

# **An Institutionalist-Post Keynesian Alternative to the New Consensus**

**Macroeconomics<sup>1</sup>**

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**Abstract:** The subject of this paper is the implications from the current global financial and economic crisis for macroeconomic theory and policy. It is argued that the current crisis cast serious doubts upon the capacity of the New Consensus Macroeconomics (NCM) to be basis for fruitful macroeconomic research, as well as for central banking and monetary policy analysis. Our position is that the NCM misspecifies the institutional foundations of capitalist economies. On the contrary, an Institutionalist-Post Keynesian (IPK) theory pinpoints the importance of financial markets as the root source of instability and incoherence of monetary production economies; the IPK theory develops a financial macroeconomic framework which is more appropriate for fruitful research on monetary policy and central banking.

**Keywords:** Financial Crisis; New Consensus Macroeconomics; Financial Instability; Institutionalist-Post Keynesian Macroeconomics.

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## **Macroeconomics**

### **1. Introduction**

The current global financial and economic crisis is a fit occasion for taking an appraisal of how alternative economic theories and policy postures might be related to real world economies. Further, the current crisis places straight away three crucial issues (i) the incoherence of capitalist economies and the appropriate economic theory to understand their destabilising potentials; (ii) the ineffectiveness of the implemented economic, and especially monetary policies; and (iii) the institutional set up of modern economies, which might be necessary for the creation of a more coherent and civilised variant of capitalism.

This paper mainly addresses the first issue and touches upon the second one. Our belief is that the current crisis raises serious reservations upon the NCM, which is the prevailing mainstream analytical framing that provides the foundations for the implemented policy, especially monetary policy. Besides, we argue that in the context of the possible limits of the NCM, the return of Keynesianism is vital for both theoretical explorations and policy formulations. However, we pinpoint that it is worth setting forth an Institutionalist-Post Keynesian (IPK) analytical framing, which might provide the foundations for a more realistic macroeconomic analysis and policy guidelines. Hyman Minsky's financial Keynesianism is invaluable in this setting.

The rest of the paper is organised as follows: section 2 briefly sets out the main features, concepts and insights of the NCM. We pinpoint that the fundamental flaws of the NCM are the facts that it incorporates a theory of prices that is constrained to

products market and it fails to acknowledge a role for financial markets and practises in making capital assets. We argue that these flaws crucially constrain the capacity of the NCM as the appropriate theory for fruitful macroeconomic and policy analysis of modern and complex capitalist economies. Section 3 argues that an IPK theory must acknowledge the important role of financial markets and their inherent instability as a first principle of realistic macroeconomics. Further, Minsky's two price systems and a financial analysis of investment and effective demand provides the foundations for putting financial stability as the central objective of central banking and monetary policy.

## **2. The (In)-Coherence of Capitalist Economies within the New Consensus Macroeconomics Framework**

The fundamentals of the present institutional setup of capitalist economies were put in place under the influence, to an extent, of perceptions that were drawn from developments within mainstream economic theory. In this sense, the NCM is likely to be a partial basis for the institutional restructuring, especially in monetary policy-making in the last decades. The crucial question is the extent that the present institutional set up and the implemented policies can produce a coherent result for contemporary capitalist economies.

The NCM is largely a creature of the years since the high inflation of the 1970s. It integrates aspects of monetarism, new-classical macroeconomics and real business cycle theory with the old neoclassical-Keynesian synthesis in the form of the New Keynesian economics. More specifically, the NCM heavily relies on the classical belief that an abstractly defined decentralised exchange economy motivated by self-interest and guided by goods prices signals will lead to a coherent, if not an optimum,

result in the long run. Nevertheless, in the short run price rigidities are likely to yield unemployment as a ‘coherent’ state of a rationing economy. If rigidities were to be removed, then market signals would lead to the long run complete coherence of the natural rate of unemployment. However, NCM asserts that this short run ‘conditional incoherence’ is addressable, if successful interest rate manipulations happen. In this sense, the coherence of a capitalist economy is associated with the implementation of an ‘optimal’ monetary policy and strategy. This places the issue of the operations that must be institutionalised within the NCM legislated economic structure, so to make goods price signals to be compatible with a coherent disposition of economic resources. The NCM institutionalises the following perceptions and operations in relation to the monetary policy-making and central banking:

