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**MACROECONOMIC MODELS AFTER THE CRISIS  
IN THE TRADITION OF HETERODOXY**

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# MACROECONOMIC MODELS AFTER THE CRISIS IN THE TRADITION OF HETERODOXY<sup>1</sup>

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**ABSTRACT:** *The oft-cited (or timeworn already) expression after the financial crisis was “We are in the midst of a once in a century credit tsunami.” and/or “This time is different.” Needless to say, the capitalist economy has experienced a cyclical movement for about two centuries. The normal course of the capitalist economy closely resembles “a roller coaster.” Crisis is not a peculiar event, but an ordinary one. However, many argue we have to explore the “novelty” of this financial crisis. If this time is different, the reason why the recent crisis is different must be explained. Many academic journals from the orthodox camp to heterodox featured the (global) financial crisis. There are a wide variety of opinions expressed on this matter. When we discuss on the causes of the crisis, I believe one of the fundamental issues would be how to formulate the relationships between the real sector and the monetary sector, or how to interpret the so-called ‘financialization,’ and to evaluate its effect on the real sector. Keeping this point in mind, several approaches (New Consensus Model, Post-Keynesian, Heterodox) will be examined.*

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## 1. INTRODUCTION

The oft-cited (or timeworn already) expression after the financial crisis was “We are in the midst of a once in a century credit *tunami*,”<sup>2</sup> and/or “This time is different.”<sup>3</sup> Needless to say, the capitalist economy has experienced a cyclical movement for about two centuries. The normal course of the capitalist economy closely resembles “a roller coaster.”<sup>4</sup> Crisis is not a peculiar event, but an ordinary one. However, many argue we have to explore the “novelty” of this financial crisis.<sup>5</sup> If this time is different, the reason why the recent crisis is different must be explained. Many academic journals from the orthodox camp to heterodox featured the (global) financial crisis.<sup>6</sup> There are a wide variety of opinions expressed on this matter. When we discuss on the causes of the crisis, I believe one of the fundamental issues would be how to formulate the relationships between the real sector and the monetary sector, or how to interpret the so-called ‘financialization,’ and to evaluate its effect on the real sector. Keeping this point in mind, several approaches will be examined.

This paper is structured as follows. Section 2 summarizes two simple macro models: New Consensus model (e.g. Romer, Taylor) and Post-Keynesian model (e.g. Fontana, Setterfield) for the reference framework. Section 3 examines the causality of the model above and their interpretation of the crisis, based on their model. As is well known, many heterodox economists have tried to present alternative explanations of the current crisis. Section 4 reconsiders the characteristic of heterodoxy, and to explore the requirements for the model, which could clarify the causality of recent events as simple as possible. Some concluding remarks will be given in the last section.

## 2. SIMPLE MACROECONOMIC MODELS

### 2.1 New Consensus Model

There has been a convergence of opinions among macroeconomists in the mainstream camp.<sup>7</sup> This view evolved since the rational expectation revolution and has common among neoclassical economists. Over a half century, the standard macroeconomic model taught in the classroom has been a so-called ‘IS-LM model’ and/or ‘AS-AD model’, where the key monetary variable is the quantity of money supply. As is well known, central banks in almost industrialized countries focus on the interest rate. With this in mind, for example, Romer (2000, 2012) presents a Keynesian macro model

<sup>2</sup> Greenspan: Testimony, Committee of Government Oversight and Reform, October 23, 2009.

<sup>3</sup> It is the title of the book written by Reinhart and Rogoff (2009).

<sup>4</sup> Sherman (2010:vii).

<sup>5</sup> Bernanke (2010) argued, that “the financial crisis did not discredit the usefulness of economic research and analysis by no means.” Colander (2011) criticized Bernanke’s argument on the point that standard macroeconomics does not recognize the limit of science and of formal modeling.

<sup>6</sup> See, for example,

*Journal of Economic Perspectives* (2010, Fall): “Symposium: Macroeconomics after the Financial Crisis”.

*Cambridge Journal of Economics* (2009, vol.33 no.4): “The global financial crisis.”

*Review of Radical Political Economics* (2009, vol.41 No.4): “The Political Economy of Financialization”.

*Historical Materialism* (2009, 17 (2)): “The Symposium on the Global Financial Crisis.”

*Science & Society* (2010, vol.74 No.3): “Symposium: Capitalism and Crisis in the 21<sup>st</sup> Century”, and so on.

<sup>7</sup> Taylor (1997, 2000), Woodford (2009).

“without LM curve”, which has been called as ‘New Consensus Model (NCM)’.<sup>8</sup>

The basic NCM is formulated by three equations, so it is often named as ‘3-equation model’. Here we summarize the basic NCM, and then discuss the causality.

The first relationship is between the real GDP ( $Y$ ) and the real interest rate ( $r$ ).

$$(1) I(r) = S(Y) \quad \frac{dI}{dr} < 0 \quad \frac{dS}{dY} > 0$$

This negative relationship is known as the IS curve. The second relationship describes the monetary policy rule of central bank (MP curve: Monetary Policy).

$$(2) r = r(Y, \pi) \quad \frac{\partial r}{\partial Y} > 0 \quad \frac{\partial r}{\partial \pi} > 0$$

The central banks choice of the real interest rate is assumed to depend on both output ( $Y$ ) and inflation ( $\pi$ ). When output (or inflation) rises, the central bank raises the real interest rate. When output (or inflation) falls, it lowers the real interest rate.

