financial collapse. Minsky's dating is very precise: the winter of 1932/33 is when "it" finally happened, crowning a process initiated with the 1929 stock market crash.[15] Even if the language is still rather vague, in a comparison between the problems of 1962 and the 1933 collapse, Minsky again clarified what "it" meant, by referring to the overall conditions that might prevent it:

"The 1962 event did not trigger a deflationary process like that set off in 1929. It is meaningful to inquire whether this difference is the result of essential changes in the institutional or behavioral characteristics of the economy, *so that a debt-deflation process leading to a financial collapse cannot now occur*, or merely of differences in magnitudes within a financial and economic structure that in its essential attributes has not changed." (Minsky, 1982, p. 3, emphasis added)

It is clear from the statement above, that the decisive feature of the 1930s crisis was the "debt-deflation process". Without "it", the destructive consequences of the "events" could be contained allowing the economy to survive the shock.

The full Minskyian concept of a financial crisis is well-known: an increasingly important group of agents with overleveraged and maturity-mismatched balance sheets suffers a shock that cannot be absorbed. The precise nature of the shock is irrelevant, and if leverage and maturity mismatch have gone far enough, even its intensity may be unimportant.[16] Any shock may be lethal if the economy is operating within its *instability zone* defined, in the 1982 paper, in terms of household and business leverage ratios (measured by the debt to income ratio).[17] The inability to honor one's liabilities forces a debt deflation process, which is to sell assets to in order to pay debts. Selling assets further depresses asset markets, making it necessary to increase sales to pay debts and so on until there is a complete asset price collapse.[18]

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between "real" and "monetary" phenomena, or that money is a 'real" variable in any relevant meaning. The distinction is being made here only in the sense of where this class of problems may originate. In Minsky's view, they clearly originate in financial imbalances strictu sensu, rather than in markets for goods and non-financial services.

[15] Again, "In the winter of 1933 the financial system of the United States collapsed. This implosion was an end result of a cumulative deflationary process whose beginning can be conveniently identified as the stock-market crash of late 1929." (Minsky, 1982, p. 3).

[16] Cardim de Carvalho (2009) for a discussion of systemic crisis within a Minskyian framework.

[17] "A rise in an income-producing unit's debt-income ratio decreases the percentage decline in income which will make it difficult, if not impossible, for the unit to meet the payment commitments stated on its debt from its normal sources, which depend upon the unit's income. If payment commitments cannot be met from the normal sources, then a unit is forced either to borrow or to sell assets. Both borrowing on unfavorable terms and the forced sale of assets usually result in a capital loss for the affected unit. However, for any unit, capital losses and gains are not symmetrical: there is a ceiling to the capital losses a unit can take and still fulfill its commitments. Any loss beyond this limit is passed on to its creditors by way of default or refinancing of the contracts. Such induced capital losses result in a further contraction of consumption and investment beyond that due to the initiating decline in income. This can result in a recursive debt-deflation process." (Minsky, 1982, p. 6/7)

[18] Minsky was inspired by Fisher's conception of a debt deflation process, but, as will be seen in section 3, below, Fisher considers a goods price deflation as a trigger of debt deflation. But after the fire selling of assets begins, Minsky and Fisher share a similar view of how the process unfolds.

Policy implications from this discussion are reasonably clear. “It” can be avoided mostly if excess leveraging and maturity mismatching can be prevented. In addition, fiscal and monetary policies can be geared towards maintaining income levels high enough to allow liabilities to be honored and asset prices to remain stable. However, if these dykes are breached, it is not entirely clear what should ensue. A financial collapse would obviously threat production and employment, probably durably. Could it be compensated by appropriate macroeconomic policy? How long would these difficulties last? There are many questions left unsolved once “it” has happened, instead of being prevented.

VII. Outline of a theory of depressions

Formulating a theory of depressions faces an obvious difficulty: the low number of cases does not allow safe generalizations, making it hard to discriminate stable patterns from accidental characteristics of actual episodes. One can even speculate whether the inability of great authors such as Keynes or Schumpeter to zero in a workable concept of depression is not due to the difficulty in isolating the essential features of (fortunately) so rare a phenomenon.

