

The Financial Instability Hypothesis and the 'New' Capitalism

by Riccardo Bellofiore

Dipartimento di Scienze Economiche 'Hyman P. Minsky', University of Bergamo, Italy and
Research Associate, History and Methodology of Economics Group, University of Amsterdam,
Netherlands

Paper presented to the workshop "The complexity of financial crisis in a long-period perspective: facts, theory and models", University of Siena, 23-24 March 2009, organized by The Centre for the Study of Complex Systems (CSC) and the Italian Association for the History of Political Economy (STOREP), in collaboration with the Department of Political Economy and the Department of Political Economy, Finance and Development (DEPFID)

[There is no exact equivalent in English of the paper presented in Italian for this conference. However, the first 14 pages below follow closely the synthesis of Minsky's thought provided in the first part of the Italian paper – even though there are here and there differences. These pages are mostly taken from the pages I wrote for the Introduction with Piero Ferri appended to our two Elgar books on Minsky in 2001. The remainder of this file contains a paper co-written with Joseph Halevi, which covers similar ground relative to the last part of my Italian paper, which is completely new. The paper with Halevi will appear in a book edited by Gnos and Rochon for Elgar in 2009.]

Hyman P. Minsky's economic writings are centred around three intertwined topics:

- (i) an *interpretation of Keynes* stressing the most innovative and revolutionary features of his *monetary* thought: the essential role of financial markets, the non-neutrality of money, the systematic uncertainty and bounded rationality surrounding decision making, the cyclical nature of the capitalist process due to the fluctuation in private investment. Minsky extends Keynes putting together an investment theory of the business cycle with a financial theory of investment. The 'two-price' model and Minsky's reference to Kalecki's view about the determination of profits belong here.
- (ii) the *Financial Instability Hypothesis*, according to which, after a period of 'tranquil' growth and 'robust' finance, firms' and banks' liability structures spontaneously shift towards fragility. The economic system is prone to financial crises, which actually break out as a consequence of the normal functioning of a capitalist economy. Minsky's view is that each state of the economy is transitory: internal financial developments compel a transition to the next state. Capitalist cyclical evolution - from expansion to the boom, financial collapse and the risk of a debt deflation, possibly leading to a great depression - is, once again, the necessary outcome of the monetary nature of the capitalist process at the heart of Keynes' approach. What is lacking in the *General Theory* is a clear understanding of why stability is destabilising: for Minsky, capitalist evolution is *endogenous*, and is driven by the behaviour of financial variables. This is probably the most original side of Minsky's legacy.
- (iii) the *policy implication* is that *discretionary* intervention from the government and the Central Bank can mitigate capitalist instability, creating ceilings and floors constraining the dynamic behaviour of the system. Government budget deficits and the Central Bank, both as lender of last resort and as regulator of financial practices,

help monitor the development of liability structures in the economy, and may stop a downward trend in money profits, which are the key variable for debt validation and for capital asset prices. Economic policy can do better than simply make systemic fragility milder. A change in the nature of big government may encourage resource creation and the expansion of output, and may attain the goal of full employment in a system of decentralised decisions and in a non-inflationary environment. Minsky's answer to the flaws marring both the capitalism of the twenties and thirties, which ended in the Great Crash, and the capitalism of the sixties and seventies, which ended in stagflation, is made up of a thorough socialisation of investment and restructuring of government expenditure together with a reform of the banking and financial system.

These themes are recurrent, with different weight, in the three books Minsky wrote (MINSKY 1975, 1982, 1986a; cf. also MINSKY 1996), which all pursue the same aim, the construction of a *Financial Keynesianism*. Keynes is the giant on whose shoulders Minsky stands in order to advance his novel vision; he is the constant reference in the theoretical reconstruction of a capitalist economy with a stratified financial system and with endogenous money.

Nevertheless, the stress is clearly different in the three books. The goal in *John Maynard Keynes* is to reinstate money, finance and the cycle at the centre of the economics of Keynes, breaking away from the 'bastard' Keynesianism of the Neoclassical Synthesis. *Can it happen again?* goes well beyond the controversy over the interpretation of Keynes: the question here is rather to show that the Financial Instability Hypothesis provides a valid picture of the internal dynamics of the capitalism of the twentieth century. Minsky's reading and extension of Keynes must explain both the Great Depression of the thirties and the fact that a deep and long-lasting depression didn't happen again. The new approach gives an account for the fundamental upward instability, as well as for the necessary reversal of the process leading to the risk of debt deflation and to mass unemployment. The peak and trough of the cycle are mainly due to the interaction between changes within the financial structure of the economy and economic policy intervention. In *Stabilizing an Unstable Economy*, Minsky's constant concern for the institutional differences delineating various models of capitalism gives way to a full-blown 'agenda for reform' of present-day capitalism. This includes suggestions for the creation of new ceilings and floors constraining the contemporary form of capitalist instability and for the achievement of a full employment target.

In what follows, we shall first of all propose a survey of the essential core of Minsky's train of thought (for other surveys, to which we are indebted, the reader may consult DIMSKY-POLLIN 1992 and PAPADIMITRIOU-WRAY 1998; FAZZARI-PAPADIMITRIOU 1992 and DIMSKY-POLLIN 1994 are useful collections in the Minsky tradition). We shall then make a few comments on the legacy Minsky left to us as political economists. Finally, we shall present the contributions included in this collection.

A Monetary Dissenting Economist

The 'world we live in' is a capitalist economy with *expensive* and *long-lived* capital assets and with a *complex* financial structure. In this context, 'equilibrium' is affected by the value of nominal variables and by the historical record of the economy: any theoretical view that leaves out these points cannot but be false and useless. Minsky's criticism is levelled, of course, against both Neoclassical and Keynesian orthodoxies; but it can be also directed to those non-traditional perspectives where money and finance are not introduced at the ground floor of the theoretical building. The fundamental sequence in

the capitalist economy is monetary: indeed, capitalism may be accurately defined as a *production of money by means of money*. Hence, a 'good' model for capitalism must include from the start:

- (i) *banks*, which create money;
- (ii) *firms*, which finance production and positions in capital assets thanks to bank loans;
- (iii) *households*, holding the financial instruments created or placed by banks to finance investment and positions in capital assets.

Some of the terms we have just introduced – namely, 'banks' and 'money' have no unique reference in Minsky, and their meaning may change over course of the cycle. 'Banks' sometimes refers to commercial banks strictly defined, sometimes to all financial institutions providing finance. Or, 'money' is sometimes defined as the sum of high-powered money and demand deposits (or, generically, banks' liabilities), sometimes to what effectively counts as money, including financial intermediaries' liabilities. And so on. For the time being, we may limit ourselves to a couple of definitions which may be useful in what follows. 'Positions' are those assets in portfolios or in balance sheets which cannot be converted readily into cash; the 'position-making assets' are the instruments used to acquire the cash needed to finance the buying of positions.

Standard economic theory adopts a 'village fair' paradigm. A barter, pure exchange economy is its starting point, to which production, money, capital and financial assets are *added* to get a more realistic description. On this view, the central features of a capitalist economy are accurately grasped in a basic model without money and production. Minsky's vision is the opposite. His 'City' or 'Wall Street paradigm' *begins* with the picture of a money economy with sophisticated financial institutions. Minsky's approach develops from the dynamics of *cash flows* (wages and salaries to consumers, sale proceeds to firms, payment commitments to banks, etc.) and the interdependence among *balance sheets* (the financial instruments financing production, investment and positions correspond to assets of some units and liabilities of others: double-entry bookkeeping implies that each operation is matched by another one, that is equal and opposite, in the same balance sheet). Financing production and investment, as well as making positions, is affected by *expectations* on an *uncertain* future; these choices will be validated or not by outcomes in *historical*, and hence *irreversible*, time. In such an economy, the intrinsic connection between finance and production commits agents to past decisions, and makes present behaviour dependent on monetary dynamics. Minsky's perspective is a full-blown theoretical alternative to standard economic theory in the way it incorporates:

- (i) money into finance;
- (ii) finance into distribution;
- (iii) the determination of total gross profits, and of the level and composition of aggregate demand into relative price-setting.

On this view, the tendency towards equilibrium cannot but be regularly overcome by the internal drive towards morphological change.

Money and finance

Minsky's basic model refers to a *closed*, *small*-government economy and where capital

accumulation entails issuing debt. In a capitalist economy finance is needed to produce current output, to buy new capital goods, and, more generally, to own capital assets. Finance to production, including the production of investment goods, is short-term. Positions in capital assets require long-term finance; as a rule, this latter is a combination of internal and external funds. Banks, strictly defined, are the provider of short-term finance. Positions in capital assets may be financed also by other intermediaries, or directly by savers, through instruments whose liquidity is subject to their convertibility into bank money. Against this background, it is clear why Minsky defines money as a bond, injected into the economy to finance production, investment, and positions in capital assets.

Thus, money cannot be reduced either to a *medium of exchange* easing transactions, as in the quantity theory of money, or to liquid balances acting as *store of value*, as in traditional Keynesianism. Money is first of all a *means of finance* providing agents with purchasing power in an economy where:

- (i) the key element in the economic process, i.e. investment, is carried out in *unidirectional calendar time*;
- (ii) businesses and financiers take their decisions and 'make positions' in a *radically uncertain environment*, with no scientific basis to calculate probabilities for future events;
- (iii) the performance of the economy hangs on the fulfilment of *financial* commitments, not only on the validation of expectations about income production;
- (iv) *liability structures* may have positive or negative feedback upon banks' and firms' expectations.

The borrower receives money today in exchange for promises to pay money in the future. The use of initial money capital is more or less known in advance, and it is expected to allow the repayment of the debt and to leave a surplus. The lender gives up a certain command over current income for a future and uncertain stream of money. Borrowing and lending are based on *margins of safety*, which are safeguards against illiquidity. Though banks, in Minsky's view, are definitely not lenders, since they do *not* give up command over income - Minsky always used to say that to be a lender you've got to have money; banks don't have money, rather they create it - a similar approach can be adapted to cover bank's demand and supply for finance (DOW & DOW 1982: 138-142). In *bank loans to firms* the fundamental margin of security is the expected difference between gross earnings and out-of-pocket costs - namely, quasi-rents or *gross profits*. Bank lending to firms depends on the evaluation of the former about the future income statement of the latter. *Expectations* about future gross profits are what induce the *granting* of bank loans to firms; the actual *realisation* of gross profits leads to their *validation* and gives way to the rolling-over of maturing debt. While external finance is the necessary premise to start production, usually it also lies behind the holding of illiquid assets promising quasi-rents. In general, external finance is raised on the expectation of cash *inflows* higher than cash *outflows* in the relevant time-horizon. Payments due on financial instruments include the contractual commitment to pay interest and repay the debt as well as the moral commitment to pay dividends on equity shares. Current cash outflows spring from the financial structure of the business, which in its turn is the outcome of the past; today's financial contracts will produce dated cash payment commitments.