The third relationship is about the behavior of inflation (IA curve: Inflation Adjustment). If output is below (above) its natural level ( $Y_n$ ), inflation falls (rises). If output equals  $Y_n$ , inflation is constant.

$$(3) \pi = \pi_{-1} + \phi(Y_{-1} - Y_n)$$

At a point of time, the rate of inflation is given ( $\pi = \pi_0$ : constant). Eq. (1) and (2) suffice to determine the equilibrium ( $Y_0^*, r_0^*$ ) in the short run. However, there is no rational reason the equilibrium  $Y_0^*$  equals  $Y_n$ . The adjustment mechanism works. If  $Y_0^*$  is above  $Y_n$ , the inflation rate rises. Central bank increases the interest rate, which will decrease an investment and output. The MP shifts up, the economy moves up along the IS. We get a downward-sloping relationship between inflation and output (This is called as AD curve). As long as the actual output exceeds the natural level, this adjustment process proceeds. If  $Y_0^*$  is below  $Y_n$ , the inflation rate falls, and then same mechanism works. In the long run, the economy would reach the situation where output equals natural level and the inflation rate is stationary ( $\pi = \bar{\pi}$ ). Once the economy reaches this situation, there is no further change. The world, which the NCM depicts, would be harmonious and stable in character.

Insert Fig.1 here

[Source: Roemer (2012) Fig.III-3- III-5, pp.61-64]

## 2.2 Post-Keynesian Model

Some have criticized on the NCM.<sup>9</sup> Hein and Stockhammer summarized various critics to three points.

<sup>8</sup> For the formulation of the basic NCM, see Carlin=Soskice (2006), and Lavoie (2009).

<sup>9</sup> As for the critical comment on NCM, see Arestis and Sawyer (2008), Lavoie (2006b).

(i) "There are reasons to expect the short-run equilibrium to be unstable without policy intervention."

(ii) "Monetary policy will, under some important circumstances, most importantly deflation, not be able to stabilize the system."

(iii) "In the medium-run the NAIRU is endogenous to economic activity and monetary policy."<sup>10</sup>

Though the NCM believes the economic system itself would be stable, Post-Keynesian question the stability and policy makers' management ability to stable *unstable* system. In this subsection, we review the alternative to NCM by Post-Keynesian. Fontana=Setterfield construct a post-Keynesian model, which "can generate both Keynesian and Classical macro adjustment dynamics, making it more general then the New Consensus model."<sup>11</sup>

We can summarize their model to the following system.

$$(4) AD: Y = ND + cf((1 + m)g(P))$$

$$(5) AS: P = (1 + n) \frac{WN}{Y} = (1 + n)Wa$$

Aggregate demand consists of two components:

- (i) the demand that are not debt-financed by loans from commercial bank ( $ND$ ), and
- (ii) the debt-finance spending by household and firms.

Central bank set the short run real interest ( $i$ ) according to the conditions in the goods market, i.e. the general price level ( $P$ ).

$$(6) \text{ Monetary policy rule: } r = g(P), g' > 0$$

Here the real interest rate depends on not 'inflation (the growth rate of price)' but 'the general price level.' Commercial bank set the loans rate ( $r_L$ ) to add a mark-up ( $m$ ) over the interest rate ( $r$ ).

$$(7) r_L = (1 + m)r$$

Whether the planned debt-finance spending ( $D$ ) can be realized or not depends on the bank loan rate.

$$(8) D = f(r_L) f' < 0$$

Consumers and/or firms try to get the loan, however this is not always possible. So, we denote "the proportion of households and business loan applications that are deemed creditworthy by banks"<sup>12</sup> as  $c$ , then the actual demand would be  $cD$ . Accordingly, the

<sup>10</sup> Hein=Stockhammer (2009:273).

<sup>11</sup> Fontana=Setterfield (2009:165) and Fontana (2006).

<sup>12</sup> Fontana=Setterfield (2009:148).

actual debt-finance can be expressed as  $cf(r_L)$ .

From (6) - (8), we obtain the aggregate demand curve (AD) above (Eq. (4)), that is,

$$Y = ND + cD = ND + cf((1 + m)g(P))$$

It is easily seen from (6) and (8) that the relationship between output and the price is negative, that is, AD curve is downward-sloping as in Fig.2. The important point is that the shape of AD curve depends on the operation of monetary rule.

“In other words, the AD curve describes how the central bank sets, via changes in the short run interest rate, the level of output for any general price level in the economy.”<sup>13</sup>

Firms set prices as a mark-up ( $n$ ) over the average cost of labor.

$$(9) P = (1 + n) \frac{WN}{Y} = (1 + n)Wa$$

The level of nominal wage ( $W$ ), labor/output ratio ( $a = N/Y$ ) and capital/output ratio ( $K/Y$ ) are assumed to be constant. Then, the aggregate supply schedule (AS) is horizontal. So the actual output is demand-constrained, which is not necessarily equal to the full employment level. Regardless of the level of nominal wage and price, the real wage rate is always given by:

$$(10) \text{ Real wage rate } w = \frac{W}{P} = \frac{1}{(1+n)a} \quad (= \text{constant}).$$

In other word, wage-share is always constant.

Insert Fig.2 here

[Source: Fontana=Setterfield (2009: 158)]

### 3. INTERPRETATION OF ‘THE FINANCIAL CRISIS’

We take two basic macro models as a frame of reference for the analysis of crisis. In general, the assumptions made reflect the perspective of the analysis. We must clarify the ultimate cause that determines the working of an economic system. The point here is the causality of the variables in the models and how these models explain the occurrence of financial crisis.