- (i) Inflation is a monetary phenomenon and, as such, it can only be controlled by monetary policy means –with certain lags, which illustrate the existence of price rigidities. Central banks’ primary objective is price-stability. Inflation targeting strategies<sup>3</sup> are praised as a superior framework for managing monetary policy to tame inflation and inflationary expectations leading to higher employment and growth.<sup>4</sup> An inflation targeting strategy is applied by the announcement of official target points or ranges for the inflation rate at one or more horizons, and by the explicit acknowledgment that low and stable inflation is the overriding goal of monetary policy. Other important features of the inflation targeting approach include the

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<sup>3</sup> Heterodox theoretical and empirical research cast serious questions and doubts on: a) the inflation targeting as an effective monetary strategy (see e.g. the summer special issue of the *Journal of Post Keynesian Economics*, 2006; the March issue of the *International Review of Applied Economics*, 2008; Angeriz and Arestis, 2006; Arestis and Sawyer, 2008; Argitis, 2008-9); on the nature of the loss function approach of the NCM models (see Arestis and Sawyer, 2008); on the natural rate of interest (see Seccareccia, 1998). See Arestis and Sawyer (2008) for a critical consideration of the foundations of monetary policy in the new consensus macroeconomics framework.

<sup>4</sup> See e.g. Bernanke and Mishkin (1997), Bernanke *et al.* (1999), Mishkin (1999; 2004).

role of ‘expected inflation’ and inflation forecasts as intermediate target of monetary policy; the absence of other nominal anchors to secure the credibility and the stabilization effect of monetary policy; central bank independence; and policy transparency and accountability.

- (ii) *Second*, Independent central banks should use a ‘Taylor type-rule’ that includes a reaction function to manipulate their policy rate in order to respond to deviations of actual inflation from the target and of actual output from trend output (the output gap) in a predictable manner; their objective is to adjust the discount rate towards a ‘natural’ interest rate.<sup>5</sup> The trend output is the output that prevails when prices are perfectly flexible without any cyclical distortions in place. It is thus a long run variable, determined by the supply side of the economy. The ‘Taylor rule’ shall be the manner that central banks use in order to be engaged in aggregate demand fine-tuning. It is believed that this restricted discretion establishes an operating procedure that primarily ensures price and in turn output stability in the short-run.
- (iii) The supply-side determined NAIRU (the non-accelerating inflation rate of unemployment) is particularly relevant for setting the ‘optimal’ or ‘neutral’ interest rate as the intermediate target. The concept of NAIRU and a hypothesised long run vertical Phillips curve are used basically to describe (i) the relationship between inflation, demand and the supply side of an economy as captured through the output gap, (ii) the neutrality of money and of monetary policy in the long run and (iii) the virtues of

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<sup>5</sup> See e.g. Taylor (1993), Clarida *et. al.* (1999), Woodford (2003).

*laissez faire* as the capitalist economies can self-equilibrate in the long-run. Aggregate demand and the interest rate have a short-term impact on real variables, and do not influence the NAIRU.

This conceptual and operational structure is reduced into three basic equations in the NCM models<sup>6</sup> (see e.g. Clarida *et al.* 1999; Meyer 2001). The *first* equation represents the demand side of the model and has some equivalence with the very well known IS curve in the Hicksian model; it is a function of the past and the expected future output gap, and the expected real rate of interest. The *second* equation represents the supply side of the model. It is a Phillips curve with inflation based on current output gap and past and future inflation. The *third* equation is a Taylor type interest-rate rule. The underlying dynamics of the model are simple. Under the assumption that expectations are rational, and the existence of nominal rigidities in the short run, when inflation and output are above the targets leads to higher interest rates to contain demand and inflation, whereas inflation and output below the targets leads to lower interest rates to stimulate demand and increase inflation. The process of adjustment continues as long as the economy reaches its new long-run equilibrium, and depends on the flexibility of prices. The more flexible the prices are, the less real impact monetary policy has.

This stabilising role of the policy rate is associated with the neoclassical theory of prices adopted by the NCM; it is worthy to be noted at this point that the neoclassical price theory excludes any role for financial markets and capital assets in the determination of goods prices. To understand why this happens, we shall examine the

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<sup>6</sup> See Arestis (2007) for a demonstration of a six-equation open economy model, which summarises the basic assertions and hypotheses made by the NCM.

fundamental insights of the NCM, which stems from an integration of strands of thought derived by Fisher, Wicksell and Hicks; whose writings introduce what Dudley Dillard (1988) has pinpointed as ‘barter illusion’ in the conceptual framework of the NCM.