Hence, the financial structure is both the result and the determinant of the time-path experienced by the economy. What matters most are the confirmation of expectations

about future returns, the dynamics of short- and long-term rate of interest and the possibility of refinancing. If the anticipation on the difference between cash inflows and outflows or on access to new borrowings turns out to have been too confident, the unit may be compelled to 'make positions by selling positions' - namely, selling out assets at any price on market. To avoid this, the main 'insurance' is given by holding cash balances, or other very liquid stores of value: that's why agents (not only households, but also firms and banks) have a positive and variable *liquidity preference*. Holding money is the barometer of our anxiety about the economy, it measures the lack of confidence in our estimates about the future of assets. Margins of safety other than the ratio cash inflows/cash outflow are the ratios equity/debt and assets/liquidity.

It should be clear by now why Minsky builds up his analytical scaffolding in terms of cash-flows and balance sheets. They are two sides of the same coin. Minsky is a *nominalist*, in that he sees banks, firms and speculators as agents which, first of all, are dealing in money. Each economic unit is a money in-money out device: it must estimate the *monetary* receipts from its assets, deduct the *financial* commitments of holding positions, and assess their *liquidity*. All units are like a bank: they have to *speculate* on assets and liabilities, and they finance with short-term liabilities the ownership and control of longer-term, illiquid and risky, assets - the more so the more the economy is capitalistic. When expected receipts go up and/or anticipated risks decrease, it is rational to reduce cash balances and to 'lengthen' balance sheets, increasing the share of less liquid assets in portfolios. Liability structures are based on the bet that future events will allow the unit to fulfil its cash commitment. Not only the bet is uncertain: the same guesses about the bet are influenced by the real and financial changes affecting the structure of the economy.

Before entering into the details of Minsky's monetary view of the capitalist process, we have to stress an important corollary of his approach about the *nature* of money (MINSKY 1957a and 1991; cf. also NASICA 1997 and WRAY 1992). We have already recalled that in Minsky there is a 'strict' definition of the money supply, given by the sum of high-powered money and demand deposits. Commercial banks' *credit potential*, however, is not a given multiple of high powered money, but it has room for variation. So, a restrictive monetary policy, because of fears of inflation in growth or boom, may determine a rise in short-term rates of interest, which in its turn forces an *active* reaction on the part of banks. A higher short-term rate of interest means a higher cost-opportunity of reserves. To maximise profits, banks make a more efficient use of their lending potential, and push for an increase in loans. *A given amount of reserves supports more bank loans and demand deposits*. At the same time, we know that for Minsky finance can be embodied also in financial instruments other than money strictly defined. As commercial banks, so also financial intermediaries are profit-seeking agents, which constantly try to extend credits, financing new positions. Financial innovation is strengthened by the new restrictive policy of the Central Bank with its effects on the rate of interest: financial intermediaries issue new kinds of financial instruments which, as long as the market judges them 'liquid', serve as 'effective' money without increasing required reserves. *A given amount of bank loans and demand deposits supports a higher volume of finance to the whole economy*.

During 'tranquil' growth, and increasingly with the euphoric expectations typical of the boom, the creation of *near-monies* - i.e., financial instruments which are good temporary 'substitutes' for money, able to meet both the demand for insurance and the demand for financing - speeds up (e.g.: MINSKY 1957, ROUSSEAS 1960). The 'effective' quantity of money soars. With the demand for finance pressing on supply, or with the Central Bank trying to impose a control on some monetary aggregate, the short-term rate of interest rises. As a consequence, innovations in the means of payment and in financial practices gain ground, and the velocity of money increases. The pyramid of a growing financial system is erected on the foundation given by the 'monetary' system narrowly

defined. The banking system, however, remains the pillar of this building: banks have in the end to *accept* these substitutes for money proper; and the very *stability* of the financial system rests on the stability of the banking system. Anybody may issue money, according to Minsky: the real problem is having it accepted by the public; and accepting is warranted by commercial banks and, in the last instance, by the Central Bank. Throughout growth and boom the non-identity between near monies and money fades away; it comes again to the fore when crisis erupts.

Thus, the money supply is not 'given' once and for all: the definition, and the magnitude, changes during the cycle. Though the effective quantity of money in circulation is *demand-driven*, it is *not* unbounded. The money supply is positively related to the rate of interest with a given financial structure; but it shifts to the right when banks and financial intermediaries squeeze inactive money and issue new substitutes for money, reacting to monetary policy or just exploiting profit opportunities during the cycle. Because of these changes, money supply becomes infinitely elastic for a while. The resultant interest rate-'effective' money supply relation is a *step* function. The *endogenous* nature of (either 'strict' or 'effective') money supply is strengthened by the fact that in prosperity economic units lower their margins of safety, and their liability structures embody a higher degree of risk. In a complex financial system, investment may be financed through *portfolios adjustment*, reducing balance sheets' *liquidity*.

Minsky's approach to money brings with it other original features. First of all, banks *select* financing deals, and cannot be assumed to be passive vis-à-vis firms' demand for loans. Bankers, in a sense, guarantee society about the probability of a positive difference between cash inflows and payment commitments. Banks' liabilities are 'believable' and accepted (and government backed), and so the risk of a 'run' is avoided, so long as there is general trust in agreements between banks and firms, and in prudent portfolio diversification by banks. Banks' ability in selecting potential borrowers depends on the formers' skill in collecting the information needed to evaluate the latter's solvency. Second, since the stability of the banking system is the cornerstone of the stability of the financial system, the Central Bank must have as its main target the protection of both. The *lender of last resort* function of the bank of issue is justified by the pivotal role of banks relative to other financial intermediaries, and by the impossibility of reducing of money to a specific set of debts. Finally, not only expansionary, but also *restrictive* monetary policy is often ineffective, and even self-defeating. Early Minsky does not deny that sooner or later the Central Bank has the power to control reserves; effective money may however grow, thanks to a higher deposit multiplier, or a change in financial habits hastening the velocity of money. If the restrictive monetary policy actually wants to constrain the larger, effective, quantity of money, the Central Bank must determine a *dramatic* compression in reserves, and this usually happens when the boom is already well under way. The cost of the intervention is a sudden and unexpected rise in the rate of interest: just the kind of event which, according to Minsky, may trigger off a financial crisis. The late Minsky rejected the idea that Central Bank is able to control reserves (cf. MINSKY 1986 and FAZZARI-MINSKY 1984; see WRAY 1992 for discussion).

For Minsky, monetary policy is powerful only when it succeeds in making the money supply *inelastic*, and - as we shall argue later on - this happens exactly when the demand for finance is also *rigid*, when the *debt-burden* in balance sheets is *high*, and when *liquidity* in portfolios is *low*. To avoid debt-deflation and a lasting depression, the Central Bank has to make an U-turn, providing banks with fresh reserves. This argument, once again, supports Minsky's views about the endogeneity of money. What is typical of Minsky, on the other hand, is that in his model the endogeneity of money affects both the quantity *and* the cost of finance - that is, both the supply *and* the rate of interest.

The two-price model

The capitalist process is a network of intertemporal, uncertain cash flows, where balance sheets are intertwined. The importance of this monetary perspective is prominent in the inquiry about the determination of the demand (and production) of new capital goods. In the following, we shall briefly sketch the determination of investment according to Minsky's two-price model.

The price of current output includes the price of consumption goods and the price of investment goods. Producers have given *short-term* expectations about costs and demand in the period. They fix prices to recover *direct costs* (the main component being, in the aggregate closed economy, money wages) and to earn a residual: deducting overhead costs, we obtain *gross profits*. Gross capital income less gross cash payments on debt and on dividends defines the *maximum* amount of *internal* financing. If the firm acquires new capital goods and *runs into debt* because actual investment exceeds the level which may be financed internally, the supply price of new capital goods must embody the *lender's risk* - namely, the risk imputed by would-be lenders to additional loans to be extended to already indebted firms; or the risk of losing the money invested (again, though banks aren't lenders in Minsky, a similar reasoning may be applied to them). This risk, though reflecting subjective valuations, is represented by 'objective' variables: it takes the form of a higher cost of finance or of explicit agreements in financing deals, thus increasing the price of investment good to the buyer. A higher leverage means a higher risk, and so, a higher price. For a given set of *long-term* expectations of the lender, the schedule for the *supply* price of investment goods is *upward-sloping*. The greater the leverage and the harder the terms required by the lender for the financial contract, the steeper the slope of the curve. The supply price of the investment function will be shaped by the *marginal* lender's risk. It is decisively influenced by monetary and financial markets (including the behaviour of the money supply and liquid assets) and by liquidity preference, since those factors determine the financial contracts and the margins of safety agreed upon by lenders and borrowers.

Investment will take place if the demand price is higher than the supply price. The *demand* price of the *flow* of new capital goods hangs on the *market* price of the *stock* of capital assets on the stock exchange. Following Minsky, we shall focus on shares, treating bonds as something intermediate between shares and bank loans. Both financial instruments and capital assets yield expected money receipts and originate cash commitments. The *present value* of positions in capital assets results from *discounting-back future earnings*, and moves with firms' and shareholders' long-term expectations. The capitalisation rate depends on the expected rate of interest on money loans, which is the opportunity-cost of investment, and on the evaluation about the latter's specific risk, because of the uncertainty with regard to expected quasi-rents and the liquidity of positions. When the investor needs external finance, there is a deduction from the demand price of new capital goods due to *borrower's risk*. This 'subjective' risk is higher the larger the commitment to a particular type of capital asset (because there is an increase in the perceived risk of default) and the greater the leverage. As a consequence, the demand price schedule is *downward-sloping*.

If short-term expectations - about cash-inflows, cash-outflows, or about the possibility or conditions of new borrowings - are not confirmed, long-term expectations may be revised, and this can lead to changes in the value of capital assets. The price of capital assets is intrinsically disconnected from their cost of production. The notions of a basic independence and of a greater instability of the price of capital assets relative to output prices follow from Minsky's tracing back of the demand price of new capital goods

to the market price of stocks. On the one hand, shifts in portfolios choices bring about changes in investment; on the other, the price of stocks hinges on expectations about the residual in cash inflows once taxes and cash commitments are deducted from gross profits. Complex two-way links and feedback have to be considered, and may produce speculative dynamics.