#### 3.1 Causality

Here we contrast the structure of the model.<sup>14</sup> What factor determine the final result, and how? The causality of NCM can be depicted as Fig.3. As is easily seen, the normal level of output ( $Y_n$ ) or NAIRU determines the consequence of the model. Such

<sup>13</sup> Fontana=Setterfield (2009:150)

<sup>14</sup> Palley (2007) compares the effect of monetary policy in the New Classical model, the Neo-Keynesian model, and the Post Keynesian model.

factors as consumption and investment behavior, which produce the saving function and investment function, determine the short-run equilibrium. However, what determines the long-run equilibrium is ( $Y_n$ ). The exogenous factor, on which post-Keynesian criticizes, carries away the working of the economy.

On the other hand, in a Post-Keynesian model monetary factors ( $m$ ) influence the level of aggregate demand, which in turn, with such factors as production technique and the mark-up ( $a, n$ ) determine the output level.<sup>15</sup> The nominal wage ( $W$ ) is given at the moment in this model. We interpret this reflects the result of the negotiation between labor and capital is given. The most influential factor among the institutional parameter in this model is the mark-up ratio of the commercial bank.

[Fig.3 insert here]

### 3.2 The Presence of the Liquidity Trap

In a normal setting of NCM, there is no room that generates crisis.<sup>16</sup> As long as the factors that characterize the shape of functions (e.g. saving function, investment function) and monetary rule, the economy would converge to the equilibrium in the long run. There is no change unless some 'external shock' is given. But they utilize their model to analyze the cause of Great Depression. Romer states:

"A more important example of a down shift in the consumption function occurred in the United States in 1929. ... The resulting shift of the IS curve was important factor in changing what was at that point only a mild recession into the enormous downturn that became known as the Great Depression."<sup>17</sup>

Certainly the downward shift of IS curve and then resulting shift of AD curve decreases the output, however, the equilibrium could recover if the adjustment mechanism that NCM assumes works.<sup>18</sup> So we have to find another moment that explain how long output can remain less than its natural rate before that happens. According to Roemer, the answer is the presence of 'the zero lower bound of interest rate', that is, the existence of 'liquidity trap'.

The monetary policy rule can be re-formulated by following:

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<sup>15</sup> "This means that in our model, the Classical hierarchy of the New Consensus view, according to which labour market outcomes determine goods market outcomes (and monetary factors are of secondary importance), is replaced by a Keynesian hierarchy, where monetary factors influence goods market outcomes which, in turn, determine labour market outcomes." (Fontana=Setterfield (2009:154))

<sup>16</sup> Ohanian (2010) surveys possible explanation of the financial crises from a neo-classical perspective.

<sup>17</sup> Romer (2012: 11-12)

<sup>18</sup> "A sharp fall in house prices put large strains on financial institutions that had invested heavily in mortgage-backed securities and other housing-related assets, culminating in the bankruptcy of Lehman Brothers in September 2008. The resulting disruptions of credit markets, loss of credit availability, and the collapses of confidence led to very large falls in consumption at a given level of disposable income and in investment at a given level of the real interest rate – that is, to a very large leftward shift of the IS curve." (Romer (2011:102)).

$$(11) \quad r = \begin{cases} r(Y, \pi) & \text{if } r(Y, \pi) + \pi^e \geq 0 \\ -\pi^e & \text{otherwise.} \end{cases}$$

When we assume the presence of the liquidity trap, the AD curve has its usual downward sloping form for higher levels of inflation, however, at some level of inflation, it becomes upward as depicted in Fig.4.

Insert Fig.4 here

[Source: Roemer (2012) p.105 Fig. IV-8]

Imagine that there is a large leftward shift of the IS curve. The 'large' means it intersects the flat portion of the MP curve, in other words, the IA curve intersects the upward portion of the AD curve. Here the mechanism works. As the output is below the natural rate, the inflation rate decreases. Though the IA shifts downward, the output cannot increase because IA intersects the upward portion of AD curve. This process continues. Once the output decrease below normal, it cannot recover the equilibrium.<sup>19</sup>

"The zero lower bound eliminates a key force that usually helps to keep the economy stable. ... At the zero lower bound, however, falls in inflation lead not to cuts but to rises in the real interest rate. As a result, they are destabilizing rather than stabilizing."<sup>20</sup>

Roemer insists that "the shift of the IS curve is not permanent. *At some point*, it shifts back to the right."<sup>21</sup> (*Italic added*) It is not obvious why 'at some point'? We should get to the bottom of the problem.<sup>22</sup>

If we can exclude the presence of liquidity trap, the economy could converge to the long-run equilibrium. The lesson from the argument above is that we could use the model that emphasizes the stable character of a capitalist economy to analyze the cumulative disequilibrium process.

### 3.3 Credit Crunch

The key factor in the NCM that clarifies the cause of crisis is the presence of the liquidity trap. What element can we pick up as the influential moment in the Fontana=Setterfield model explained above? Suppose banks adopt a more precautionary lending behavior, which means to cut down the value of  $c$  (see Eq. (4)). As Fig. 2 shows, the actual demand for loans ( $C^D$  curve) shifts to the left. The volume of bank loan decreases. This outcome negatively affects the actual debt-financed consumer demand

<sup>19</sup> "the model captures a central feature of the crisis: the zero lower bound eliminates the force that usually works to return output to normal when a shock pushes it below. As a result, a period when output is below normal can last a very long time. Sadly, that is exactly what is happening today." Romer (2012:111)

<sup>20</sup> Roemer (2012:107)

<sup>21</sup> Roemer (2012:107-108)

<sup>22</sup> In a article appeared in the *WSJ* (February 9, 2009), J.B. Taylor argued that "My research shows that government actions and interventions – not any inherent failure or instability of the private economy – caused, prolonged and dramatically worsened the crisis."



and/or investment demand. Then AD curve shifts to the left. As the result of this shift, the output decreases and unemployment increases.

