

# 23rd EBES Conference - Madrid

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This is to certify that:

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has participated in the 23rd EBES Conference – Madrid held in Madrid, Spain on September 27-29, 2017 and orally presented a paper entitled "New Keynesian Hysteresis Models".

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# 23rd EBES CONFERENCE - MADRID PROGRAM AND ABSTRACT BOOK

SEPTEMBER 27-29, 2017 MADRID, SPAIN

HOSTED BY



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#### POLITICAL ECONOMY

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The Case of Cyprus: Controversies and Constraints of the Austerity Policy Reassessed Petia Atanassova Tanova, Frederick University of Cyprus, Cyprus

*Economic Factors of Donald Trump's Success in the 6 Battleground States* Nataliya Leonidovna Grigorieva, Higher School of Economics, Russia

*Export Behavior in Sub-Saharan Africa. Trends and Features Explaining Isolation from World Markets* Elena Perez Laguela, Complutense University of Madrid, Spain

New Keynesian Hysteresis Models Ozlen Hic, Istanbul University, Turkey

*High Stakes and Low Expectations: Can the Western Balkan Enlargement Process be Revitalized?* Ritsa Panagiotou, College Year in Athens, Greece

Twin Deficit: A Periodical Analysis for Turkey

Cem Gokce, Afyon Kocatepe University, Turkey; Ihsan Cemil Demir, Afyon Kocatepe University, Turkey; and Ismail Cigerci, Afyon Kocatepe University, Turkey

#### COFFEE BREAK: 10:30-10:40

#### DAY 3 - SESSION II: 10:40-12:40

#### **GROWTH AND DEVELOPMENT II**

Room: 316 Chair: Kimiko Sugimoto

*Misallocation and the Credit Cycle: Evidence from Europe* Guido Franco, University of Rome Tor Vergata, Italy

Nonfinancial Debt and Economic Growth in Euro-Area Countries Marta Gomez Puig, University of Barcelona, Spain and Simon Sosvilla Rivero, Complutense University of Madrid, Spain

Identifying Economic Cycles in Spain Using a Spectral Approach with Morlet Wavelets Concepcion Gonzalez Concepcion, University of La Laguna (ULL), Spain; Maria Candelaria Gil-Farina, University of La Laguna (ULL), Spain; and Celina Pestano Gabino, University of La Laguna (ULL), Spain

Factors and Consequences of an Economic Miracle in Ireland and in Spain

Jerzy Boehlke, Nicolaus Copernicus University, Poland; Marcin Faldzinski, Nicolaus Copernicus University in Torun, Poland; Maciej Galecki, Nicolaus Copernicus University, Poland; and Magdalena Osinska, Nicolaus Copernicus University, Poland

Does Russia Has a Chance to Break out of Poverty Cycle and Achieve Sustainable Economic Growth?

Angi Erastievich Skhvediani, Peter the Great St. Petersburg Polytechnic University, Russia; Tatiana Kudryavtseva, Peter the Great St.Petersburg Polytechnic University, Russia; and Valentina Kravchenko, Peter the Great St.Petersburg Polytechnic University, Russia

Consumption Expenditure of Thai Household

Malliga Sompholkrang, Khon Kean University Nong Khai Campus, Thailand

Africa, whilst at the same time they explain it. The importance of productive fragmentation in the international division of labour, especially in the last three decades, has largely shaped the international economic insertion of the economies of the region, as well as their productive specialization, according to the reorganization of production on an international level. This international insertion has also conditioned its productive and export specialization. Both variables –the type of international insertion, and export specialization–are symbiotic, and are ultimately explained by the configuration of value chains worldwide. Constraints in terms of technical progress and productivity hamper the performance of African economies vis-à-vis their exporters, fueling the vicious circle of their exclusion from international markets, and contributing to the worsening of their trade situation, their trade insertion and position within the chains, being this interrelation behind the worsening of export behavior in recent decades.