The relation between the price of capital assets and the price of current output is the *fundamental relative price* in the capitalist economy. Taking into account the internal financing constraint, the possibility of raising borrowed funds and the conditions shaping external finance of positions in capital assets, the intersection of the demand price function with the supply price function of new capital goods determines investment demand and production.

The two-price model is the analytical tool by which Minsky integrates his theory of money and finance into his theory of investment. For a given set of short-terms and long-terms expectation, a given state of uncertainty, and given margins of safety, variations in the quantity of money fix the rate of interest on money loans and the value of liquidity. The capitalisation rates of the quasi-rents expected from capital goods and financial assets may then be derived by considering the different liquidity pertaining to different investments; capitalisation rates help obtain the demand price of each unit of new capital goods. The equality of demand price with the supply price determines the value of the investment that actually takes place. The sum of all the investments of all firms is aggregate investment. Minsky's approach differs from Keynes' in that it explicitly puts the price of capital assets at the heart of the theory of money demand. Nevertheless, it may be seen as walking in Keynes' footsteps:

- (i) for a given state of uncertainty and a given set of expectations, an increase (decrease) in money supply determines a fall (rise) in the rate of interest, producing a shift *along* a given liquidity preference schedule;
- (ii) long-term expectations influence the capitalisation of prospective earnings;
- (iii) the present value of future gross profits and the rate of interest jointly establish the demand price function for investment goods;
- (iv) the quantity of the new capital good bought is settled by the meeting point between the demand and supply price functions.

The attention given to liability structures and the endogeneity of 'effective' money opens the door for Minsky to analyse how changes in portfolio management and balance sheets, due to shifts in confidence, have immediate effects upon the price of capital assets - for example, positive changes in the state of uncertainty or in expectations produce a shift *of* the liquidity preference schedule to the right, and hence they positively affect capital assets evaluation and the amount of investment. The creation of money and near-monies bring about similar effects: and, according to Minsky, financial instruments issued to satisfy new financing demands are more easily accepted with a lower liquidity preference. The two factors together give scope for a higher ratio of short-term cash-commitment outflows to expected cash inflows, and cause a rise in the price of capital assets. The reverse chain of events sets in with an endogenous destruction of money and near money, coupled with a higher liquidity preference. The supply of finance needed to start production and hold positions in capital assets expands (contracts) just when precautionary and speculative money demand goes down (up).

The growth in investment induces a *larger money supply*, a *lower liquidity preference*,

and a *heavier burden of debts* in the economy. As long as banks' and financiers', together with firms' and speculators', expectations are confirmed on the market, the economic units confidently enlarge their holdings of real and financial illiquid assets. In the same expectational climate, they feel confident about reducing the margins of safety: there is therefore a decrease in liquid balances relative to the market value of assets in portfolios, and an increase in shorter term cash commitments whose validation is conditional on mounting gross profits. The higher leverage and the higher debt-service are sustainable only if the optimistic mood is not proved wrong.

Profits and distribution

In Minsky's framework, the *critical relation* in capitalist dynamics is that between after tax gross capital income and cash payments on debts. To produce and buy capital assets expected gross capital income has to be larger than future cash commitments, if not for each period, at least for the relevant time-horizon. Hence, to keep the difference between cash inflows and cash outflows positive, two expected time-series must be borne in mind: the one that has to do with future receipts, which must be actually realised, and the one that has to do with dated cash payments, which has its roots in the debt structure chosen in the past and depends also on the behaviour of the current cost of financing. *Realised* profits are for firms the *source* of the cash flows needed to cope with cash commitments. *Expected* profits, positively linked to current profits, are the *incentive* to invest. Sufficiently high realised and expected profits are essential to allow firms the rolling over of maturing debt and the raising of new loans. As a consequence, expectations about future profits rules current investment and financing decisions, and current profits validate past decisions. Profits are the key variable for real growth and for the financial dynamics of the economy, because their determination and distribution are crucial both in settling investment demand and in validating debt and capital asset prices.

The *centrality* of profits in Minsky is confirmed by his reprise of Kalecki's theory of prices and distribution. Again, following Minsky, we shall focus on the simplest case. Though built upon 'heroic' assumptions, it is helpful as a first approximation: it highlights the role of profits in capitalism, and emphasises investment as the most unstable component in aggregate demand. Suppose we are in a closed economy with a small, balanced budget State; the macro agents are thus only banks, firms and workers. Production consists of a composite investment-good and a composite consumption-good. The propensity to consume of workers is unity, and the propensity to consume of the capitalists is zero. In this elementary setting, profits in the consumption-goods sector are equal to the wage bill of workers employed in the investment-goods sector. Fixing a price which includes a mark-up on labour costs is the device that allows the allocation of the amount of goods *made available to the working class* among the *whole* labour force in the economy. It is also the means by which a share of the labour force is apportioned to the production of a *surplus*. Since total profits are equal to the sum of profits in the two sectors, they are equal to the sum of the wages and profits of the investment-goods sector. Hence, *total profits are equal to aggregate investment*. Whereas total production is financed by bank loans, consumption demand is immediately financed by wage income, and investment demand in excess of the money recovered on the financial markets is immediately financed either by banks or by financial intermediaries. The different access to finance defines the hierarchy between social classes and between autonomous and induced expenditure, and that the distribution of income results from the volume and composition of effective demand.

When we add the Big Government or open the economy, this argument is not abrogated, but is elaborated. What is particularly important for Minsky is the conclusion

that including the Big Government makes total gross profits - namely, the cash flows that firms draw upon to meet their cash commitments - a positive function of *government budget deficits*. The Keynesian idea of expansionary fiscal policy as stabilising is here reinforced. When State expenditure is higher than taxes, the consequence is not only an expansion of demand but also a *support to liability structures via gross profits*. In an open economy, gross profits are also replenished by a trade surplus. In general, gross profits are depressed by workers' savings and fostered by capitalists' consumption.

According to Minsky, the availability and the terms of financial agreements govern investment, investment brings about gross profits, and gross profits feed back into the financial structure. Current investment and financing decisions set the parameters limiting future choices. We have already pointed out that, in Minsky, prospective money profits as *expected* cash flows are the *carrot* inducing current investments, and as *realised* cash flows are the *stick* validating or not past investment. If higher than the amount needed to satisfy cash commitments, they are the source of dividends and retained earnings which positively affect long-term expectations of banks, firms and shareholders. But in a capitalist economy investment *today* will yield profit only if expected future returns come true. Thus, the smooth working of such an economy is based on the general belief that *future* investment will breed enough gross capital income to repay debt. During tranquil growth, and even more during boom euphoria, the rise in investment causes a multiple rise in aggregate demand and income, and an expansion in gross profits. If actual receipts are larger than expected and short-term expectations are revised upwards, internal financing will be higher and leverage will be lower than expected. Borrower's and lender's risks will be marked down. In the two-price model both the overestimation of prospective gross profits and the underestimation of borrower's and lender's risks propel debt-financed investments. The reverse sequence is active during recession and depression.

Taxonomy of positions

Mainstream economics - from the Neoclassical Synthesis (the fountainhead of both 'bastard' Keynesianism and Monetarism) to today's opponents (New Classical Macroeconomics and New Keynesian Economics) - is silent about the evolutionary course leading from stability to instability. If any explanation is provided, it has to do either with exogenous shocks or with policy errors. On the contrary, Minsky puts forward a theoretical standpoint where the cycle, passing from tranquil expansion to the boom and then collapsing into financial crisis, recession and the risk (or the reality) of debt-deflation and chronic depression, is nothing but the *normal* outcome of the capitalist process. In Minsky's case structural instability is *endogenously* exhibited by bringing together all the elements of his approach we have reviewed so far, plus one. The missing ingredient is his taxonomy of positions.

We saw how Minsky's starting point is that the production of new capital goods and the ownership and control of those assets that cannot be readily converted into cash - 'positions' - needs to be financed. And we noted that tangible and financial assets are held in view of a positive difference between cash receipts and cash payments on account of both principal and interest (Minsky sometimes labels them *balance-sheet* cash flows). Cash payment commitments on the outstanding liabilities may be disbursed drawing on normal or ordinary sources of cash: *income* cash flows are indeed the main 'primary' source of cash, the other being the issue of new liabilities (refinancing). There are situations however in which, to fulfil the terms of financial contracts, units have to fall back on 'secondary' sources of cash, pledging or selling assets, or running off their emergency source of cash (that is, through *portfolio* cash flows). To meet cash flows on inherited liabilities through income cash flows is, in a sense, 'sound' finance, and an economy in which income cash

flows are dominant is 'robust'. Refinancing is risky in that the new borrowing may be on harder terms than the original financing. Selling assets is even more dangerous: if there are no secondary markets, or if they are inefficient, prices may sink dramatically. Moreover, 'leveraging' equity may block the way out of raising funds by selling negotiable or redeemable assets on broad, deep and resilient secondary markets. And, finally, portfolios may be almost devoid of *default-free* assets, like government debt or gold, of *protected* assets, like bonds or saving deposits, or of *idle cash*.

The ratio between uncertain (income) cash inflows, subject to sharp and sudden revaluation, and certain (balance sheets) cash outflows is the key factor in assessing the liability structure of economic units. For *hedge-financing* units, prospective income cash flows (expected quasi-rents) from positions in assets are greater than contractual cash payment commitments on debts *for every period*. The expected present value of capital and/or financial assets is positive for all likely rates of interest. The outstanding debts tend to fall, while the book value of equity and the amount of cash held as implicit 'insurance' tend to increase over time. A business hedge-financing unit may see cash flows from operations fall short of anticipations because of events in the labour market or in the commodity market (*economic risks*), with actual quasi-rents going below expected quasi-rents. It is however safe relative to a *financial* turmoil, and depends only on the normal functioning of product and factor markets.

A unit is *speculative* if, even though expected income cash flows from assets in positions generate sufficient cash to meet the contractual cash payment commitment for the entire horizon of the investment, in the *near term*, cash inflows are less than (balance sheet) outflows. In particular, income cash inflows are higher than interest charges on external finance, but the repayment of the principal has to be met through refinancing - so as not to be compelled to draw on cash reserves or liquidate assets. For a speculative-financing unit near-term cash deficits are more than offset by cash surpluses in the long term. However, at some set of interest rates there may be a reversal from positive to negative present values. The speculative financial structure also depends upon the normal functioning of money markets, and is subject to *financial* risks. But, if expectations about the two time-series of expected income cash flows and expected rates of interest are confirmed, then the dynamics of outstanding debts, equity, and precautionary holdings of cash is similar to the hedge-financing case.