“In short, as a result of the credit crunch, the economy experiences a lower level of output and a higher level of unemployment. This is in fact what happened in 2007 and 2008, when most countries experienced slowdowns in economic activity and increases in unemployment.”<sup>23</sup>

If central bank could reduce the interest rate ( $r$ ) in the face of the slowdown of the economy, the bank loan rate ( $r_L$ ) will decrease. So the volume of bank loan will recover the pre-credit level. But this change of monetary policy cannot be successful. Remember that the loan rate depends both  $r$  and a mark-up ( $m$ ). If commercial banks respond to the reduction of  $r$  with the increase of  $m$ , this anti-recession policy fails. The output level remains to be low.<sup>24</sup>

Certainly it is demonstrated that the change of lending policy of commercial bank decreases the demand, and then output. But the question remains. What causes the change of behavior? Though we can admit that the harsh lending policy can be ‘a trigger’ of the slowdown, the point is ‘the cause’, which determine the direction of the policy. We have to turn to the heterodox view on the working of a working of a capitalist economy, especially on the recent financial crisis.

#### 4. HETERODOX VIEW

To begin with, we must clarify what the problem is, to which we address ourselves. Even if we discuss on *only* the recent financial crisis, two components must be analyzed as Dymski wrote:

- (i) “[O]ne or more of the institutions comprising the financial system malfunction badly or break down”
- (ii) “[T]his breakdown creates major problems for the overall economy which this financial system is a part.”<sup>25</sup>

However, what we are trying is not to confine the analysis of the current crisis, but to reconsider the characteristics of the ‘heterodox’ approach. If the current dominant (or orthodox) theory is incorrect, we have to clarify the requisites for the alternative. What can replace the orthodoxy?

Needles to say, it’s not easy to define what the heterodox is.<sup>26</sup> At this point, we

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<sup>23</sup> Fontana=Setterfield (2009: 159).

<sup>24</sup> “In short, an accommodative monetary policy is not necessarily successful in offsetting a credit crunch, especially when, in the face of liquidity shortages in global financial markets, bank raise their mark-up over the short-run interest rate.” (Fontana=Setterfield (209:160)).

<sup>25</sup> Dymski (2011:325).

<sup>26</sup> As Lavoie (2006a:88) pointed out, “It is sometimes claimed that heterodox economists have nothing in common but their rejection of neoclassical theory – mainstream economics.” However, he believes that “heterodox theories have a number of things in common.” (105).

have in mind the approach roughly, which is critical to the neo-classical. Though someone might argue there is no consensus as opposed to '(orthodox) New Consensus', we may list up the main features and implications.

- Inherent instability
- Aggregate demand affects output and hence employment
- Investment is an important determinant of aggregate demand
- Distributional factors [or conflict] are important
- Structural arrangement affects aggregate demand

#### 4.1 Accumulation, Neoliberalism, and Financialization

Financialization is a recent term, so it is necessary to confirm the meaning of it. However how to define it might be controversial.<sup>27</sup> For example, Epstein defines the meaning as "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies."<sup>28</sup> No one deny the role of financial factors in the working of the economy. The point is how to understand the following relationship (Cf. Fig.5)<sup>29</sup>.

- (R1) Accumulation → Neoliberalism
- (R2) Neoliberalism → Financialization
- (R3) Neoliberalism → Accumulation
- (R4) Financialization → Accumulation
- (R5) Financialization → Crisis
- (R6) Accumulation → Crisis

[Insert Fig.5 here]

If one thinks it suffice to describe what happened in recent year, s/he would discuss only (R5) superficially. Indeed we must understand the course of the events correctly. But many macroeconomists in the tradition of heterodoxy proceed further. We have to examine both 'the immediate cause' (or 'trigger') and 'the root' (or 'the origin') of the financial crisis.<sup>30</sup> For example, as for the relationships of (R2) and (R3), the following recognition is needed:<sup>31</sup>

"Financial deregulation and financial excess are important parts of the story, but they are not the ultimate cause of the crisis." "The bottom line is macroeconomic failure rooted in America's flawed economic paradigm is the ultimate cause of the

<sup>27</sup> Stockhammer (2004: 720) argue that "[Financialization] is still ill-defined, which summarizes a broad range of phenomena including the globalization of financial markets, the shareholder value revolution and the rise of income from financial investment."

<sup>28</sup> Epstein (2005:3).

<sup>29</sup> This is the simplified version of Diagram 2.1 in Duménil and Lévy (2011).

<sup>30</sup> MacEwan and Miller (2011:86) put an emphasis on the political aspects: "[T]he inequality-power-ideology nexus is the essential part of the story." Shaikh (2011:44) makes a distinction between 'trigger' and 'the cause' of the crisis. See also Palley (2009).