More specifically, the Hicksian input is the conceptual and policy inheritance of the old neoclassical-Keynesian synthesis. Hick’s version of the general equilibrium model attempted to synthesise the pure neoclassical discussion of an abstract exchange economy with Keynes’s pragmatist analysis of capitalism (see e.g. Togati, 1997); this inheritance is the basis of the NCM models that developed a general equilibrium framework in which they introduce the non-neutrality of money and of monetary policy in the short run.<sup>7</sup>

The Fisherian input is the distinction between the real and the nominal interest rate as guide for central banks to target the ‘natural’ interest rate as well as the ‘natural’ level of output and employment. Fischer’s distinction provides microeconomic foundations to the NCM, so to apply the optimization principle intertemporally for all units. More specifically, in Fischer’s theory agents increase or decrease the flow of their income at different periods of time, in order to smooth their consumption pattern according to their time preference, by arbitraging between their present and future incomes through lending and borrowing operations. Further, individuals care about real income, which is price-adjusted monetary income. At the aggregate level, there is a unique real interest rate -which changes as the demand and supply of savings change- that

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<sup>7</sup> The old neoclassical synthesis narrowed the role of finance, financial commitments and financial markets to the L (liquidity preference) M (money) equation. Assuming that central banks control the supply of money, endogenous financial effects are reduced to decisions made by asset holders whether to hold cash or bonds.

eliminates arbitraging and makes the agents indifferent between borrowing and lending aggregate income. This unique real rate is equivalent to Wicksell's natural rate of interest, which equalizes the marginal productivity of capital and the time preference of individuals. On the other hand, the nominal interest rates are associated with the expected changes in the standard of value (Fisher 1907: 327). A high nominal interest rate results from high inflation expectations, and *vice versa*.

Fischer's micro-foundations of expected lifetime consumption have a significant implication. The inter-temporal optimal choice made by firms and households, who have perfect foresight, over their consumption, saving, lending and borrowing decisions prevents them from being over borrowed or liquidity constrained, while ensures that their lifetime consumption is equal to lifetime income. This implies that all economic agents with rational expectations and perfect foresight are perfectly credit worthy.

In this conceptual framing, unpaid debts, credit risk, uncertainty and default are naturally excluded from any consideration; therefore there is not need for financial intermediaries, i.e. commercial banks and financial institutions or even money, as it has been observed by Buitter (2008) and Arestis (2009). The NCM non-monetary models are justified on the assumption that the central bank allows nominal money to be what is necessary to meet its real interest rate target.

The combination of the works of Fischer and Wicksell implies (i) the classical dichotomy and the neutrality of money in the long run, in accordance with the quantity theory of money; and ii) the competence of the central bank to control

inflation. Besides, the distinction between nominal and real interest rate is crucial, since it drives central banks to manage inflationary expectations in order to minimise the discrepancy between them. When the two rates differ, a Wicksellian cumulative process of disequilibrium causes inflation or deflation. Therefore, central banks should take pre-emptive actions over their policy rate, targeting goods price stability in order to manage inflation expectations, to limit errors of expectation and to restore the confidence of borrowers and lenders; the latter is necessary for the 'natural' rate of unemployment equilibrium between investment and saving. If central banks fail to behave in this way, their interest-rate policy will become ineffective to equilibrate the economy. The high concern that central banks show in managing inflationary expectations and their preference for apply pre-emptive actions to manage inflationary expectations and to adjust the nominal to the real interest rate is likely to illustrate the significant influence of Fischer on the NCM, a remark that has been pointed out by Tymoigne (2009).

The conceptual and operational structure of the NCM models does not try to explain why the real world economies are so liable to fluctuations and how the repeated financial instability can be contained. On the opposite, it tries to explain how the capitalist economies can be in coherence even in the short-run, if central banks apply an inflation-targeting strategy that is successful to accomplish goods price stability. This belief heavily relies on certain preconceptions regarding the existence and the functioning of financial markets and the role of assets prices as separate institutional constructions that shape specific conventions and practices.