**Keywords:** Terms of trade, Export Behavior, Global Value Chains, International Economic Integration

#### New Keynesian Hysteresis Models

**Ozlen Hic** Istanbul University, Turkey

#### Abstract

During the stagflation of '70s, the Keynesian System fell from favor in the academic circles while Monetarism and, in particular, New Classical Economics became widely spread. The years '80s witnessed implementation of economic policies in line with Monetarism and the New Classical School, but unemployment, far from being removed automatically, increased and recession deepened. Hence during this decade these two schools fell from favor in the academic circles and in the US academic circles a new school, New Keynesian economics began to take hold. The new Classicals had criticized the Keynesian System severely because its macro analysis had no micro foundations and its result, i.e. unemployment due to lack of demand was inconsistent with the result of full employment reached in the traditional microeconomics which was based on perfect competition. To meet this criticism of methodology, the New Keynesians went into microeconomics foundations of Keynesian macro analysis but they rejected the relevance of traditional microeconomics and instead accepted imperfectly competitive markets and lack of coordination between markets. These conditions would lead to Keynesian unemployment in the short run, if not in the long run. This would be cured by the implementation of Keynesian monetary and fiscal policies. In their analysis and models, New Keynesians also accepted the Rational Expectations Hypothesis of the New Classicals, which meant that all decision makers, including workers, could estimate future price increases and other future conditions correctly. According to the Hysteresis Models, when economy comes to unemployment equilibrium (UNE) once, due to several factors it cannot restore to automatic natural rate of employment equilibrium (ANRUE). In brief, as most of New Classicals agree, these models do not accept automatic NRU balance in the LR. They are also called as "Super-Keynesian" models. As is seen, there are several New Keynesian models determining and explaining inflexibilities that stem from IC in prices and wages, lack of coordination etc. For example, even Mankiw and Romer's selection among these models consists of 2 volumes (880 pages in total).

**Keywords:** New Keynesian Economics, New Keynesian Models, Hysteresis Models, Membership Model, Insider-Outsider Model, Capital Scrapping, The Change of Capital, Employment Duration

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# NEW KEYNESIAN HYSTERESIS MODELS

Assoc. Prof. Dr. Özlen HİÇ Istanbul University, ozlen.h.birol @ gmail.com

### Abstract

During the stagflation of '70s, theKeynesian System fell from favor in the academic circles while Monetarism and, in particular, New Classical Economics became widely spread. The years '80s witnessed implementation of economic policies in line with Monetarism and the New Classical School, but unemployment, far from being removed automatically, increased and recession deepened. Hence during this decade these two schools fell from favor in the academic circles and in the US academic circles a new school, New Keynesian economics began to take hold.

The new Classicals had criticized the Keynesian System severely because its macro analysis had no micro foundations and its result, i.e. unemployment due to lack of demand was inconsistent with the result of full employment reached in the traditional microeconomics which was based on perfect competition.

To meet this criticism of methodology, the New Keynesians went into microeconomics foundations of Keynesian macro analysis but they rejected the relevance of traditional microeconomics and instead accepted imperfectly competitive markets and lack of coordination between markets. These conditions would lead to Keynesian unemployment in the short run, if not in the long run. This would be cured by the implementation of Keynesian monetary and fiscal policies. In their analysis and models, New Keynesians also accepted the Rational Expectations Hypothesis of the New Classicals, which meant that all decision makers, including workers, could estimate future price increases and other future conditions correctly.

According to the Hysteresis Models, when economy comes to unemployment equilibrium (UNE) once, due to several factors it cannot restore to automatic natural rate of employment equilibrium (ANRUE). In brief, as most of New Classicals agree, these models do not accept automatic NRU balance in the LR. They are also called as "Super-Keynesian" models.

As is seen, there are several New Keynesian models determining and explaining inflexibilities that stem from IC in prices and wages, lack of coordination etc. For example, even Mankiw and Romer's selection among these models consists of 2 volumes (880 pages in total).

Keywords-New Keynesian Economics, New Keynesian Models, Hysteresis Models, Membership Model, Insider-Outsider Model, Capital Scrapping, The Change of Capital, Employment Duration.