<sup>31</sup> Boyer (2012) criticized the world-scale austerity measures. See also Crotty (2012).

financial crisis and Great Recession.” (Palley (2009: 35))<sup>32</sup>

“The current financial crisis had its origin in the neo-liberal style of macroeconomic management over nearly the last two decades in the USA and other OECD countries.” (Bhaduri 2011:1010)

“The crisis was a crisis of a policy, neoliberalism.” (Laibman, 2010:382)

Undoubtedly the accumulation plays an essential in the working of the system, so the relationship (R1) and (R2) do.<sup>33</sup> If we add (R4) to it, we can get a double-loop like causation, that is, Accumulation  $\rightleftharpoons$  Neoliberalism  $\rightarrow$  Financialization  $\rightarrow$  Accumulation.<sup>34</sup> Though various types of discussion are possible to explain each relation, this virtuous circle cannot continue.<sup>35</sup> The crisis is the result of the cumulative process of the disequilibrium (R5, R6).<sup>36</sup> This is only an idea without evidence.<sup>37</sup>

When we take the theoretical position that the core of the movement in a capitalist economy is the capital accumulation, the rate of profit is decisive.<sup>38</sup>

#### 4.2 ‘Instability’ revisited

As discussed in the previous section, mainstream theories generally assume that capitalist economic system inherently stable, so they believe unstable and/or irregular movement is caused by external moments. On the contrary, heterodox argue the instability is inherent to capitalist economy. Keynes also developed the theory of potential volatility of investment and potential instability of the capitalist economy. In these theories the endogeneity of cyclical instability is assumed. What is the origin of this instability? There are various types of argument. After the *financial* crisis, ‘Minsky returns.’ So it is proper for us to pick up his famous *financial* instability hypothesis here.<sup>39</sup> It is not our main object to reevaluate his theory, however, we confirm that not a few think his theory is invalid.<sup>40</sup> One important and fundamental theoretical point is whether

<sup>32</sup> See also Palley (2012a).

<sup>33</sup> “Whatever moral judgment one may make, however, the expansion of the credit economy has been a response to real economic forces — inequality and consequent government policies, in particular.” (MacEwan and Miller (2011: 91)).

<sup>34</sup> Stockhammer (2004) tested the link between accumulation and financialization econometrically for using the data of Germany, France, the UK and the USA. He found that ‘some support for the hypothesis that financialization caused a slowdown in accumulation.’

<sup>35</sup> Kotz (2009) states the economics crisis itself indicates the start of a systemic crisis of neoliberal capitalism, so we have to construct a new state-regulated capitalism in order to resuscitate neoliberal capitalism. See Kotz (2010).

<sup>36</sup> Davidson (2009: 5-6) pointed out that “the deregulation of the financial system that began in the 1970s in the United States is the basic cause of our current financial market distress.” Also see Lapavistas (2009) for the meaning of financialization in the historical and theoretical perspectives.

<sup>37</sup> See O’Hara (2009). His explanation of the process of circular and cumulative causation seems to be similar to this idea.

<sup>38</sup> “[T]he increased transfer into financial circuits under neoliberalism has occurred simultaneously with a drop in the rate of accumulation.” “[U]nder neoliberalism there has been an increased divergence between the rate of profit and the rate of accumulation.” (Bakir and Campbell (2010:325-326)).

<sup>39</sup> See Pollin (1997).

<sup>40</sup> Dymski (2009: 253): “The 2007 crisis has deviated in significant ways from Minsky’s financial financial-cycle model.” For example, he pointed out the impact of racial exclusion as one of what Minsky

financial moment is the core for the unstable movement or not. On this point, I agree with Crotty's argument that "there are no real0sector sources of instability in his model."<sup>41</sup> Needless to say, the financial factor play a role, but is said to be an 'additional' cause of instability.<sup>42</sup>

### 4.3 An integrated Heterodox

If we would define the heterodox camp not a reject to a neo-classical economics, how can we define it positively?<sup>43</sup> Can we find a way to integrate various types of theories?<sup>44</sup> Most of us seems to be pessimistic, however, we cannot give up such a challenge.<sup>45</sup> Goldstein develops two types of argument: one is an integrated approach for the crisis, and the other is more general, which he names as "an unified heterodox macroeconomic approach." On the former he proposes the approach based on "the nexus of under-consumption, over-investment, and financial crisis."<sup>46</sup> What he states is not so unique, but is natural in a sense.<sup>47</sup>

How about a unified heterodox macroeconomic framework?  
He listed many ingredients:<sup>48</sup>

- (a) Keynesian uncertainty
- (b) Minskian financial fragility
- (c) Volatile effective demand
- (d) Marxian class conflict particularly over the distribution of income
- (e) Marxian competition
- (f) Marxian crisis theory
- (g) Institutional theory of macro-foundations supportive of profitable accumulation.

It is not clear at this stage how to unify these elements into a body. This might be a stating point to construct a 'unified' framework, so we accept it as a research project.

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missed. See also Dymski (2010).

<sup>41</sup> Cf. Crotty (1986:300). Crotty (1986:305-06) argued "The ultimate or 'deep' cause of capitalist instability in Minsky's world is therefore to be found in the dynamics of capitalist financial markets. Given the fact that instability is the central focus of Minsky's work, I think it fair to conclude that the real sector of the economy has no active, essential role to play in the fundamental behavioral processed of his theory."

<sup>42</sup> "The main role of Minsky's theory is to provide a theory of the tendency toward financial fragility in the financial sector, as *an additional cause* of instability in capitalist economies." (Moseley (2009: 148)).

<sup>43</sup> As for the characterization, see Gibson (2005), for example.

<sup>44</sup> For example, Sherman (2010a:70) proposes a complete, progressive theory were laid by three. "They are John Maynard Keynes and the Post Keynesian tradition; Wesley Mitchell and the institutional tradition of Thorstein Veblen; and Michal Kalecki and the radical or neo-Marxist tradition."

<sup>45</sup> "The capitalist system today appears as broken as when Keynes was writing. Events will not wait for a new Keynes to emerge; those who count themselves Keynesians must make their best effort to lift the fogs of uncertainty and ignorance that block further insight and progress." (Dymski, 2011:345).