The proper definition of depression, on the other hand, is not a matter of semantics. As we have seen, the concept is strong in predictive contents. If a depression is a situation where recovery mechanisms become impaired in some sense, being able to identify a depression is essential for the formulation of appropriate macroeconomic policies. Whether it is defined by a steep fall in activity (and rising unemployment) or by protracted states of prostration, or by a combination of both characteristics, knowledge of how an economy behaves when it is depressed is essential to judge the desirability (and the means) of policy intervention.

Based on what was seen in the preceding sections, we will try to outline in this section a workable concept of depression that can be used as a yardstick to evaluate the present crisis and to support an effort for predicting what is to come.

Generally, as we saw, the literature on depressions can be classified into two groups. The first group employs the term depression just to mean an unusually strong recession. It is not a specific phenomenon with respect to cyclical recessions. It is a matter of intensity rather than of nature and as such no new dimensions are added to the study of economic dynamics by this approach.

The second group, in contrast, defines depressions as specific configurations of the economy, *pathological* states as Schumpeter put it. As diverse as the several theories of depressions are in many aspects, they tend to converge with respect to a few relevant empirical characteristics of these phenomena. Essentially, depressions are *durable* processes: depressed economies remain so for extended periods of time. Depressions last because strings of related events renew or strengthen the prostration of the economy. These events are endogenous because they are all engendered by the same process. A deeper look at what may seem at first sight *independent* negative shocks will show them to actually be delayed manifestations of the same process.

Typically, depressions would unfold in time according to the following pattern: (i) the economy suffers a deflationary shock of whatever origin; (ii) the shock induces disequilibria in balance sheets forcing the

sale of assets in the attempt to restore their solvency; (iii) fire sales of assets generate debt deflations that spread bankruptcies throughout the economy with contagion to agents previously unaffected by the deflationary shock[19]; (iv) rising risk aversion and liquidity preference, among individuals, firms and financial institutions lead to a collapse in the credit supply; finally, (v) with falling aggregate demand and rationed credit supply, output decreases, unemployment rises, expectations deteriorate and the economy enters the terrain of contractionary self-fulfilling expectations, engendering weak recoveries and recurrent episodes of instability.

Deflationary shocks are assumed to be the cause of a downswing in the economy by a large number of business cycle analysts.[20] A depression, however, in this sense is not a "standard" downswing. Instead of "spontaneously" converting itself into a recovery, a depression will perpetuate itself or at least to considerably slow down any recovery impulse. Deflationary shocks may generate depressions in two situations: when an unusually strong negative shock hits the economy or when a shock that otherwise could be absorbed by an economy operating with its normal properties hits it when it is in particularly fragile states. The former case is the one singled out by Axel Leijonhufvud and Robert Clower when they introduced the notion of *corridor of stability*. In their view, an economy's homeostatic mechanisms can absorb shocks up to a given intensity without altering their dynamic characteristics, but react in a different, disintegrative, way when the shock exceeds that intensity. Thus, capitalist economies may survive a certain fall in aggregate demand by accumulating inventories but if aggregate demand falls below a given level sellers may go bankrupt preventing the economy from returning to its "normal" position.[21]

The notion of corridor is attractive because it stresses the importance of non-linearities that populate the discussion of phenomena such as depressions. The central point is that the properties of the economic system change as variations accumulate in such a way that the same impulse factor can

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[19] Links (ii and (iii) may not be necessary stages of a depressive process. Keynes's characterization of the depression in Great Britain dispensed with them. The deflationary shock represented by the return to the gold standard at highly overvalued exchange rates was enough to take the British economy into depression territory without the occurrence of any major financial crisis. When the threat of a banking crisis was real, in the early 1930's, Keynes could state that it would complicate things but it was neither the root of Great Britain's problems, nor a necessary component of it.

[20] A dissenting view is offered by Krugman when discussing the Japanese depression of the 1990's. He argues that there was no major deflationary shock to push the economy into a sharp fall. The depression came slowly, it "crept on the country" (Krugman, 2009, p. 67).