*Firstly*, in the NCM price stability generates and guarantees financial stability;<sup>8</sup> the rationale is that price instability (i) changes the rate of return calculations of lenders and borrowers; (ii) makes the credit analysis of financial institutions unrealizable; and (iii) distorts entrepreneurs' and bankers' perceptions of credit and interest rate risk (see Tymoigne, 2009). Therefore, central banks must be preoccupied with the promotion of price stability, so to promote and guarantee financial stability. Bernanke and Gertler (1999) claim that price stability and financial stability are highly complementary and mutually consistent objectives and so central banks can assemble them if it adopts an inflation-Targeting strategy.

*Secondly*, the abovementioned assertion relies on the 'efficient markets hypothesis' adopted by NCM. Perfect capital markets imply the absence of credit rationing, leaving the 'goods price effect', as the rate of interest changes, to be a significant transmission mechanism of monetary policy. Further, the 'efficient market hypothesis' constrains the NCM from modelling the monetary and banking system. In this respect, Arestis (2009) and Arestis and Sawyer (2004; 2008) have criticised the NCM, emphasizing that decisions made by banks as to whether or not to provide credit is also a significant transmission mechanism of monetary policy, which might considerably contribute to the expansion as well as the stability of the economy, especially when agents are liquidity constrained. But models that incorporate banks and financial intermediaries require a deep analysis of the complex way investment and finance are related. The Fischerian micro-foundations of the NCM eliminate this

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<sup>8</sup> While adhering to the NCM, some authors have critiqued this view. Bean (2003) argues that output-price stability and solid growth may lead to the development of bullish expectations in financial markets, which, by generating optimistic views about the future and by increasing the value of collateral, may trigger a credit boom and financial instability. Financial considerations have therefore an active role to play in monetary policy decisions.

possibility. Woodford (2003) simply notes that households optimise the time path of their consumption, from which the time path of savings can be inferred. Savings flows into investment, and hence the time path of investment is derived from the optimal behaviour of households.

Besides, in NCM models investment is seen as the component of aggregate demand that is the most interest elastic, and hence liable to changes in central bank's interest rate-setting. More specifically, the central bank decides the base interest rate, while the other short term interest rates are derived from it; the short-run behaviour of the economy is adjusted through changes in investment and aggregate demand; while the stock of money does not play any causal role and appears to be endogenous<sup>9</sup> (see Mayer, 2001; Allsop and Vane, 2000). However, the riskiness of borrowers and uncertainty clearly imply that a single interest rate cannot capture reality. Besides, in the downswing of the cycle, the base interest rate is likely to decline, but risk premia rise and vice versa. It thereby becomes ambiguous as to the way interest rates moves. This makes Goodhart (2007) to argue in favour of studying the time path of money and credit aggregates, and Arestis (2009) to note the distinctions among short term interest rates, which play different roles in the transmission mechanism. Arestis (2009) observes that there is a disjuncture between monetary policy in the NCM analysis and the role of monetary policy in the real world economies, which makes the NCM incomplete and unsuitable for monetary policy analysis.

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<sup>9</sup> The endogeneity of money in the NCM is not because of the nature of money, but of the interest setting procedure conducted by central banks. This is a proposition that has been part of the Post Keynesian monetary agenda through the years; however, this coincidence of maintained propositions does not reflect a deeper agreement of what Schumpeter has called 'vision' about how capitalist economies are functioning.

*Third*, the success of central banks in containing inflation depends to a significant extent on what economic agents perceive the stance of monetary policy to be in the future. The assumption of rational expectations is fundamental in this respect. Agents are hypothesised to know how an economy works as well as the consequences of their decisions in the future. Besides, economic agents are hypothesised to know in advance the reaction of central banks to macroeconomic developments, which affect their decisions. In this sense, modern central banks operate as managers of private expectations. If an independent central bank can credibly announce low inflation as its overriding objective, then private expectations of inflation will be adjusted reducing actual inflation at a lower cost in terms of output. In this way monetary policy operates through the expectations channel. The ‘expectation effect’ is also a crucial transmission mechanism of monetary policy hypothesised by the NCM.

The episodes of instability and crisis throughout the 1990s and 2000s, with the August 2007 credit crunch in the US financial system to be the most severe since the 1930s, put forward the question of the aptness of the interest rate policy for eliminating the incoherence so evident in both financial markets and the markets determining output and employment. The NCM does not deal with the full set of relations that must be satisfied for a capitalist economy with complex financial system and practises to be coherent and it does not offer a basis for modelling investment in a manner that made financing a principal variable. This would require the price of capital assets and financial markets to be taken into account in effective demand considerations. Nevertheless, the neoclassical foundations of the NCM inflict into the analysis a price theory that is limited to explaining how relative prices of currently produced goods adjust (or not) and markets are cleared (failed); the financial and capital-asset-price-

validating relations that must be satisfied if the economy is to be coherent are ignored. The NCM seems to ignore what Arrow and Hahn (1971) have proposed few decades ago that decentralised markets cannot yield a coherent result for an economy where money contracts created by banks and external finance are required for investment.