A *Ponzi* finance unit is defined as a special instance of a speculative-financing unit for which, in the near term, the income part of cash inflows is lower than the payments of all the contractual cash-commitments to debt holders. The unit has to raise funds through additional debt not only to pay the principal but also to fulfil interest-payments. For some the outstanding debt will grow even if the unit does not buy new income-yielding assets, and in the future disbursements on these new debts will add to the original financing. Total cash inflows higher than total cash payment commitments on debt often require some 'bonanza' in later terms. Ponzi units, like speculative units, have to take into account both economic risks on expected receipts and financial risks on the behaviour of short term costs of refinancing. Even a *small* rise of the interest rate can dissolve the positive expected quasi rents of the investment.

A decrease in prospective earnings may turn a hedge-financing unit into a speculative-financing unit. With unchanged expected profits, movements in financing costs may turn speculative units into Ponzi units, and transform a positive present value into a negative present value. An investment may abort because of an *unexpected* rise in the short-term rate of interest, or even a fall in the value of assets which may be used to 'make a position'. Indebted firms may be unable to satisfy their cash commitments; their insolvency may undermine the liquidity of their banks and financiers. Banks may not

renew their loans, and/or there may be a bank 'run'. The money network of intertwined balance sheets, the integration of finance and production, and the central role of banks in the financial system are all factors which spread crises of particular firms or sectors to the whole economy; when crises reach the banking sector the trouble is even more serious. Over a period of good years the weight of units with speculative and Ponzi positions increases, and the economy becomes more *fragile*: a minor shock may initiate a major debt deflation which, if not opposed by active economic policy, may lead to a deep and long depression.

Systemic fragility

The *Financial Instability Hypothesis* states that tranquil growth and prosperity in modern capitalist economies *naturally* bring about changes in cash-flow interconnections leading from solidity to fragility, and that the *normal* functioning of the economy may easily convert fragility into open financial crisis.

Let us begin with a financially *robust* economy, where almost every agent is in a *hedge-financing* position. The economy experienced cycles in the past, but is now in *tranquil* prosperity. Operators remember past crises: they maintain *therefore ample margins of safety* in their liability structures, and balance sheets *are awash with cash* and very liquid assets. As long as economic development goes on without shocks, optimistic forecasts are *validated*. Banks and firms expect wide positive future quasi-rents, and bet on an upward-trend in the value of real and financial assets. The margins of safety chosen in the past look over-cautious, and the implicit insurance price of cash holdings gets lower. While precautionary and speculative demand for money *decreases*, financing demand *takes off*. Banks and financial intermediaries have *no difficulty* in raising supply hand in hand with demand, either through new issue of traditional means of payment financial instruments or through financial innovation. Positive expectations, lower liquidity preference, contraction of the margins of safety, monetary expansion and financial innovation initially cause the *rise in the price of capital assets relative to the supply price of capital goods output*. The demand and production of new capital goods blossom, and gross profits improve. Internal financing will be higher, and external financing lower, than expected. Borrower's and lender's risks are underrated. The consequent validation of outstanding debts and of the most risky projects fosters *euphoric* growth, and prosperity develops into boom. The *upward* instability, and the finance sustaining it, are *endogenous* outcome of stability.

According to Minsky, short-term rates of interest much lower than long-term rates of interest are the hallmark of tranquil growth. A *rising debt-equity ratio* is associated with higher *short-term* financing of fixed capital and long-term financial assets. We have already noticed that during expansion the share of speculative and Ponzi units in the economy grows. Though at first this does not interfere with the smooth course of prosperity, it is highly unlikely that the capitalist process can proceed undisturbed by financial developments forever. The reason is clear if we give a closer look to banks and firms. *Commercial banks* are typically speculative units since their activity implies the short financing of long positions. With the 'lengthening' of their balance sheets, they become more and more fragile. Sooner or later they will ask for a higher rate of interest to provide further loans: the supply of finance will become increasingly inelastic and its slope will climb. On the other hand, *firms* have to ask banks for finance to start production of *both* consumer goods and investment goods, and they expect to recover their advance with a mark-up thanks to their sale proceeds. Production of investment goods, however, is special in this sense, that their construction time spans across many periods and their returns flow from an uncertain future. While the final finance enabling consumption goods producers to satisfy their cash commitments comes from the wage bill, the final

finance enabling producers to meet their contractual financial payments is, in Minsky's perspective, partly borrowed. The short-term debt of investment goods producers is 'funded' - i.e. the short-term bank finance initially needed to produce investment goods is turned into the longer term external finance needed to buy the new capital goods - by the financing arrangement of investment goods purchasers. The share of production finance which is so 'funded' is larger when firms rush into ever longer investment projects. Thus, the financing of investment production and demand comes about through external debts, and investment activity makes firms into speculative units - and some of them, especially during euphoric growth, even into Ponzi units. As a consequence, the demand for finance becomes almost inflexible in the course of the cycle. Short-term demand for finance *shifts to the right*, and takes a *more vertical* shape. As long as the supply of finance is nearly horizontal at slowly rising short-term interest rates, monetary and financial developments don't put a brake on investments. For a time, the euphoric boom is self-feeding, chasing its own tail. Things change when the supply of finance sticks up vertically, because of more prudent bank attitudes or of tougher restrictive actions from the Central Bank. The outcome now is a *sudden, severe and unexpected* increase in the cost of financing. Short-term demand for finance cannot but soar, further contributing to the progressive rise in the rate of interest.

Minsky's argument so far has emphasized two points:

- (i) the *endogenous* increasing subjection of the economy to upward movements in the rates of interest, because of capitalism's upward instability;
- (ii) the consequent *endogenous* upper turning-point, with the violent break out of the financial collapse.

This, of course, does not preclude crises' being due to exogenous factors. In general, however, crises are consequent either on a fall in gross profits or on an unexpected rise in the rate of interest. We have seen how this latter is the spontaneous outgrowth of the internal working of banking mechanisms or of Central Bank policies, since through the period of prosperity the supply of finance becomes less and less elastic and the demand for finance more and more rigid. The dramatic rise of the *short-term* rate of interest when money supply suddenly becomes vertical implies that refinancing will involve an escalation of cash outflows relative to cash inflows, and gives way to an *upward* shift in the *supply* price schedule for investment goods. At the same time, a higher short-term rate of interest makes likely a higher *long-term* rate of interest, which affects the capitalisation of future gross profits. As a consequence, the *demand* price schedule for investment goods will shift *downwards*, unless an increase in expected quasi-rents does not compensate for the rise in the discount rate. Investment, and, so, current and expected gross profits, decline, making the debt-burden even heavier. A *recursive* negative spiral gets going. Some firms get into financial trouble, others fail. The missing validation of cash payment commitments on outstanding debts leads to the revaluation of borrower's and lender's risks, and to the reassessment of liability structures. In the meantime, the rising rates of interest endangers the liquidity and solvency of banks and financial intermediaries. Liquidity preference goes up, demand deposits contract, financial instruments may not be 'accepted' by the banking system. The struggle to 'make position by selling positions' turns out to be ruinous because of the immediate fall in asset prices. Capital asset prices may fall below the price of investment goods, and the surge in the rates of interest may even bring about a present value reversal, from positive to negative.

When net worth destruction and illiquidity have spread to a significant number of units, investments completely *stop* and gross profits plummet. Even hedge-financing units become speculative or Ponzi. Debt-deflation and financial turbulence strike the real

economy curbing income growth and bringing about mass unemployment. In an economy with a small public sector and with a Central Bank which does not act as a lender of last resort, the lower turning point will occur only after monetary contraction and bankruptcies restore 'robust' finance. It may be a road to hell. In a capitalist economy with endogenous money the collapse of goods and asset-prices results in a decrease in cash inflows and perhaps a rise in cash outflows. Moreover, the drop in endogenous money slows down the adjustment process through deflation and impedes the rise in the so-called 'real money balances', while expectations of further falls in prices motivate private agents to postpone demand. The Pigou-Patinkin effect does not work in a world where the money supply is endogenous.

The role of economic policy

What we have just depicted gives us the form of the cycle for US capitalism before WWII. Since the New Deal, economic policy was committed to preventing the upper turning point's degenerating into a full-blown financial crisis and big depression, by raising the lower turning point. Earlier stabilisation was due to Big Government's budget deficits and Central Bank as a lender of last resort. Budget deficits translate into higher gross money profits; moreover, financial instruments put out to finance the deficit are secure assets in portfolios and strengthen the 'robustness' of balance sheets. Against this background, the eventual fall in capital asset prices does not carry with it a profit crash, because output prices are sustained by a larger automatic or discretionary government deficit, fuelling aggregate demand and hence firms' production. At the same time, the government pumps into the market secure and readily marketable assets and creates a floor for liquidity. Thanks to expansionary fiscal policy, firms are able to satisfy cash payment commitments on outstanding debt, and debt-deflation is either weakened or completely inhibited. This kind of intervention, however, takes time. It must then be associated with a prompt injection of liquidity and purchases of securities from the Central Bank, establishing a lower limit for the value of assets. In general, the Central Bank has to monitor and regulate financial institutions and practices.

Active economic policy imposes new *initial conditions* constraining the system's instability. A long-lasting economic crisis can never be ruled out in capitalism, but it is not necessary, unless policy institutions choose not to act. The right policy mix, however, is far from easy to find in a given concrete situation. According to Minsky, economic policy is unable to abolish the fundamental processes leading to instability: what it can do is to repress and counteract the most harmful ills, and to make sure that 'it' does not happen again. For instance, the Central Bank cannot stop the increase in the quantity of finance actually supplied in the upswing, and it can regain control over the 'effective' quantity of money only if it is willing to risk the outbreak of a financial crisis; the upper turning point, however, would sooner or later be reached even if the Central Bank refrained from monetary contraction. But the Central Bank can control the unfolding of the crisis, if it prevents banks' and financial intermediaries' bankruptcies with timely refinancing and an adequate inflow of reserves. During the other phases of the cycle, monetary policy is not very helpful, since money cannot be limited and since financial innovations periodically defy regulations, while fiscal policy is more reliable. However, Minsky is critical of how budget deficits have been pursued in the past: through non-selective support for private investments, irrespective of their contribution to a more efficient industrial structure, or through unproductive transfers. As a consequence, the undesigned and unwanted outcome of fiscal and monetary policies in support of financial structures to avoid debt-deflation has been to increase the number of speculative and Ponzi units, to shorten firms' time-horizon, and to slow down productivity growth. Hence, the price paid for 'it' not happening again has been that prosperity is much shorter, and the next financial crisis

much nearer. Fiscal policy, Minsky says, must therefore be more flexible than in the past.