[21] Leijonhufvud and Clower's theory is unnecessarily restrictive in its assumptions, because they assume that the corridor of stability is the zone where full employment is reached and maintained. The corridor is an interesting hypothesis, however, even if the identification of economic stability with full employment is dropped. It is in the latter sense that we are using it here. See Leijonhufvud (1981), chapter 6. Solow (2009) a similar line when he explained the present crisis as the result of a shock that was impossible to absorb: "The underlying argument – it is not novel but it is sound – goes something like this. A modern capitalist economy with a modern financial system can probably adapt to minor shocks – positive or negative – with just a little help from monetary policy and mostly automatic fiscal stabilizers : for example, the lower tax revenues and higher spending on unemployment insurance and social assistance that occur in a weakening economy without any need for deliberate action. … But the same financial system has intrinsic characteristics that can make it self-destructively unstable when it meets a large shock." Temin (1991, p. 7) relied on the same argument to explain the Great Depression.

induce very diverse reactions depending on the state of the system. Most theorists concerned with such phenomena assume, implicitly or explicitly, that important non-linearities should be specified in any meaningful model of depressions.[22] Practically all the main approaches, including, of course, Minsky's, to the problem are *tipping point* models, to use Malcolm Gladwell's expression.

The second case is the one proposed by Minsky in his model of financial fragility. Minsky stresses the state of economy receiving the shock rather than the intensity of the shock itself. In his model, every agent may buy assets by issuing liabilities. To prevent situations of insolvency, an asset holder will try to keep some *margin of safety* in its balance sheet, by keeping some liquid assets that would allow him to pay his debts when expected incomes do not materialize or by limiting his exposure to debt. However, to use one of Minsky's favorite aphorisms, *stability is destabilizing*.[23] The experience with buying performing income-earning assets, as it is generally the case during prosperous times, informs wealth-holders that margins of safety may be exaggerated and may be imposing unnecessary limitations on the purchase of more income-earning assets. Leverage is then increased, more assets as bought, their prices rise and optimistic expectations are thereby confirmed leading to new reductions in safety margins and so on and so forth.[24] As safety margins are reduced, vulnerability to disappointments increases (that is, financial fragility increases).[25] At some point, financial fragility may be so high that even a small negative shock may be enough to cause a contraction.

Minsky argued, as already seen, that leverage and maturity mismatching between assets and liabilities (which increases fragility for a given leverage ratio) expose asset holders to illiquidity and insolvency risks. In fact, fragility can be measured, in Minsky's model precisely by the reduction in the size of the shock that is necessary to destabilize the economy when leverage and balance sheet mismatching increase. As Minsky put it: "The maximum shock that the financial system may absorb and still have the economy return to its initial equilibrium depends upon the financial structure and the linkages between the financial structure and real income. … the domain of stability of the financial system is mainly an endogenous phenomenon that depends upon liability structures and institutional arrangements. … The domain of stability of the financial system is smaller the closer the articulation of payments, the smaller the weight of protected assets, and the larger the extent to which asset prices reflect both growth expectations and realized past appreciations." (Minsky, 1982, pp. 143/4)

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[22] See, for instance, Cecchetti, Kohler and Upper (2009), besides the other references made along the text.

[23] This view was recently shared by Andrew Haldane, who called it 'disaster myopia'. He put it in terms that are evocative of Minsky's: " … disaster myopia refers to agents' propensity to underestimate the probability of adverse outcomes, in particular small probability events from the distant past. … If the period of stability is sufficiently long – a Golden Decade perhaps? – this subjective approach to evaluating probabilities looks increasingly like a fully-rational, Bayesian approach to updating probabilities." (Haldane, 2009)

[24] The increase in leverage during a boom is a common concern to many authors, including Greenspam (2010), Galbraith (1997) and Solow (2009).