### **3. Systemic Incoherence: An Institutional-Post Keynesian Theory**

The starting point of an IPK theory is Keynes's essential insight that in capitalist economies incoherence is the most likely result; because of uncertainty and of the interactions between financial factors and relations with production and consumption in the determination of prices, effective demand, output and employment. The institutional basis of such a theory is a monetary production economy, in Hyman Minsky's Wall Street variant. In this type of institutional set-up, money is never neutral, inflation does not have monetary origins, liquidity and solvency concerns are fundamental, and effective demand failures are the root source of incoherence.

Thought it, the focus of an IPK theory should be upon the institutionalization of the following pieces of Minsky's Wall Street paradigm, as central pivots in developing a macroeconomic theory corresponding to the current state of capitalist evolution:

- a) the capital development of an economy, which shows that the endogenous workings of the price system in an economy with sophisticated financial markets and practices do not always operate to achieve and sustain a coherent result.
- b) the deals making by bankers and businessmen over money contracts in evolving financial markets.

- c) the proposition that a capitalist economy is at best ‘conditionally coherent’.
- d) the flaws that a capitalist economy exhibits are to a significant extent due to time-dependent financial linkages and processes among markets.
- e) the actual path an economy traverses depends upon institutions, financial relations and policies.

This set of conceptions and assertions could not be more at odds with the major perceptions and assertions made by the NCM. Their theoretical foundations are provided by Minsky’s (i) two sets of price; (ii) financial theory of investment; and (iii) endogenous instability, with significant implications for economic policy. We consider these in turn.

Minsky’s ‘Wall Street’ paradigm incorporates a price system for current output, which depends upon conditions in product and labour markets, and a price system for capital assets, which depend upon conditions in financial markets. Further, the two price systems incorporates financial and capital-asset price-validating relations, which must be satisfied if an economy, where money is a fundamental institution, is to be coherent. This conception of the existence of two set of prices reflects the fact that in a capitalist economy, the financing of investment and of ownership of capital assets leads to contractual cash flows that is to commitments to make money payments. In this sense, Minsky (2008) has remarked that to understand if the economy is to be coherent, or why coherence sometimes breaks down, prices must accomplish not only the resource allocation and the distribution of income function; but also to assure that profits are generated and obligations on business debts to be fulfilled.

In addition, the price system must generate cash flows so that debtors to be able to fulfil their legacy of payment commitments from financing past investment, so to validate the capital assets and the financial structure of the economy and to keep them away from default risk. Further, prices must free resources for financing new investment and enable new financial obligations to be accepted; if this condition is satisfied, then the prices for capital assets will increase inducing further investment.

Minsky (2008: 160) in particular argues that ‘When the price level of capital assets is high relative to the price level of current output, conditions are favourable for investment; when the price level of capital assets is low relative to the price level of current output, then conditions are not favourable for investment, and a recession –or a depression- is indicated’.

The price of current output represents the ‘carrier of profits’ and the means for validation of business debt. Current output prices are determined by investment expenditures, consumption expenditures and supported by Big Government (BG) expenditure flows. Minsky pays particular attention to investment as the major determinant of profits and to BG as a support system for private sector current output prices and profits. The importance of finance as well as of financial markets centres on the role that the price of capital assets has in determining the first price system through its impact on investment and effective demand. Since the decision to hold capital assets is also a decision concerning their financing, investment represents a decision about both asset and liability structures in the balance sheets of firms and banks. The values attached to the capital assets have an impact on the value of the liabilities created to acquire them. Capital goods prices have an impact on the viability of the balanced sheets of the firm and its bankers.

It is essential to be pointed out that Minsky's two systems of price reveals the institutional dynamics that make money to have a vital role in the functioning of a capitalist economy. It shows the way that the financial structure of production and financial markets determine whether price signals are coherence augmenting, or cause deficient demand and instability. Minsky notes that any reasonable definition of a 'coherent disposition of economic resources' must hold that the existence of unemployment, inflation, cumulative debt deflation and financial instability is 'incoherent' (see Minsky, 1980). Therefore, if it can be shown that financial market processes are likely to yield either of these results, then the NCM models cannot be relevant to those aspects of the economy to which these processes apply, that is to the real world economies in which we live in. On the other hand, the IPK theory must be placed in a complex through time framework in order to enlighten how the evolution of institutions in market processes sometimes sustain and sometimes disrupt coherence.