## 1. THE INSTITUTIONAL AND POLITICAL FACTORS LEADING TO THE BIRTH OF NEW KEYNESIAN ECONOMICS

Since the '80s, Monetarism and New Classical School have fallen from favor in the academic circles and two opposing views have begun to be widely accepted, namely, New Keynesian Economics based upon the Keynesian System (in USA) and Post-Keynesian Economics based upon the Keynesian system (in Britain).

The main factors leading to the birth or rather spread of New Keynesian Economics, are institutional and political. These reasons can be recalled as below:

## A. The Validity of the Phillips Curve

In the '70s, the prices constantly were rising because of OPEC, leading to a rise also in the Phillips Curve (PE) as the New Keynesian econometricians (Gordon) proved; hence Phillips Curve (PC), again, has become valid for the short-run (SR) and the long-run (LR) and was included in the analyses. According to this new finding, the New Classicals claim, "The Great Fallacy of Keynesian System" by Lucas and Sargent, has been refuted. Later on, Blinder who is one of the most important representatives of the New Keynesian Economics considered this misinterpretation of PC by the New Classicals as "The Greatest Fallacy of New Classical Economists".

### **B.** The High Rates of Unemployment in USA and Britain

Until the '80s, despite the high level of unemployment in USA and in Britain, strict monetary policy was being implemented and the government intervention was at the minimum as in accordance with Monetarist and New Classical policy recommendations; however, neither inflation nor unemployment decreased. Yet, during Thatcher's government in Britain, the number of unemployed rose from 1.1 million to 3 million. This consolidated the belief in the academic circles that the results of New Classical and Monetarist "automatic-full-employment equilibrium (AFNE)" assumption and their policy recommendations were wrong; whereas the Keynesian "less-than-full-employment equilibrium (or unemployment equilibrium, UNE)" assumption and Keynesian policies were realistic.

### **C.** The Consistency of Macroeconomics with the Microeconomics

New Keynesian economists accepted the "inconsistency" of the Keynesian macroeconomic analysis with the micro analysis, which was considered as a fallacy of the Keynesian System by the New Classical economists; hence they concentrated on this issue and filled this gap within the Keynesian System.

However, New Keynesian economists accepted "Imperfect Competition (IC) conditions" in their microeconomic analysis which seems to be more valid for today's markets and therefore refuted the assumptions of "full flexibility of Prices (P) and Wages (W)", "Perfect Competition (PC)" and the "Walrasian Auctioneer". The inflexibility of P and W due to IC will lead the economy to the Keynesian lack of effective demand and UNE. In addition, even if the PC conditions are valid in all the markets, this time, "the lack of coordination between markets" might occur that means, even if the P and W may not necessarily be inflexible, they not change immediately and/or at the desired rate hence leading to "involuntary unemployment" due to the lack of effective demand, particularly in the shortrun. In this case, the government should intervene through Keynesian fiscal policies.

For many younger generation academics, the New Keynesian Economics is as interesting as the New Classical School because the New Keynesian Economics extensively includes mathematical analysis, particularly in the microeconomic analyses.

### D. The Conservative View in '80s and the Keynesian Fiscal Policies

Despite the "conservative view" that was dominant especially in USA, Keynesian policies suggested by New Keynesians did not receive considerable reaction because the New Keynesian economists could show the logic behind the necessity of government intervention that was particularly needed for the SR. Similarly, New Keynesian economists, with respect to the "the distribution of income", have more rightist tendencies on the political spectrum

and locate themselves between the Central Left and Centre compared to the Keynesian System in general and the Post-Keynesian Economists in particular.

# E. The Invalidity of the Rational Expectations Hypothesis and the Flexibility of Prices and Wages

Even though the "rational expectations hypothesis (REH)" which is one of the two major assumptions of the New Classical School, was accepted by most of the New Keynesian economists - to eliminate the discussion topics-, econometric analyses have not yet confirmed the validity of REH; instead they showed that more probably REH is an "invalid".

The second major assumption of the New Classical School is the assumption of full flexibility of P and W but this assumption has been refuted as IC was identified more spread in all the markets. New Keynesian economists showed that P and W are not inflexible but they do not change enough which is the main reason for Keynesian UNE in the SR.