To 'fine' tune a capitalist economy, in Minsky's view, is an impossible task. Good policies in a given situation are bad in another one, and profit-seeking agents will periodically find ways to circumvent regulations. An *agenda for reform* can nevertheless be sketched out. On the one hand, debt deflation and big depressions must be opposed; on the other hand, financial structures must be 'simplified' restoring the possibility of a lasting 'tranquil' progress. Institutional innovation and the reform of the public sector is the answer to firms', banks' and financial intermediaries' innovation. Among Minsky's policy suggestions, the following may be reported: the incentive to the production of consumption goods through less capital intensive techniques; the indirect support to productivity through public infrastructural expenditure and through Research and Development; the introduction of limitations to firms' liability structures; a fiscal structure such that government budget goes automatically into surplus (deficit) when investments, income and employment are high (low); a restructuring of public expenditure reducing transfer payments and favouring employment programs; the State as the employer of last resort; the privilege accorded to equity finance relative to debt finance; policies promoting small and medium firms and banks rather than big conglomerates; a shift in firm ownership from capital to labour.

A Minsky moment? The subprime crisis and the 'new' capitalism

Riccardo Bellofiore and Joseph Halevi

1. Introduction

It would be impossible to understand today's capitalism and what has been happening in the European Union, outside a global macroeconomic framework which includes the United States and Asia. The subprime crisis which erupted during the Summer of 2007 and is spreading throughout the world financial markets, seems to confirm some of our earlier interpretations based on the trinity formed by traumatized workers, by indebted consumers, and by manic-depressive savers (Bellofiore and Halevi 2008). These aspects must in turn be set in the context of the policies pursued in the present regime of financialized capitalism where labour itself is subsumed under finance and debt. The dimension of this phenomenon will become clearer when we will elucidate the mechanism of investing by asset stripping through leveraged buy-out operations. Hence, we will begin with a reasoned historical account of the subprime crisis. We will then raise the issue of the 'Minsky moment' and how it can be placed in the present context.

2. An outline of the emergence of the crisis

"Derivatives" are financial contracts stipulating an exchange based on the guess regarding the future value of a particular financial asset. Formally these are instruments aimed at hedging against risk. There can be as many derivatives as there are guesses and attributes regarding the assets concerned (Bryan and Rafferty, 2006). Since derivatives are just a piece of paper they can be multiplied and issued in relation to other derivatives as well. The big push, as once Harry Magdoff and Paul Sweezy explained to us, started in the first half of the 1980s with the expansion of contracts on futures and with derived contracts on the future of those futures. It is clear therefore that instead of hedging against risk, derivatives and the like are essentially speculative activities aiming at making profits on future incomes bypassing production altogether. This casino-type activity, instead of protecting against risk, actually expands it to every corner of the economy. In this context the subprime crisis gives us a very good perspective on the dynamics of today's capitalism. It has, indeed, highlighted that the deadly combination of derivatives with other financial "innovations" transformed markets into an unprecedented minefield.

It is remarkable how, more than 8 months after the eruption of the subprime crisis, new and unheard of financial papers keep surfacing as worthless. This crisis was well announced and yet it is still impossible to determine its depth and ramifications. The problems with the speculative credit bubble became evident around March 2007 with an exceptional rise in housing repossessions, with a fall in real estate values and with sudden and sharp falls in the New York and Shanghai stock exchanges. Underneath all this was the contradiction between reality and the belief the financial Ocean would remain calm. And, as we know from Keynes, capitalists love to take risk only when they firmly believe that they will not be hit by a storm before cashing in.

The belief that the Ocean would stay calm was fuelled by the means used to stave off stagnation employed by two countries for about two decades: the United States and Japan. These are both the two largest economies in the world and the most interconnected. For reasons going back to the reconstruction of Japan's capitalism, supported by the United States after 1945, Japan is hooked onto the USA. In 1987 with the October 9 Wall Street crash, Japan very quickly reflatd its economy by sharply reducing the interest rate charged by the Central Bank, thereby flooding with

money both itself and the American financial markets. That move turned out to be crucial to refuel the liquidity starved US stock exchange system but it also created a speculative bubble of gigantic proportions in Japan. The bubble was pricked by Tokyo's government in 1992 (through an increase in interest rates) which feared a clash between the speculative overheating of the economy and its exports dynamics. But in capitalist systems economic policies seldom achieve their stated objectives. The bubble was pricked and the economy collapsed into a state of deep stagnation with the yen rising till 1995. To avoid a true depression the Japanese government reduced interest rates to about zero and pumped a large amount of money expanding the budget deficit to nearly 10% of GDP.

These hyper Keynesian policies, while preventing Japan from sinking into a depression, did not restart growth. Instead they opened up the way to the so called yen carry trade. It became quite logical for both Japanese and foreign banks and financial companies to borrow in Japan in yens at insignificant interest rates, and "invest" the money in higher yielding securities and stocks in the USA. The Japanese crisis on one hand, and the US response to its own stagnation tendency on the other, became mutually compatible through the carry trade in yen.

In the United States the solution to the stagnation tendency was found in the twin process of indebtedness and financialization. The latter became the main factor directing investment in real plant and equipment. Indeed throughout the 1980s and the 1990s, aside from the military industrial sector, the productive branches servicing the financial sectors grew most and absorbed an increasing share of real investment. Present day financial processes and mechanisms stem from indebtedness which gathered momentum since the late 1970s. Initially it was made mostly by company debts, while becoming in the course of time increasingly determined by households' debt (Magdoff and Sweezy, 1977; Chesnais 2004). Terms like "securitization", describing offerings of titles to sustain private debt, or hedge funds, companies specializing in risk management, appear in the United States with increasing frequency from the late 1970s onward. In that decade US capitalism was caught in a very serious stagnationist crisis determined by the (a) the end of the Vietnam War, (b) the Starts agreements with the USSR which capped the level of nuclear arsenals and of their vectors, (c) the ousting of the Shah in Iran which dented another major source of military procurements and directly affected the US oil-finance network (Ferguson and Rogers, 1986). For debt creation to become the offsetting factor of the stagnationist deadlock, institutional space had to be created in the first place.

To put the matter into its historical perspective we must mention that both in the second half of the 1950s and throughout the 1960s heavy fluctuations in the stock exchange affected neither policy decisions nor evaluations regarding future real investment. The Dow Jones index, for instance, was 700 in 1963 and just 750 in 1969 but with intermediate peaks around 1000 points, i.e. it displayed a volatility nearing 50%. Yet these fluctuations were within a closed circuit, as it were, since the banking system was insulated from the stock market because of the legislation passed during the Roosevelt era. The real economy and the profitability of both industry and finance were, instead, propelled by the spending policies induced by the Vietnam War. With the onset of stagnation in the 1970s the political and economic response gravitated towards the transformation of debt into a source of financial rents and of support to effective demand through household indebtedness. In this context, throughout the 1980s and 1990s the required institutional space was created by abolishing the safeguard provisions of the Roosevelt era and by changing pensions' financial flows from funds tied to specific entitlements into funds available for financial markets in which benefits came to depend upon market capitalization.

The institutional expansion of the space for debt creation transformed the preoccupation with stagnation into a belief that financial markets would show a systemic tendency validating expectations concerning future capitalization. But this 'confidence' was essentially the by-product of governmental activities centred on injecting liquidity internationally. Such policies began with the Wall Street crash of 1987, were expanded during the 1990s, and acquired unprecedented proportions with the war in Afghanistan and in Iraq after 2001 and 2003. It is this kind of public money that sustained the fireworks of private moneys and the growth of the derivative markets. Without government created liquidity, the implementation of the large private financial operations of the last decade – from investments into junk bonds to private equity take-overs – would have been much more problematical, if at all possible. This Ocean of State injected liquidity has had a twofold effect. On

one hand it has increased speculation and the volatility that goes with it. On the other hand, however, it has augmented the capacity to absorb the said volatility. Hence the ingrained belief in the sustainability of an ever growing financialization of the economy. Although there have been instances of financial bankruptcies with many victims, no chain event occurred on a scale to shatter the above mentioned belief. That was mostly due to the continuing issuance of liquidity by the public authorities. The explosion of the dotcom bubble in 2000 began to shatter that credence but the swift transformation of American monetary policies into a new form of war financing in 2001 (De Cecco, 2007), created the conditions for the absorption of the many bankruptcies leading to the impression that the Ocean would remain essentially calm.

During the first quarter of 2007 the financial castle began to crumble. The weak points were no longer inside the financial institutions, something that could be addressed by further expanding liquidity. The real weaknesses came from the terminal points, from the inability of customers to service their mortgages. In February two major companies – Nova Star and New Century Financial specializing in the subprime market - went under. By May the storm had crossed the Atlantic hitting the Swiss UBS which was compelled to close down its hedge fund Dillon Read because of a 91 million euros loss in the subprime market. It was a major signal that hedge funds could no longer pass the risk onto somebody else. It showed that by multiplying operations aimed at hedging against risk, the latter ends up being propagated like a virus rather than dispersed and minimized. An outcome that was contrary to what economists and managers alike wanted the public to believe.

That was just the beginning. The true terminal points, i.e. the inability of customers to pay, surfaced on the 19th of June when two hedge funds belonging to the investment bank Bear Stearns announced that they would try to recover moneys by repossessing insolvent debtors' assets and valuables. This event is what made the fall of debris into a massive relentless landslide that – to date – is yet to be stopped. Uncertainty driven near panic situations began to spread throughout financial companies and banks on both sides of the Atlantic. A major reason for the heightened fear lay precisely in the way each subprime crisis erupted. In every case, that is, in each of the debt packages involved, there were securities hitherto deemed perfectly safe and now fully contaminated. Hence each case highlighted the fact that it was impossible to pinpoint the source of risk. Financial experts could not differentiate between valuable and worthless securities. Thus every single form of debt capital became contaminated, so that confidence was being withdrawn not just from the bundles of real estate securities, but also from equity - highly leveraged - capital. In July equity companies became unable to raise the funds needed to acquire the auto group Chrysler, dumped by the German Daimler, and Alliance Boots. In August the sale of Virgin Media was also suspended. All the above were leveraged buyout operations (LBO).

3. The phoney nature of the new finance

LBOs are acquisitions of companies based on debt. The Italian dictionary *Garzanti Linguistica* gives a very clear definition of this kind of activity: “acquisitions of companies by means of purchase of their shares financed by issuing debt guaranteed by the purchased shares”. Such debt becomes a tax deductible cost and is extinguished with the net proceeds obtained by selling the restructured, and usually split, companies back to the markets. The restructuring of real companies by means of debt occurs also through corporate raiders, the nature of which had been lucidly depicted, when still in its infancy, in the movie “Pretty Woman”. These are financial companies which, after raising money, raid firms which are under financial stress. Their objective is to drastically restructure and split them, betting on phenomenal increases in the value of their shares. These operations contain no technological innovations or search for new markets. They involve decisions concerned purely with the expulsion of the labour force. The corporate raider does not necessarily have to buy all the shares of a company. The latter procedure is, instead, preferred by the private investment funds. They raise debt capital to buy all the stocks, by offering stockholders

a price above the ruling one. The acquired company is then taken off the stock market. Equity investment funds, themselves a conglomerate of financial companies, necessitate a great deal of debt which is then shouldered by the companies they have “bought”. In other words, the equity investment fund tax deducts the debt from its own balance sheet, but that very debt is the reference figure to gauge financial success. Its profitability, this time outside the stock exchange, is calculated net of the existing debt incurred in the buyout process.