Kregel (1992) has claimed that the two price systems are important for two major reasons: i) it allows Minsky to develop the financial instability hypothesis and (ii) it can be the basis of the understanding of the proper monetary policy at dampening financial instability and enforcing coherence. It must also be notified that Minsky has frequently connected the absence of attention to the two price systems in the mainstream Keynesian literature with the belief that economic policy is exhausted by the 'fine-tuning' of the economy (see Ferri and Minsky, 1989). On the contrary, the acceptance of the two price systems and of an institutional environment where negotiations and deals among households, businessmen and bankers are an everyday practice makes 'fine-tuning' and the interest rate of secondary importance (see Ferri and Minsky, 1989). Therefore IPK theory focuses attention to financial variables,

such as the actual cash flows from economic activities, firms' internal finance cash flows, and the success or failure of actual cash flows to validate, first prior commitments to pay that are embodied in the complex financial structure of financial interrelations and instruments and, secondly, the prices that were paid for capital assets and investment output. These fundamental financial variables are the crucial inputs that determine current expectations of future profits (not central bank's policy rate) and hence the potentials for finance and investment that sustain or disrupt coherence.

Hence, a fundamental macroeconomic concern of the IPK theory is the determination of the total cash flows in relation to the coherence of a capitalist economy, and is associated with the state of effective demand and the imperfect function of financial markets. Minsky's contribution is invaluable in this respect, since it shows that (i) investment and government financing crucially matters for the effective demand and (ii) financial institutions and the financial structure of the economy matters for investment and government financing. In this sense, the IPK theory integrates price determination and resource allocation with financing of outputs, positions in capital assets and the validating of liabilities, showing that money prices matter and hence money cannot be neutral.

### *Investment and Finance*

In IPK analysis investment is more volatile than other components of aggregate demand, not due to interest rate changes, but because it relies on investor's subjective evaluations of the future, their expectations of future cash flows from profits under conditions of fundamental uncertainty. Uncertainty brings additional considerations into the analysis of investment, those of borrowers' and lenders' risk.

More specifically, a decision to invest is always a decision about a liability structure. The financing terms of investment –either through retained earnings or through external finance- affect the prices of capital assets, the investment demand and the supply price of investment goods. Cash flow commitments and liquid asset holdings determine how developments in financial markets affect the behaviour and the viability of economic units and through the two price systems the macro-behaviour of an economy. In addition, a change in the expectational environment will have an effect on both the demand prices of capital goods and desired investment, and the willingness and terms at which the banking system is willing to provide financing for the increased investment. As a result, there is always a process of adjustment in both the liability structure of the firm and in the financial structure of the banking system. In this sense, coherence depends upon the way investment and positions in capital assets are (re)financed. This is how incoherence is determined by mechanisms within the system, not outside it; the capitalist economy is not unstable because it is exogenously shocked or experiences monetary surprises, but because of its nature.

The endogenous generation of incoherence is this built around the linkage between current output prices and the demand for investment and capital goods prices. Expectations of increasing current output prices cause capital asset prices to rise relative to currently prevailing output prices. This, then, leads to an increase in borrowing to fund new investment. The increased borrowing leads to higher interest payments which can only be met if expectations of increased future returns are confirmed. Bankers must share the expectations of the firms if new lending is to be confirmed. The increased lending is reflected in the firms' liabilities held as assets by the banking system to support its own liabilities, and acquired to fund the lending. The value of these liabilities also depends on the realization of expectations of future

profit flows. A sufficiently large fall in capital asset prices may then have an impact on the value of bank liabilities and lenders' risk. Uncertainty over the value of a bank's liabilities, i.e. ability to meet its payments commitments, is the source of financial panic and crisis.