#### F. The Pro-Cyclical Pattern of the Real Wages

The progress of real wages in time is also far from the assumptions of the New Classical economists based on the Traditional Classical analysis because, according to these systems, when there is unemployment (N) in the economy, the reason is the high wages. Accordingly, the wages were expected to be contra-cyclical. However, in reality, the wages seemed to be "pro-cyclical" with relatively soft fluctuations. This de facto progress of the real wages can easily be explained within the context of the Keynesian System; for example, the aggregate demand (AD) may increase due to the technological developments and due to the increases in investments and therefore, labor unions can increase the real and nominal wages to some extent with respect to the increase in N. Then again, this wage-increase may partially compensate the increase in the labor costs due to their high marginal consumption propencity. On the other hand, during low levels of income, labor unions will prevent the wages to decrease too much.

#### 2. THE RISE OF NEW KEYNESIAN ECONOMICS

Because of all the reasons mentioned above, the New Keynesian Economics has become widespread in in the academic cirles in USA during the '80 when Monetarist and New Classical policies did not produce any positive results.

The term "New Keynesian" was firstly used by Michael Parkin (1982). The use of "New" instead of "Neo" had a definite purpose; the New Keynesian economists would like to distinguish themselves clearly from "Neo-Keynesian economists" (Samuelson, Tobin, Modigliani, Solow etc.) because New Keynesian economists generally – with a few exception who adopted the hysteresis and efficiency wage models later- accepted the conclusions of the Neo-Classical Synthesis, in other words, the economy would automatically come to "naturalrate-of-unemployment equilibrium (ANRUE) in the LR. Nevertheless, contrary to the Synthesist Keynesians or Neo-Keynesians (hydraulic Keynesians) who followed Keynes and left their analyses on a macroeconomic level, the New Keynesian economists, just like the New Classical economists, included the microeconomic analysis within their macroeconomic system as a whole. They tried to establish microeconomic basis for their macroeconomic analysis. For this reason, New Keynesian economists differ from Neo-Keynesians in terms of "methodology". However, through their analyses (IC instead of PC, P and W-inflexibility instead of P and W-flexibility, and the lack of coordination between markets instead of Walrasian Auctioneer), they reached again the Keynesian result NANRUE as opposed to the New Classical economists who reached the Classical result, ANRUE.

Thereby, the New Keynesian economists called themselves as "New" Keynesians in order to demonstrate their differences from the "New" Classicals whom they saw as their opponents and adversaries. Accordingly, this term also distinguishes them from the former generation of "Neo-Keynesians" who left their analysis only on macroeconomic level.

## **3. FOUNDATIONS OF NEW KEYNESIAN ECONOMICS: NANRUE**

The foundations of the New Keynesian Economics are based upon the following assumptions:

- In all markets in the economy, IC conditions prevail. Even if the P and W are not fully inflexible, they are not flexible in the SR to provide ANRUE.

- There is lack of coordination between markets. Walrasian Auctioneer is not valid.

According to these assumptions, the New Keynesian economists claim that the economy will settle at NANRUE due to the lack of AD and there will be involuntary unemployment, particularly in the SR.

For the LR, New Keynesian economists are divided into two groups:

- In the early '80s, the majority of New Keynesian economists accepted the fact that economy in the LR would tend towards ANRUE. The first groups of New Keynesian economists' thoughts were in line with the Neo-Classical Synthesist Keynesians (or Neo-Keynesians).

- However, the other group of New Keynesian economists, who accepted the "hysteresis" and "efficiency wage" models stated that the economy, in the LR, does not automatically reach ANRUE but settle at UNE. The models of the second group of New Keynesian economists are totally compatible with Keynes's original ideas; therefore, these models are also called "Super-Keynesian models".