<sup>46</sup> Goldstein (2009c: 560-61).

<sup>47</sup> "It is not clear that such pluralism and the greater acceptance of alternative approached like the one advocated will occur. However, it can be hoped that the force of reason will prevail, at least among those who are really trying to understand how the complex economy works, and will trump the obstacles caused by vested interests, intellectual conceit, unexamined habits, and ideological blinders." (Dutt 2011:315).

<sup>48</sup> Goldstein (2009a: 49).

## 5. CONCLUDING REMARKS

First we summarize two simple models to understand how they analyze the cause of this crisis. Their conclusion is the existence of liquidity trap and the behavior of commercial bank (how to determine the mark-up rate). We can say they describe the visible aspect of the crisis. On the contrary, most of macro models in the heterodox tradition seek to find the "cause" of the crisis in the broad context. Some research proposal to integrate various approaches into 'a unified framework' has appeared, however, it seems to me we have to walk on the long (!?) and winding road.

Because of limited space, many points cannot be examined fully. Thought the purpose of this short note is to give a bird-eye view on the status quo of heterodox, it in only half way. At the end, I would just want to state again: "We never forget that the capitalist economy is organized through capital. At the heart of the workings of this system is an accumulation of capital."<sup>49</sup> By this light, even if modern capitalism can be financialised, the core mechanism of a capitalist economy remains the same.

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<sup>49</sup> Cf. Sato (2012:64).

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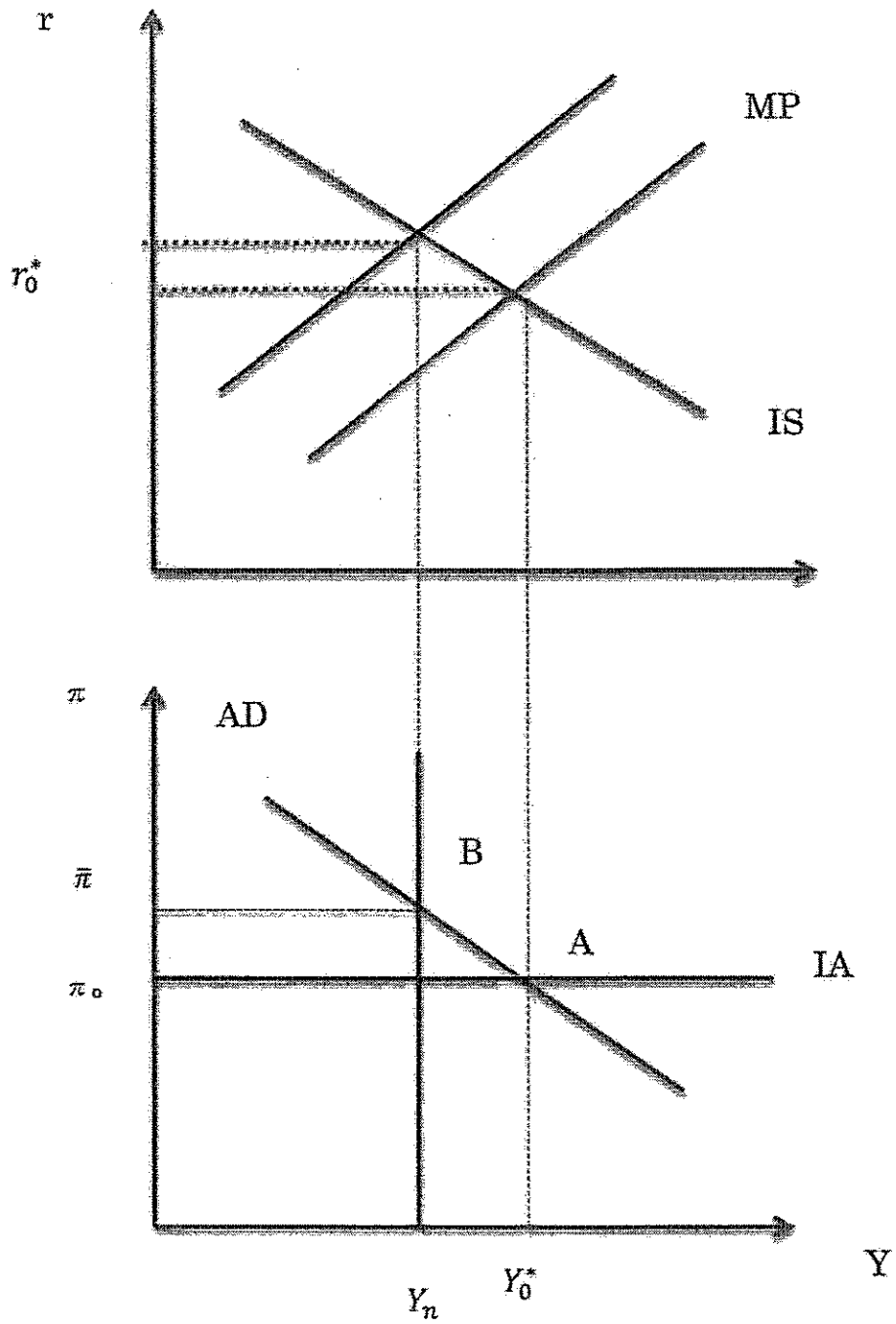