Minsky's invaluable contribution in this field is that he connected this investment uncertainty –as manifested in default and market risk- with the financial structure and the fragile balance sheets of the business sector and the instability in financial markets. Key role in this connection has the liquidity provided by financial firms to non-financial firms to carry cash commitments based on past investments and on expectations of future profit streams. Both financing and undertaking investment projects exposes firms to the risk of default and liquidation, when in conditions of fundamental uncertainty these projects might yield cash flows substantially less than those expected, increasing their financial fragility. On the other hand, financial markets carry forward the accumulated contractual obligations of all past investment decisions. If expectations of future profit streams be disappointed, then default risk rises for both debtors and creditors as well the degree of financial fragility for the whole economy, conditional to the proportions of hedge, speculative and Ponzi units. Dymski and Pollin (1992) point out that this is the case where the financial markets become the mechanism through which disappointed expectations and default risk transmitted to market risk and instability to the whole economy.

### *Economic policy*

This financial originated macroeconomic analysis of incoherence marks out as key problem of economic policy to fix the economy so that the two price systems are such that there is an appropriate amount of investment and effective demand: this requires

that both realised and expected profit flows be high enough so that capital-asset prices exceed the supply prices of investment output. This is the central concept behind Minsky's argument for interventionist policies in advanced capitalist economies with sophisticated financial markets. In addition, in an IPK view of how a capitalist economy operates, decision making happens under conditions of intractable uncertainty. Economic policy cannot eliminate the uncertainty with profit seeking activity in the capitalist investment process. However, the manifestations of investment uncertainty –macroeconomic and financial market instability, and businesses' defaults- can be transformed through interventionist policies. But these policies cannot bring the economy to stable full employment equilibrium.

The two price systems might reveal the 'optimal' objectives for monetary policy. The institution of BG spending can partially offset the fall in profit flows, which results from a fall in investment or overoptimistic expectations; and in this way, the institution of BG provides support for goods prices. But it cannot directly support the fall in the value of a bank's assets from a fall in capital goods prices. This is why BG by itself is not enough to counter instability. The institution of Central Bank (CB) must come in to stabilise the prices of capital assets, by indirectly supporting the prices of these assets as they appear on the banks' balance sheets. Thus, in Minsky's 'two price' view', two institutional stabilisers are needed: Big Government and Central Bank.

In contrast to Minsky's two targets for stabilization policy (the two prices) and two instruments BG and CB, the NCM is based on a single target, price stability and one instrument (CB). The NCM proposes the use of an interest rate rule to keep the price of goods stable, and a balanced budget to allow output to reach its natural, stable level.

The NCM assigns fine-tuning to monetary policy to keep price and output stable. Here it is the fundamental point of difference between the two theories concerning monetary policy. Is monetary policy and central banks to be assigned to stabilise output and goods prices (NCM); or should it, instead, be directed to stabilise capital asset prices? If the central bank is to support asset prices and the stability of the financial system, then is it clear that it will have to act as a stabiliser in the financial markets, where the prices of financial assets, cash flows and balance sheets are determined. In this context, the major role of a central bank is on the financial side of the economic system, not on the goods price and the production side as in the case of the NCM. The main influence of a central bank is on the price of existing financial assets and on the liquidity of financial positions targeting financial stability (see e.g. Tymoigne, 2009; Kregel, 1992, Wray, 1992; 1995; 2003). In IPK framework, a stable financial structure appears to be a precondition for price stability and better growth performance.

#### *4. Conclusions*

In the NCM the flaws capitalist economies exhibit and the incoherence possibilities are trivial, being due to price rigidities, asymmetric information and errors in interest rate-making; and not fundamental, resulting from the contemporary, financially sophisticated capitalist market economies. In NCM models attention is mainly focused on the impact that monetary policy might have on the ‘real’ sector and the output-price inflation, ignoring the effects on the financial structure of an economy. The neoclassical foundations of the NCM put forward the analysis of commodity prices and of inflation that have monetary origins; as a result, central banks are institutions that should aim to control changes in commodity prices, and in the current

NCM framing the output-price stability, which has become their overriding goal, as it is supposed to promote robust economic growth and financial stability.

In this paper, we argue that an Institutionalist-Post Keynesian framework provides a better starting point to understand the inner working of capitalist economies. In this framing, financial considerations and not price stabilization and fine-tuning of economic activity must be the primary preoccupation of a central bank and of monetary policy. The Institutionalist-Post Keynesian framing considers the impact that monetary policy has on both the production side (economic growth, unemployment, output-price inflation) and the financial side (financial structure, financial stability, asset prices) of an economy that suffers from deficient demand and chronic unemployment and financial instability. It is proposed that central banks should concern about the smooth financing and funding of asset positions.

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