The New Keynesian economists essentially accept that in the SR, there will be involuntary unemployment due to lack of effective demand and this can be prevented or at least reduced by Keynesian monetary and/or fiscal policies. Most of the New Keynesian economists, however, accept that in the LR, the economy will tend towards ANRUE, however, most of the time the economy will face involuntary unemployment due to lack of effective demand. In this case, waiting without intervention until the economy tends towards ANRUE in the LR would cause even bigger problems than the unemployment problem itsef as unemployment continues in the long run. For this reason, the government should continuously intervene to economy with Keynesian policies.

### 4. BASIC ASSUMPTIONS OF NEW KEYNESIAN ECONOMICS

### A. Rational Expectations Hypothesis: REH

All of the New Keynesian economists followed New Classical economists and accepted REH. There are two strategic reasons lying behind this recognition of some New Keynesian economists that actually do not believe in REH:

First, New Keynesian economists desire to reduce points of discussion with New Classical economists because New Classical economists consider that models that do not recognize REH as "non-scientific" and passionately exclude them from discussions.

In addition, according to New Keynesian economists, the basic reason for NANRUE is not Keynesian effective demand insufficiency but inflexibility of P and W. Stanley Fischer and Taylor proved this on their models. This is the second strategic reason for New Keynesian economists to recognize REH. Even in the case of REH's recognition, as long as inflexibility of P and W exists, unemployment due to Keynesian effective demand insufficiency occurs. Therefore, there is a need for state intervention to economy in the context of Keynesian policies and intervention brings positive outcomes.

With the acceptation of REH, New Keynesian economists methodologically prefer "atomistic analysis", in other words they put macroeconomic analyses on the bases of microeconomic analyses. In addition to rationality of units or the purpose of profit and/or utility maximization, they assume that such units have full information or acquire necessary information easily and without expenses to make decisions. Both laborers and entrepreneurs are not wrong about their future expectations concerning prices. Entrepreneurs, while they are making decision for investment and production, they can accurately predict the future as "Bayesian probability set".

However, New Keynesian economists know that REH does not accurately reflects reality and econometric studies have not yet proved the existence of REH. In some cases, they suggest models consisting of near-rational behaviors.

### **B.** Inflexibility of Prices and Wages: NANRUE

NRU, instead of full employment, was first claimed by M. Friedman. It was accepted by New Classic economists. According to M. Friedman, let the state increases money supply, the economy would tend towards to ANRUE in the long run (following period) due to "the assumption of adapted expectations". For New Classical economists would tend towards to ANRUE with perfect competition and full flexibility of P and W in line with the Walrasian assumptions of auction.

Most New Keynesian economists recognize the concept of NRU instead of full employment. Despite REH, the main factor that economy does not fully come to the balance on the point of NRU, is the spread of "IC" on markets, flexibility of P and W and at the same time "lack of coordination between markets".

In New Keynesian economics, in the footsteps of Traditional Classical System, perfect competition conditions, flexibility P and W and Walrasian assumptions of auction, which are recognized by the New Classical School, are not considered. According to New Keynesian economists, these assumptions would lead to Keynesian effective demand insufficiency in the SR and Keynesian involuntary unemployment. In New Keynesian economics, the tendency of economy in the LR to ANRUE is mentioned above.

#### C. Significance Level of Assumptions

Almost all New Keynesian economists accepted REH for strategic reasons although it is not in the Keynesian System and not verified by econometric studies. Taylor and Fischer recognized REH in their models but at the same time, considering the assumption that P and W are inflexible, they proved Keynesian effective demand insufficiency oriented involuntary unemployment despite the existence of REH and the effectiveness of Keynesian policies in this situation.

Therefore, New Keynesian economists started with the assumptions of REH and P and W's flexibility, which was theoretically considered equally important by the New Classical School and showed that the assumption of P and W's inflexibility is more important and REH's validity is not a matter of question.