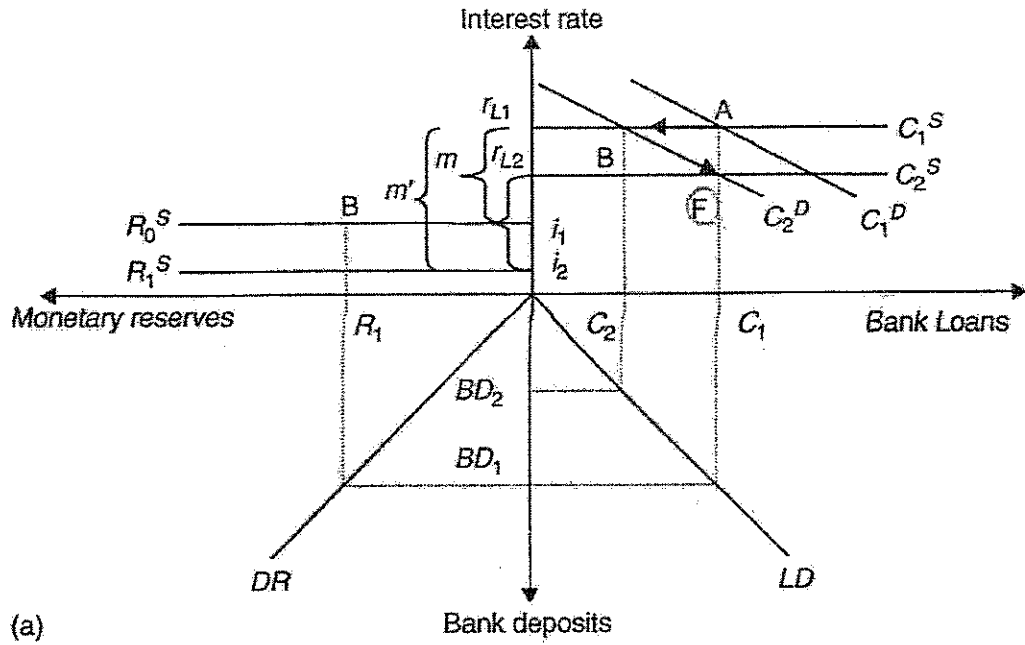
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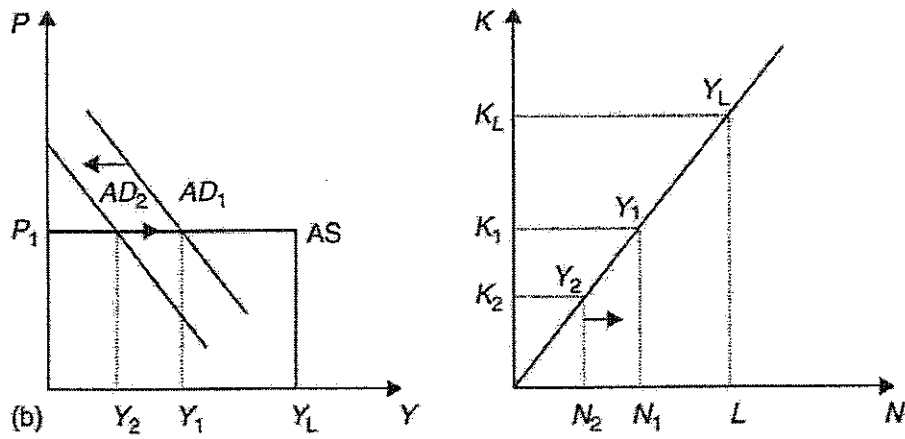
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Fig.1 New Consensus model  
[Source: Roemer (2012) Fig.III-3-5, pp.61-64]





(a)



(b)

Fig.2 Post-Keynesian Model  
 [Source: Fontana=Setterfield (2009: 158)]