Equity investment funds operate in the short period; seldom on the basis of production results, which take a much longer time horizon. Therefore the profitability sought by the private equity fund has got nothing to do with either Classical-Marxian or Kaleckian profitability. It can only come from cost cutting, thereby affecting wages and employment, and from rent seeking operations. Asset stripping becomes a central part of the working of equity investment funds. In effect profitability is replaced by the revaluation of the operating assets of the company, which is undertaken by junking the least profitable branches. The US-Japanese tidal wave of liquidity allowed for a big expansion of equity investment operations especially in the light of the parallel wave of industrial relocation, outsourcing and subcontracting which opened the door to the disembodiment of the different components of a company. By bypassing the stock market, while keeping the short term notion of capital gains of financial markets, equity funds operate with precise financial objectives aimed at eventually selling the asset stripped companies. Having cashed in, the equity fund will continue elsewhere its pirate run. Never mind that the successfully sold companies lose all productive coherence, their “success” being in fact an imputed one. That is, imputed and construed by the entire financial superstructure on which the equity funds itself rests, such as multinational accounting firms, credit rating agencies and so on. The validation is never in terms of production and technical efficiency. In reality the success of the sold companies is measured in terms of their capacity to attract further debt instruments and leveraged operations and not on their engineering and technological capabilities.

In the United States the transformation of the pension system from defined benefits to defined contributions, where benefits depend on capitalization, led to pension funds to be heavily involved in both hedge and equity funds. Under the new financialized capitalist regime a true bonanza set in, especially in regards to expectations of future capital gains, while risk could be “dispersed” via the multiplication of derivatives. Purchases could be organized via intermediaries through the capital markets, the liquidity of which relied in essence on public moneys; while debt payments could be made with a gain, through asset stripping, restructuring etc. That is, through the sacrificing of workers, the real objects of the restructuring operations. LBOs contributed to the explosion of mergers and acquisitions and to stock price inflation. Contrary to the ideology that portrays the Anglo-Saxon financial system more stock exchange and less banking orientated as compared to, say, the German one, banks were the main financing agents of LBOs. Banks also owned a great deal of hedge funds supposedly operating in the capital markets as non bank institutions.

As a consequence, when the whole system of grabbing today future values began to unravel in 2007, banks found themselves exposed in two intertwined ways. Since under the new capitalist regime, lending meant also investing in collaterals in off-balance sheet operations (to circumvent the capital requirements set by the Basle II agreements), banks ended up holding securities of uncertain and, indeed, of vanishing value. These securities were the major component of collaterals used to raise money for LBOs operations, which became immediately affected by the subprime crisis. However, the largest component of overall lending takes place at the interbank level. Banks’ confidence in each other’s position depends on the assets they hold. These are mostly financial assets defined by the very same securities the content of which was increasingly showing up as hollow. Hence what initially was deemed as a liquidity crisis, appeared by early September 2007 as a credit crunch crisis. Remember that 20 years earlier the Wall Street crash could be easily overcome through liquidity injection by the United States and Japan without any significant impact on the real economy (Toporowsky, 1993). Not this time, as we will see later on.

It is necessary at this point to explain the links between the governance of firms, the opacity of the new debt instruments and lending policies by financial institutions. The overcoming of stagnation tendencies through the financialization of the economy by means of debt operations, has tied the governance of corporations to the objective of attaining target financial returns not linked to the expansion of production. The real economy must be the instrument for the creation of stockholders' value. This has nothing to do with the expansion of production and a greater technical efficiency of firms. Asset stripping and disembodiment of whole companies turned out to be the quickest way to maximize stockholders' values. In some significant cases this was done indirectly, through the evaluation that financial investors ascribed to firms. For instance, the closing down in 1997 of a brand new Renault plant in Belgium, employing 10000 workers, was the outcome of such an indirect decision by US capital funds. By hook or by crook, the real economy must validate the capital gains aimed at by the debt leveraging activities (Gallino, 2005). As debt issuance became the propelling force for rent seeking objectives, the creation of ad hoc collaterals became equally important. Furthermore, as expectations about future values depended increasingly upon the adding of further layers of debt, by extending it also to income strata that did not have the required level of income, the packaging of collaterals into complex strata of securities became an art in itself. Such packaging was necessary in order to fill and give substance to securities for which there were no continuous markets. Thus *Mortgage Backed Securities* (MBS) and other *Asset Backed Securities* (often backed by other non hard securities), were then structured in *Collateralised Debt Obligations* (CDO). That is, the non definable securities were packaged together with papers supposedly representing less risky debt positions. But these also were based on suppositions rather than on real data.

Opacity was not a shortcoming of the lending mechanism. It was instead a necessary aspect of it, since it is opacity which gave the possibility that the structured investment vehicles were viewed as real things, based on real assets. The expectations regarding future capital gains connected to those "vehicles" were consensually built up by the collusion between financial companies and the credit rating agencies, themselves in fact a particular set of financial companies charged to validate the activities of the rest. In this case too collusion is a required aspect of the process and not a gap in the regulatory system. As Keynes pointed out long ago, in an era when shares and bonds were straightforwardly identifiable, valuations by capital markets and stock exchanges are like a beauty contest. Constructing the consensus around the "beauty" of structured vehicles as instruments leading to capital gains, became paramount in the present era of non productive, debt driven, rent seeking financial growth. As a consequence, prudential behaviour by financial companies and corporate entities has been virtually eliminated by the fact that, in escaping stagnation, financial gains, especially those linked to the transformation of debt into the main source of those gains, have become the engine and the goal of accumulation which is today centred on capitalized rent. Such reckless behaviour, precisely because it allowed sidestepping stagnation, has been abetted over the years by central banks and by the institutions in charge of regulatory supervision. Mr Greenspan's testimony to Congress regarding the necessity not to look too deeply into derivatives - since, he observed, one never knows what can happen there - is an absolutely clear statement to that effect.

4. Europe in the phoney finance vortex

If most of our narrative has, thus far, focussed on the United States, Europe has been fully involved in the crisis in a way which highlights the underlying stagnationist element. It is of interest here to concentrate our attention on the exposure of the German public regional banks, the *Landesbanken*. Banks like the French BNP-Paribas had been hit before the disclosure of the exposure of German regional state owned banks. But, institutions like BNP-Paribas are multinational companies and operate several hedge funds worldwide. By contrast the German regional banks are, so to speak,

effective demand banks. Their institutional role is to provide credit for the financing of the real activities of medium and small size firms.

On the 30th of July 2007 the IKB, specializing in lending to this class of firms, showed heavy losses due to “vehicles” connected to the subprime market. IKB was salvaged by means of a consortium of private banks, but few days later the *Landesbanken* crisis came to the fore which, by the time of writing (March 2008), is yet to be extinguished. The *Landesbanken* used to lend on a preferential basis obtaining, by law, lower interest rates on the moneys they borrowed from capital markets. They were thus subsidized because of their function to provide credit facilities for small firms with no oligopolistic and self-financing powers. These firms are the blood vessels feeding the major German oligopolistic corporations and exporters. The financial deregulation imposed by Brussels’ directives, which eliminated the privileged position of the *Landesbanken*, and the prolonged stagnation in domestic demand, pushed the *Landesbanken* to seek gains by dealing in synthetic CDOs. These are even more opaque than the traditional conceived ones. The “synthetics” are derivatives based on betting on the future value of the derivatives that form the original collateral debt obligations. Legally the *Landesbanken* were not entitled to undertake such a game as they were bound by the Basle II capital requirements. They got over that obstacle by setting up off balance sheet conduits.

The widespread use of derivatives of derivatives in Europe, the involvement of the major French private banks and of the whole network of the German *Landesbanken*, explains the swift reaction of the European Central Bank. Its liquidity injections, which began on August 10, far outpaced those of the US Federal Reserve Bank. First the ECB and, somewhat later, also the Chairman of the US Federal Reserve Bank, realized that credit institutions stopped trusting each other. They tended now to reduce interbank lending and increase the risk premium on interest rates charged. The belief that hedge funds, by placing bets in opposite directions, would act as a shield against risk has by now completely collapsed. Bets now appear to be only unidirectional, thereby destroying the predictive powers of the highly computerized models called *quant fund*.

Two new problems started to haunt both private and central banks. One was the vanishing markets and values for the so-called collaterals. It is not that the prices of particular stocks were falling, as it was in 1929 and in 1987 for example. The markets for the CDOs were non-existent in the first place. There were no continuous transactions in mortgage based securities. Their evaluations were imputed ones. Securities tied to mortgages were issued assuming that they would be held till maturity, as indeed they were. In this class of titles it is impossible to have a pair of identical securities. Thus there are no conditions for a continuum of transactions. The market lacks homogeneity. It is for this reason that, legally, the US Securities Exchange Commission allows mortgage based securities to be valued on a virtual basis. With the eruption of the subprime crisis values simply began to vanish. The second problem, connected to the virtual basis of CDOs evaluation pushed by the consensus building rating agencies, consisted in that valueless and hollow securities could not be traced. This means that a contaminated set of CDOs and of synthetics can appear from nowhere, as it is happening right now.

Starting August 2007 a new merry-go-round began which is still going on. The European Central Bank specializes in injecting huge amounts of liquidity, whereas the Federal Reserve, by reversing its earlier stance, injects liquidity while cutting interest rates. The change of position by the US Federal Reserve is a textbook case of the endogeneity of money. The initial financing by the Fed, made in August, was considered exceptional without entailing a reversal in its longer term stance based on the Taylor’s rule. More specifically, its Chairman Ben Bernanke, was in favour of supporting the financial system while allowing for some bankruptcies to stave off moral hazard, increase the price of risk and make, as a consequence, financial investors savvier. Yet, it turned out that moral hazard could not be separated from the overall state of the financial markets, especially when no one knows where the bad securities are and no one can detect them. The search for “quality”, that is for safety, by banks and financial companies raised the price of government bonds and securities, thereby automatically reducing the interest rates. The Federal Reserve could not but

change its course thereby validating the wishes of financial institutions. The pretence to save the financial system without caving in to moral hazard had been cast aside after a month of hesitations.