[25] In practical terms, this means that almost anything could cause a crisis under these conditions and the discussion of immediate causes becomes largely irrelevant. Galbraith had called the attention to this factor before when he stated that looking for the trigger of the 1930's crisis was a waste of time: "This is not very important, for it is in the nature of a speculative boom that almost anything can collapse it. Any serious shock to confidence can cause sales by those speculators who have always hoped to get before the final collapse, but after all possible gains from rising prices have been reaped." (p. 90)

The notions of corridor of stability of or domain of stability introduce an important source of nonlinearity to be considered in a theory of how a depression is generated. It stresses that similar shocks may have very different consequences depending on the degree of financial fragility prevailing in the economy that is hit.

Another crucial steps in the depression sequence, to authors like Minsky (and Fisher before him) is the financial crisis when it takes the form of debt deflation.[26] Debt deflation is essential because, left to its "natural" development, it can only end in widespread bankruptcy. When asset prices fall, even asset holders that had their balance sheets in equilibrium before the crisis, may become technically insolvent if the market value of their assets fall below that of their liabilities. Financial wealth is destroyed and financial institutions go broke. Surviving financial institutions would be forced to retreat to liquid assets (away from loans to customers) even if pessimistic expectations did not become widespread. Production and investment are paralyzed and the economy comes to a standstill which will last a long time since the financial sector will have to be rebuilt before some measure of normalcy is restored. Some recovery may take place but at low levels of production (and high unemployment) as a result of the loss of capital and rationing of credit. One should add to that the need to deleverage when leveraging in the preceding boom had been too intense.[27]

These processes are assumed to be fundamental aspects of a depression. As stressed before, most of the approaches share the common assumption of non-linearity of depression-generating processes in the sense that they postulate that some shocks cannot be absorbed by the economy, either because the

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[26] Some analysts prefer to point to bank runs and bank crises as the factor that transforms a financial distress into a major economic crisis. Friedman and Schwartz (1963), for instance stated that "… banking panics have occurred only during severe contractions and have greatly intensified such contractions, if indeed they have not been the primary factor converting what would otherwise have been mild contractions into severe panics." (pp. 441/2) Haugh, Ollivaud and Turner (2009) stress the same linkage: "Business cycle downturns associated with banking crises are likely to be more severe than other downturns for a number of reasons: the supply of credit is substantially reduced either because of bank failures or because the erosion of bank capital forces banks to de-leverage; large falls in the value of wealth typically associated with banking crises have negative effects on demand and also reduce the value of collateral which reduces the ability of households and firms to obtain credit; and information asymmetries between lenders and borrowers become more acute, because of increased demand from a greater number of distressed borrowers, leading to a higher overall cost of capital." See also Krugman (2009), p. 157. Bernanke (2000) decides in favor of debt deflations are the most important element, at least with respect to the Great Depression: "Indeed, the strong presumption is that debt-deflation effects were much more pervasive than banking crises, which were relatively more localized in space and time." (p. 28)

[27] A very informative discussion of after-crises deleveraging was published by the MacKinsey Global Institute (Roxburgh et alli, 2010. The study states that "While we cannot say for certain that deleveraging will occur today, we do know empirically that deleveraging has followed neatly every major financial crisis in the past half-century." (p. 13). They point to the possibility that deleveraging after the current crisis may take a long time, suggesting that it may be a cause of a durable depressive process ahead: "If today's economies were to follow this path, they would experience six to seven years of deleveraging, in which the debt-to-GDP ratio declines by around 25 percent. Deleveraging would begin two years after the start of the crisis, and GDP would contract for the first two to three years of deleveraging, and then start growing again. … Several features of the crisis today, including its global nature and the large projected increases in government debt, could delay the start of deleveraging and result in a longer period of debt reduction than in the past. … We therefore see a risk that the mature economies may remain highly leveraged for a prolonged period, which would create a fragile and potentially unstable economic outlook over the next five to ten years." (pp. 13/4)

shock is too large or because the economy developed some sort of fragility. They may be strengthened or attenuated by other parallel processes that may or may not be considered intrinsic to the situation of depression. This is a second field where non-linearity becomes an essential assumption. It is postulated that in the after-shock phase of the depression a series of parameters in the operation of the economy change in value, altering its dynamics. At least four of these parallel processes are mentioned in the literature. First in the list is the variety of contagion possibilities that result from a financial crisis. As income falls, for example, trade contracts possibly compromising balance of payments equilibria in some countries. Besides, the fall in the value of national output reduces tax revenues while demands for fiscal support tend to become more vocal. Fiscal deficits may emerge independently of how "sound" fiscal policies were before the fall.