Fig.3 The causality

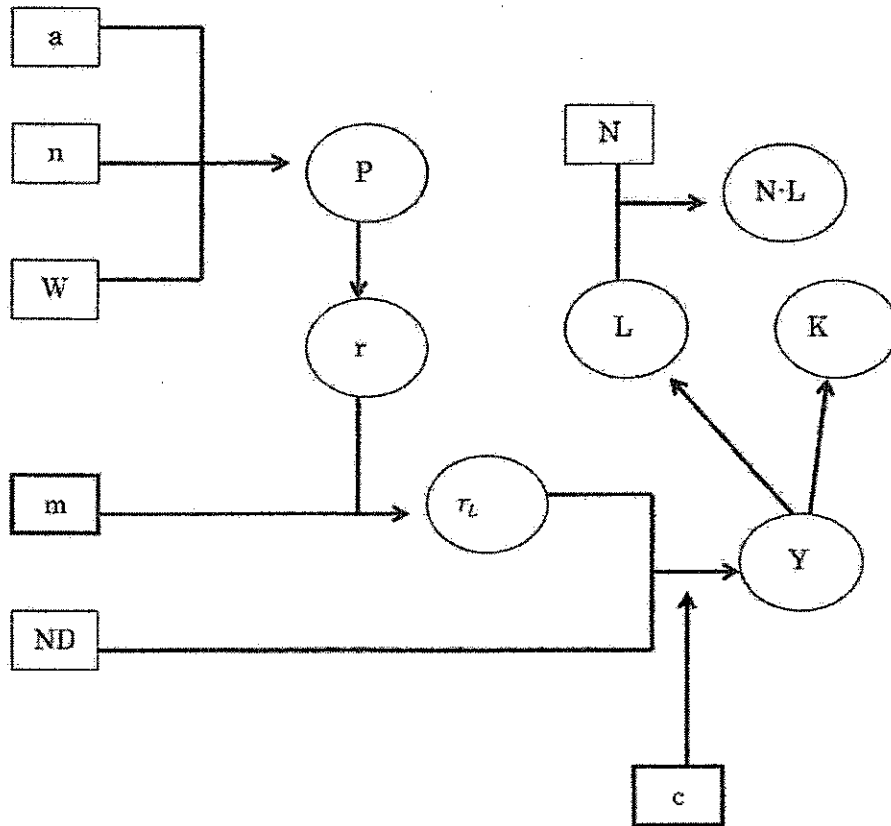
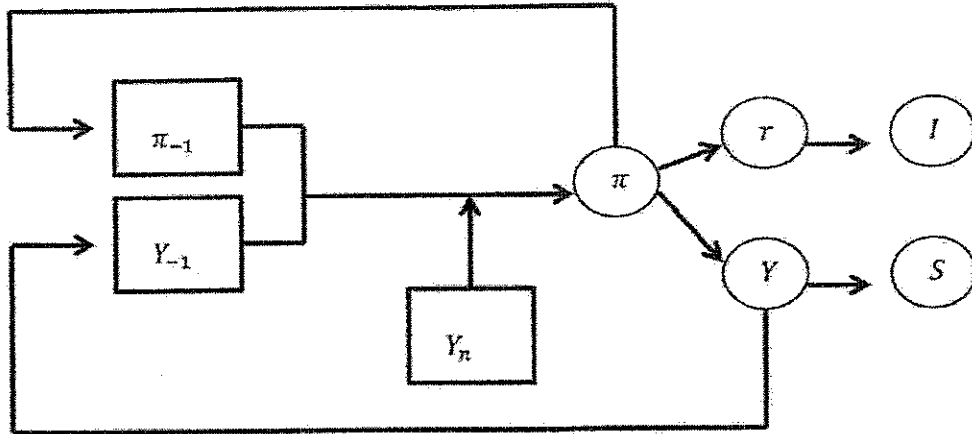
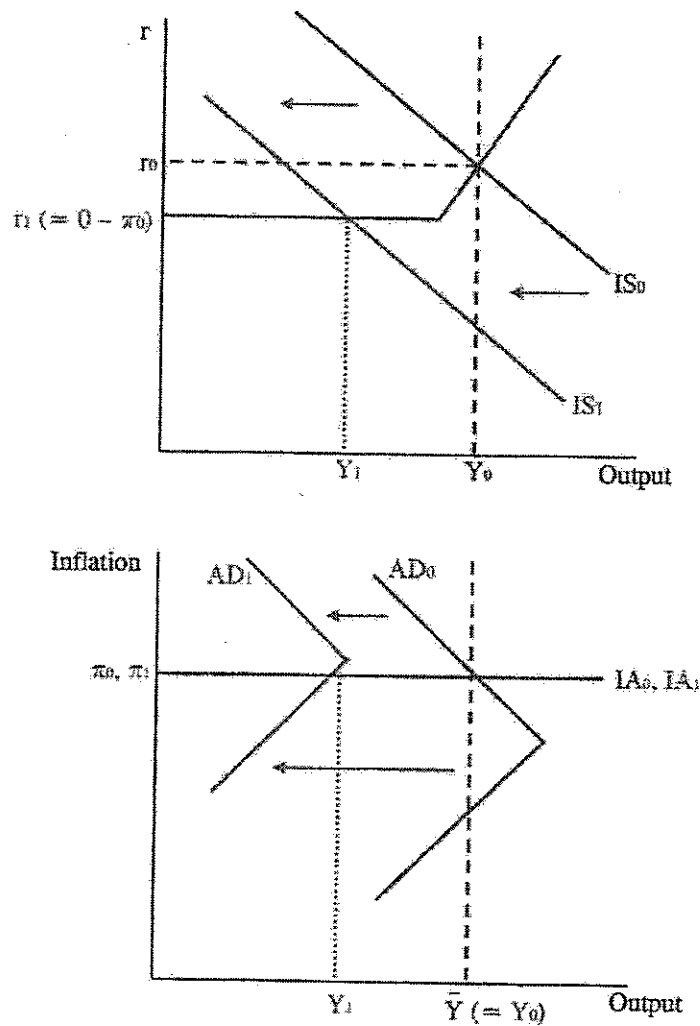
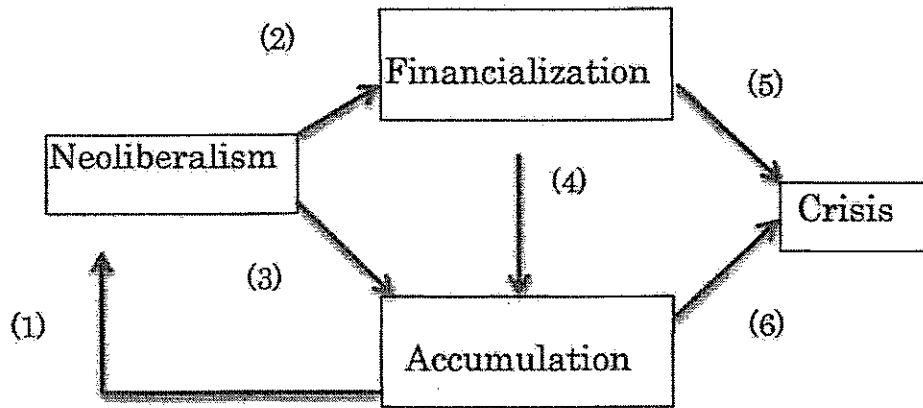


Fig.4 Liquidity Trap model



Source: Roemer (2012) p.105 Fig. IV-8

Fig. 5



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MACROECONOMIC MODELS AFTER THE CRISIS  
IN THE TRADITION OF HETERODOXY

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