Throughout Autumn of 2007 two major tasks fell upon the Federal Reserve: to provide money and cut interest rates. The aim of the latter is to restore confidence in the stock market and the whole decayed system of derivatives. It is now accepted that reductions in interest rates affect first and foremost financial portfolio decisions and not real investment. Also the ECB took upon itself two tasks, one being very different from, yet complementary to, that of the Federal Reserve. The point of unity of the Eurozone is wage deflation and the ECB is the institution entrusted with that task. Hence the political compact that led to the creation of the ECB prevented it from being as flexible as the Federal Reserve.

For both the Federal Reserve and the ECB the events of Autumn and Winter 2007 show the limited real autonomy of central banks. This is further evidenced not only by the jettisoning of the moral hazard argument, but by the systematic acceptance by central banks of hollow CDOs as a guarantee against the money “lent” to financial institutions. Liquidity injections and interest rate cutting, aside from briefly restarting speculative trading, were not doing the trick so that stock markets kept moving downward. And every week or so, a new set of bad CDOs would emerge out of the blue. At the onset of Winter 2007-08, central banks started to inject money in unison while accepting ever lower quality of securities. But even this gimmick did not work, except for few days after each announcement. There are objective reasons for that behaviour. As shown in the case of the British bank Northern Rock, and by the troubles in which the Bank of England found itself for sticking to the moral hazard approach: a run on any single bank threatens that entire system once it is known that the virus can be everywhere. A similar set of considerations applies to the acceptance by central banks of an ever lower class of securities as collaterals following each injection of liquidity.

The joint intervention of the G-10 central banks on March 11 2008 is a case in point. The trap in which central banks find themselves has been well expressed by the president of the New York branch of the Federal Reserve, Tim Geithner. As private banks and financial companies discovered more and more contaminated securities, they proceeded to get rid of them. The attempt to liquidate these securities has set in motion collateral effects in the credits default swap markets, in hedge funds etc. For the G-10 central banks there was no other way but to give a stamp of validity to the above mentioned bad securities. As new bad instruments are bound to surface the G-10 measures will show up as a mere stop gap measure. The course of events now centres on how deep the US recession will be, notwithstanding the Federal Reserve commitment to support the 145 billion \$ fiscal package decided by Washington in the very first days of 2008.

The claim that it was possible to separate a solid economy from a pathological finance was an illusion at best and, most likely, a deliberate ideological obfuscation. The opening of unlimited credit lines to banks and financial institutions was to no avail, although it has been undertaken with the sole objective of kick-starting once again the financial game of rent seeking via debt creation. With the US in recession and stalling growth both in Europe and in Japan, the crisis, which started as a liquidity one and then turned into an insolvency crisis, has turned into a systemic economic crisis.

5. The Minsky moment

George Magnus, *senior economic advisor* of UBS, has written in two reports published in 2007 that the United States economy was approaching a “Minsky moment” (Magnus 2007a, 2007b). This expression made the rounds of several blogs and found its way into reputable newspapers like the *Financial Times*, the *Wall Street Journal*, *The Guardian*, *Le Monde Diplomatique*, the *Frankfurter Allgemeine Zeitung* and *La Repubblica*.

Hyman P. Minsky developed a cyclical theory of capitalism characterized by the alternating of speculative bubbles with a tendency towards debt deflation. Marx's influence was never too disguised, coupled with Schumpeter's notion of creative destruction extended to financial innovations. Markets do not like Cassandras. And contemporary economic theory, especially the low brow one used routinely by policy advisors and journalists, escapes those who remind the public that equilibrium is, at best, a transitory moment and that, in general systemic centres, of gravity do not exist. How can we then explain Minsky's come back?

Reconstructing Minsky's theory is not a trivial matter. Its author was not always rigorous and analytically consistent. Yet the vision he put forward is simple and powerful (cfr. Bellofiore-Ferri 2001). Investment in fixed capital goods is the hub of income and employment determination. The purchase of new capital goods has financial determinants and the stock exchange is subject to speculative waves. The crucial problem with capitalism is that stability is destabilizing. To show the contradiction inherent in the very stability of the system, Minsky argued that the cycle begins with a smooth expansion and a robust financial basis. Initially mindful of past crises, entrepreneurs as well as financiers behave in a risk averse manner. In such an environment, interest rates are low and stable, the supply of money is virtually limitless. The risk averse behaviour of firms and banks alike implies that borrowers are, on the whole, capable of repaying with their regular flow of earnings both the interest and the part of the principal stipulated in the lending agreements. If everything goes as planned, there will be residual profits which validate the previous financial commitment thereby stimulating to enter into new ones. This is what Minsky called a "hedge" financial position.

Minsky posited that for a while things do go well so that profits exceed expectations. There develops, therefore, among business people a lesser risk aversion and a greater disposition to take on additional debt. The process will not be blocked by a possible reluctance by the central bank to increase the supply of money, since financial intermediaries will invent new payment instruments which will be accepted as liquid. The price of money remains unchanged while indebtedness grows. In the new euphoric environment "speculative" positions are being formed: cash flow earnings allow for the servicing of the interest on debt but no longer suffice to cover, in every period, the part of the principal which is due. Thus the refinancing of debt positions becomes necessary for some periods at least. During the initial phase of smooth expansion with hedge positions, a crisis could erupt only because of an economic risk, due to the non validation of profit expectations because of occurrences on the product and/or labour markets. In the boom phase those who take a "speculative" debt position must face up not only to the economic risk, but also to a financial risk – such as an increase in the short term interest rate by the central bank - which may swing expected gains into actual losses. The same situation will arise if the assets acquired by means of debt begin to lose value.

Speculative positions allow for a higher long term investment but make the economy more fragile. As optimism and euphoria multiply, the boom degenerates into a bubble where operators prone to take ultra-speculative positions tend to prevail. This is the "Ponzi" finance case. Now those who enter into debt commitments are saddled with interest payments exceeding cash flow earning for a substantial number of periods. Either refinancing is increased or activities must be liquidated. An ultra-speculative position is held if one believes in the eventual manifestation of exceptional profits, or in capital gains due to asset price inflation. Small unexpected variations in short term interest rates and/or a deflation in asset prices give way to the crisis. This is so because during the times of euphoria economic actors – banks, firms, speculators – have been reducing their money balances and liquidity. With the crisis the preference for liquidity comes back with a vengeance.

"Things fall apart; the centre cannot hold" is a Yeats verse that Minsky loved to cite. The fear of a new Great Depression like in the 1930s is resurfacing. Can 'it' happen again? Minsky did address this question by answering in the negative. Pushed to the wall the authorities in charge of economic policies know how to avoid a repetition of that crisis, firstly by replenishing markets with liquidity and, secondly, by reducing interest rates. However, according to Minsky, these measures would not do if insolvency is the root problem. The central bank's role as a lender of last resort is

crucial but not sufficient since monetary policy has a limited impact. State intervention must be envisaged instead with budget deficits aimed at sustaining money profits. Here Minsky argued in terms of Kalecki's macroeconomic accounting where gross profits are positively related to the government deficit. An active anti-cyclical fiscal policy is thus necessary to avoid sinking into a depression. Economic liberalism, with its myth of a small government and a light State, is neither a leftwing or rightwing policy. It is just a stupid policy and, as opined by Minsky, it will never be implemented again in practice in a durable manner. Meanwhile the standard Keynesian solution - based on cheap money plus Big Government's deficits - will create new problems such as stagflation and an even greater appetite by banks and financial intermediaries for financial innovations. It will lead to the reappearance of the credit cycle and to new spirals of euphoria and panic at ever closer intervals.

With some provisos to be specified in the next section, the financial instability hypothesis is well adapted to the events that unfolded throughout 2007 and in particular since the Summer of that year. It would not be the first time. Minsky laid out the conceptual basis of his hypothesis between the 1960s and the 1970s when the Keynesian era was in full blossom. Confirmations of the Minsky hypothesis were not late in coming after the end of the long boom: the Mexican crisis of 1982, the Wall Street crash of 1987, the two crises linked to real estate prices such as the Savings & Loans default and the Japanese crisis of the early 1990s. After Minsky's death in 1996, further confirmations of financial instability came with the East Asian crisis in 1997, the collapse of Long Term Capital Management in 1998, and with the pricking of the dotcom bubble in 2000-01.

6. Minsky's Financial Instability Hypothesis in the subprime crisis: a brief assessment

The development of a Minskyian interpretation of contemporary capitalism and financial crises would require tackling four problems. First of all, the financial instability thesis, despite its strong intuitive content, is not without analytical difficulties. Minsky's view is that the leverage ratio – i.e. the ratio between debt and owned capital – grows with the expansion of the economy. There is no compelling reason for such a tendency to materialize. During prosperity total profits grow as well. While firms taken individually do borrow, the debt ratio for the whole system of firms need not vary. Indeed, as we know from Kalecki, with the borrowed money the single firm spends in order to undertake investment in plant and equipment. The payment for the investment orders becomes profit for the firms supplying the capital equipment. In 2000-01 there was in fact an increase in the overall leverage ratio of firms. It has been followed by a decline in the ratio during the stagnant two years that ended with the Iraq war. The financial position of US non financial corporations came out to be positive and in excess of the amount of real investment undertaken by the non financial private sector. This sector ended up providing capital to the financial markets.

Secondly, Minsky's dynamics focussed on the demand for capital goods and its financing. The boom of the 'new economy' cannot be fully explained by the level of real investment, which remained flat in the post 2003 recovery.

Thirdly, in the new configuration of capitalism since the mid-1990s, monetary policy seemed capable to activate the autonomous expansion of consumption, thereby bypassing for a while the dependency of effective demand upon aggregate investment. The relaxation of the effective demand constraint was made possible by the central bank's support to debt bubbles and the related wealth effects.

Fourthly, the recent speculative bubbles have not been accompanied by a wage and price inflation. The increase in product prices has been actually mostly due to the rise in the raw materials' costs, in commodities and in oil, not to wages (the Phillips curve turned to be flat).

A Minsky dynamics has, indeed, occurred but elsewhere and with a different set of modalities compared to those envisaged by the author. We must direct our attention to households and to financial intermediaries. This means looking at the increasingly indebted consumers, and at

investors in the stock and real estate markets affected by a manic-depressive syndrome. It also means looking at the labour market and at the labour process. The 'new' capitalism arises from the long wave of assault on wages and welfare provisions initiated by Volcker and President Reagan. With this background, the primacy of finance translates itself into a permanent restructuring of the production and valorization processes (exploitation of workers under increasingly flexible occupations and wages, with a lengthening and an intensification of labour time). The restructuring processes have given rise to a centralization of capital without an expansion of technical concentration (outsourcing and subcontracting by hitherto integrated oligopolistic firms).