A second factor to worsen the situation is the rise in liquidity preference caused by the increased uncertainty about the future prospects of the economy. Market interest rates rise even when governments try, through monetary policy, to reduce policy interest rates inducing further bankruptcies and "confirming" the wisdom of the attempts to shift portfolios toward the accumulation of liquid assets.

Thirdly, pessimistic expectations induced by persistent bad news may reduce spending propensities, of consumers to buy consumption goods, and of firms to buy production factors and capital goods. If this kind of change takes place, what Keynes called *abnormal psychology*, the fall in spending multipliers may reduce the efficacy of anti-crisis policies such as increasing public spending.[28]

Finally, a fourth element to possibly complicate the picture is the attenuation of entrepreneurs' animal spirits, an important element of recovery both for Keynes and for Schumpeter. A general collapse of the state of confidence reduces the disposition to invest and to take risks that are essential to investment in capitalist economies.

The combination of all these elements, or of some subset of them, serves to draw a picture of a depression as a long term state of prostration, where some recovery is possible, but at low levels of output, high unemployment, high vulnerability even to small shocks and continuous revelation of new sources of negative pressure. In this sense, although the depth of the initial collapse may be the most visible aspect of a depression, it is the posterior inability to recover that defines its particular nature when contrasted even to stronger cyclical recessions.

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[28] The value of the Keynesian consumption multiplier could be affected. The disappearance of the multiplier from the macroeconomics textbooks seemed to have affected the ability of economists to think and to estimate multipliers. An example of the convoluted attempts to deal with the matter by economists who didn't seem familiar with the concept is Hall (2009). In this article, Hall "shows" that the multiplier is zero in what he calls neoclassical general equilibrium models, which should not be surprising since, as he pointed out, these models do not admit unemployment. More interesting work has been represented by the attempts to estimate empirically the value of multipliers, under "normal" conditions and under critical conditions. See, for instance, Spilimbergo, Symanski and Schindler (2009) and Freedman et alli (2009), both published by the IMF. See also Corsetti, Meier and Muller (2009).

VIII. Conclusion

Why is all this discussion relevant? As already suggests, the semantic debate around a "proper" definition of depression is the least of our concerns. What really matters is the empirical content of the concept and the predictive possibilities it may open to analysts. If a depression relates mostly to the developments that *follow* a deep downturn of the economy, any tranquilizing feeling generated by the fact that the economic downfall after the 2008 financial collapse was contained should be re-evaluated.[29] Although the fall was not as dramatic as that that happened in the 1930's, it may have been enough to trigger the changes in the operating dynamics of the affected economies that characterize a depression. If this is true, important consequences would follow both in terms of policy design (for instance, in the debate around the advisability of reversing expansive macroeconomic policies in the United States and Western Europe) and for the effective dimensioning of policy instruments. One should also consider that further manifestations of the state of prostration are very much likely to show themselves in the near to medium future.[30] On the other hand, if a depression relates only to the depth of the downfall, the success in putting a floor under the economy around 2009 might well have finished the story of the worst economic crisis known since the 1930's.

That one is searching for the appropriate empirical content of the notion of depression means that it is not enough to outline a more precise concept based on the existing literature but that the resulting concept should be used to conduct empirical research on the subject. This will be the subject of a companion paper to this one.

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[29] De Grauwe (2010) suggests that the present situation is not of a "normal" recession, but of an "abnormal" one, including three deflationary spirals: a Keynesian savings paradox (output falling because of falling demand), Fisher's debt deflation and and bank credit deflation, because of the increase in risk aversion. This creates an abnormal recession where "the actions by economic agents create a negative externality that makes these actions self-defeating."

[30] In this sense, the sovereign debt crisis in the European Union, the problems with subnational finances in many countries, the threats represented by possible imbalances with nonresidential mortgages, etc, may be just manifestations of the depression initiated in 2007/8.

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