These processes have entailed a global relocation of the manufacturing industries which feed upon the doubling of the industrial reserve army and the capitalist growth in China and, more recently, in India. The above has produced a further, quite dramatic, fragmentation and disarticulation of labour. It is also because of these two factors that the explosion of liquidity throughout the 1990s and exponentially after 2001, did not generate a rise in wages and in product prices, at least in the old industrial countries. It rather fed directly into financial and real estate activities, oil and energy resources and in whatever may have seemed to ensure speculative gains.

7. The new capitalism, born in the USA

During the 1980s the liberalization of capital movements, monetary restrictions, the dismantling of the welfare state, the aggressive competition by the global players, have set in motion a powerful stagnationist tendency. These policies operated against the expansion of real investment and of real wages, upon which depends the expansion of effective demand. The share of wages began to fall and also the investment share over national income declined. The only countertendency came from the military induced government deficit of the Reagan years augmented by tax reductions for the wealthy. Something that Bush Jr would repeat at the beginning of third millennium. Under Reagan the conjunction of restrictive monetary policies and expansive fiscal policies, in marked contrast with Europe, caused a sharp rise in the price of financial activities. The differential in the level of interest rates in favour of the United States led to capital inflows and to a revaluation of the US dollar. As a consequence US external deficit ballooned, but it was not perceived as a constraint in a country whose currency is also the main international reserve currency.

The dynamics of the 1980s, marked by several shocks, did not lead to the rapid emergence of a new model. This happened only in the mid 1990s after a decade of coordinated policies to devalue the US\$ undertaken by the major central banks and governments with the Plaza accords in New York on the 22nd of September 1985. Concomitantly with the devaluation of the US dollar, lasting until 1995, wage deflation became the permanent feature of both the United States – where real wages have been falling since 1974 – and of the countries of European Union which would form the Eurozone. The qualitative change that, at the beginning of this essay, we called the trinity constituted by the traumatized worker, the indebted consumer and by the manic-depressive saver, materialized in the course of the post 1995 evolution of the international economy. It is in this phase that labour is finally “really subsumed” to finance and debt in a manner which directly impacts on the immediate exploitation within the capitalist labour processes.

To understand how labour has been subsumed by finance we may start from the rise of the *new economy*, seen more as a virtuous interaction (in the United States) between a strong dollar and a monetary policy aimed at sustaining the forms of debt financing. In July 1995, the dollar was pushed up sharply by a joint operation of the Federal Reserve, the Bank of Japan, and the Bundesbank, in order to avoid a collapse of the Japanese economy. Financial innovations, coupled with a shift in investors' savings from government bonds to stocks, give rise to a speculative bubble based on totally unrealistic expectations regarding the profitability of the new virtual economy. The centralization of financial capital in Wall Street based activities had been made easier by the

prolonged Japanese recession and by the European stagnation. A number of financial crises in the world, such as the Asian crisis of 1997/8, the Brazilian and Russian crises of 1998, entailed a massive flight of capital towards the United States. Thanks also to the worldwide activities of pension funds, more money flowed to the United States allowing the country to sustain a widening current account deficit. Markets' irrational exuberance reached a paroxysmal state, until the sudden rise in interest rates decided by the Federal Reserve in 1999 brought about the deflation of the dotcom bubble.

The new stock market economy must be understood in a global macroeconomic framework and in its role as an effective device of a paradoxical *financial Keynesianism* – a capitalist setting where effective demand is provided thanks to asset-bubbles which are politically manipulated. Outside the Anglo-Saxon countries (especially outside the United States, the United Kingdom, and Australia and New Zealand; Canada with its hefty current account surpluses being in a different position), there exists an excess of aggregate income over aggregate expenditure. This is the outcome of a long standing neomercantilist institutionalized policy which Washington itself helped to shape for about 4 decades after 1945 in Asia, with Japan, South Korea and Taiwan, and for three decades in Continental Europe. To that institutional dimension we should add the explicit neomercantilist policies pursued in Europe by means of deflations and competitive devaluations. The need to find market outlets is thus permanent and acute, especially with the onset of stagnation in 1975. In this context the United States has become the catalyst of world effective demand.

But how can the US sustain such a role? We know from simple macroeconomic accounting that the level of aggregate demand in any single country is positively related to investment, consumption, net government spending and net exports. This last aspect is not operational in the US because of the size of the current account deficit. During the 1995-2000 period net government spending was weak and mostly negative (since the State budget was in surplus under Clinton). Thus the components that supported US aggregate national income came from investment and consumption. Yet, as already observed, investment was not strong after the dot.com crisis. Non financial corporations became in fact lenders to the capital markets. It follows therefore that the main stimulus to aggregate income in the US was from consumption, later buttressed by the military Keynesianism of Bush Jr after 2001. On balance it has been the private sector debt to provide the necessary stimuli and, in this context, it was household debt which played the dominant role. Given the stagnation and fall in real wages, effective demand for housing and consumption goods could be created only via increased debt made possible by expectations regarding asset (real estate) price inflation. The mechanism was centred on the inflation of financial assets, of stocks, which quite quickly gave rise to a rising discrepancy in the price earnings ratios. Earnings from assets did not rise as much as asset prices. This state of affairs should have brought the system to a halt. But, because the entire institutional, political and monetary systems were behind the casino like activities, the show went on. Indeed bets were placed not on earnings but on the appreciation of assets, thereby leading to mythical beliefs in the long term nature of wealth effects. Bank and financial intermediaries transformed paper wealth in a bottomless expenditure via household's debt. The wealth effect impacted on the economy by augmenting enormously the autonomous component of consumption and housing demand, delinking it from current disposable incomes.

The explosion of the dotcom bubble in 2000-01 was a major sign that the process was not sustainable. Shortly afterwards the US dollar started a new downward trend. The crisis lasted till the middle of 2003 and was stopped by means of higher military spending and of ever greater injections of liquidity, and by tax reductions for the wealthy. In three years the government deficit rose to more than 7% of GDP and the current account deficit hovered around that figure as well. It is only after the slow down in the economy's growth, and in the wake of a renewed decline of the dollar, that the external deficit settles back to 5% by 2007. In the case of the United States, the devaluation of the currency generates a disposition towards debt since domestic and foreign liabilities are denominated in dollars but foreign assets, and US multinational and financial companies operate deeply in Europe, are denominated in appreciating currencies.

Given that firms have become net lenders by spending less than corporate savings, how can growth be kick-started again? It is done simply by injecting more of the same drug which stimulates households' consumption. The real estate market, favoured by the extremely low interest rates practiced by the Federal Reserve in order to sustain the US economy after the dot.com crisis and the Twin Towers, came to the rescue of the economy. With rising prices and the renegotiation of flexible interest rates mortgages, houses become a cash dispensing machine. As in the 1995-2000 period, a situation of this kind could not have been achievable without the assuaging policies of the central bank. The Federal Reserve has helped demand, firstly by supporting real estate inflation and, secondly, by approving and backing the new credit instruments financed by commercial banks. The sustainability of this paper pyramid rested upon the willingness of the foreign holders of dollars, among them first and foremost China, to refinance the external deficit of the country.

In 2004, when interest rates began to rise again, the real estate market is immediately affected and the transmission mechanism of the new monetary policy became perverse. The financial companies knew very well that they were sucking poor households into the subprime market. But bringing insolvent families into the fray was a necessity dictated by the expanding circuits of capital without which the notion of future capital gains becomes meaningless. The act of subsuming labour to debt allowed an easy access to the ownership of a capital asset. The strategy was that of expanding the spiral of debt capital to an ever growing number of poor people by offering negative equity loans (involving loans greater than the value of collaterals), offering schemes where the interest was to be paid in perpetuity without having to repay the principal, and so on. But when earned incomes became insufficient to meet payments things started to go badly also for creditors who could repossess the house but in a market where prices were falling. The values of the collaterals packaged away to hedge funds turned out to be hollow, and the 'subprime' crisis materializes into a fully fledged economic crisis.

References

- Bellofiore, Riccardo and Piero Ferri (2001), Things fall apart, the centre cannot hold. Introduction to the economic legacy of Hyman Minsky. In *Financial Keynesianism and Market Instability: The Economic Legacy of Hyman Minsky, Volume I*, ed. R. Bellofiore – P. Ferri, Elgar, Cheltenham: 1-29 and in *Financial Fragility and Investment in the Capitalist Economy: The Economic Legacy of Hyman Minsky, Volume II*, ed. R. Bellofiore – P. Ferri, Elgar, Cheltenham: 1-30.
- Bellofiore, Riccardo and Halevi, Joseph (2008), Deconstructing Labor. What is 'new' in contemporary capitalism and economic policies: a Marxian-Kaleckian perspective. In *Employment, Growth and Development. A Post-Keynesian Approach*, ed. C. Gnos, L.-P. Rochon, Cheltenham: Elgar (forthcoming).
- Bryan, Dick and Michael Rafferty (2006), *Capitalism with Derivatives: A Political Economy of Financial Derivatives, Capital and Class*. New York: Palgrave Macmillan.
- Chesnais, François (2004), *La finance mondialisée: racines sociales et politiques, configuration, conséquences* / sous la direction de François Chesnais. Paris: La Découverte.
- De Cecco, Marcello (2007), *Gli anni dell'incertezza*, Bari: Laterza.
- Ferguson, Thomas, and Noel Rogers (1986), *Right Turn: The Decline of the Democrats and the Future of American Politics*. New York: Hill and Wang.
- Gallino, Luciano (2005), *L'impresa irresponsabile*, Torino: Einaudi.

Magdoff, Harry, and Paul Sweezy (1977), *The End of Prosperity : The American Economy in the 1970s*. New York: Monthly Review Press.

Magdoff, Harry, and Paul Sweezy (1987), *Stagnation and the Financial Explosion*. New York : Monthly Review Press.

Magnus, George (2007a) *The Credit Cycle and Liquidity: Have we arrived at a Minsky Moment?*, UBS Investment Research, Economic Insights, 6 March.

Magnus George (2007b), *The Credit Cycle: Getting Closer to a Minsky Moment?*, UBS Investment Research, Economic Insights, 3 July.

Minsky, Hyman (1982), *Can 'it' happen again? : Essays on Instability and Finance*. Armonk, N.Y.: M.E. Sharpe.

Minsky, Hyman (1986), *Stabilizing an Unstable Economy*. New Haven: Yale University Press.

Toporowsky, Jan (1993), *The Economics of Financial Markets and the 1987 Crash*. Aldershot, England: Edward Elgar.