## 5. METHODOLOGY OF NEW KEYNESIAN ECONOMICS

In models of New Keynesian Economics, macroeconomic assumptions and microeconomic analyses are of primary importance because New Keynesian economists attempt to locate the Keynesian System and emergence of UNE within this system due to demand insufficiency on solid macroeconomic bases. This common result, in other words emergence of UNE that is caused by demand insufficiency, might remain unnoticed during microeconomic analyses. However, "the main theme" of New Keynesian economists- through following the Keynesian system- is UNE that was caused by effective demand insufficiency in the SR and involuntary unemployment. The definition and bases of New Keynesian Economics, as mentioned above, were best explained by Blinder.

economists, while New Keynesian locating macroeconomic analysis on microeconomic basis, they left the assumptions of perfect competition conditions, P and W's full flexibility, Walrasian general balance and Walrasian auction. Therefore in fact by adaptation of microeconomic analysis to the conditions of the Keynesian System, they made a breakthrough in microeconomic analyses. Theories, which were first raised by Robinson (Theory of Monopolistic Competition, 1933) and Chamberlain (Theory of Imperfect Competition, 1933) were incorporated with theory of oligopoly and Game Theory and advanced more. Further analyses confirmed that IC refers to more common market conditions and there can be a lack of coordination between markets.

Nevertheless, studies of New Keynesian economists are not a single model depending on "microeconomic basis" but with many models. All these models, although they lead us to Keynesian results, are not consistent with each other. "Acceptance of a model requires rejection of another", in other words, they are mutually exclusive. For example, hysteresis and efficiency wages models contradict other models that presume economy in UD would provide ONRUD. On the other hand, many models can be mutually inclusive. For example, a model can explain economic developments in a particular country or in a particular period; another model might do the same. New Keynesian economists' research on microeconomic analyses causes them to be called as "microns".

### 6. A BRIEF CLASSIFICATION OF NEW KEYNESIAN MODELS

New Keynesian economists put macroeconomics and UNE that is caused by demand inefficiency on the microeconomic basis against the criticism of New Classicals. In doing so, they reject New Classical theory of microeconomics (Perfect Competition, Walrasian general equilibrium, Walrasian assumption of auction, assumption of the full flexibility of P and W) and basically start from IC.

According to New Keynesian economists, inflexibility of P and W are observed due to IC on markets and this creates UNE. New Keynesian economists, while doing these investigations, identified several reasons for inflexibility in various sectors. For this reason they developed several "models". As each of these models finds a reason for inflexibility of P and W, they actually emerge in some sectors and due to some certain reasons. Accordingly, a certain New Keynesian model can be valid however another one can be valid for another reason. Most of the reasons and models are not contradictive and acceptation of one does not necessarily require rejection of the other. In other words they are not mutually exclusive, instead they can be considered mutually inclusive. However in some cases, acceptation of a model requires rejection of other models logically. For example, the ones who accept "hysteresis and efficiency wage models" cannot simultaneously accept the fact that economy in the LR tend towards to ANRUE. Several models based upon microeconomic assumptions, although contradictory ones are eliminated, are not able to form an integrated single "New Keynesian Model" or "New Keynesian System". In fact econometric studies investigating the validity of many models have not yet been done as there is not enough time.

However, macroeconomic results and macroeconomic policy suggestions of these models do not change: UNE in the SR or periods (or both in SR and LR for hysteresis and wage efficiency models) and solving this problem through Keynesian policies. IC causes several inflexibilities in P and W and this lead to Keynesian effective demand inefficiency.

Following Blinder, Gordon, Mankiw and Romer, we can classify major New Keynesian models into the following groups.

### A. "Price and Wage Inflexibilities on Markets Based on IC"

The models in this group can be classified under 3 sub-titles.

#### 6.A.1. "Menu (Catalogue) Costs"

When there is status of decrease in demand, due to "constant costs of change of prices" companies sacrifice their profits for a while, hold their prices constant and increase production to some extent. This creates stickiness of prices, which might result in large scale of fluctuations in economy: Mankiw, Akerlof and Yellen, Blanchard and Kiyotaki etc.

#### 6.A.2. "Staggering of Prices and Wages"

When there is status of decrease in demand and there is a need for changing wages and/or prices, due to "contracts based upon nominal prices and wages", it is unable to reduce "all wages and prices at the same time". In brief, delays or staggering of prices and wages, instead of "synchronization of prices and wages". These delays, even under REH, cause UNE and the possibilities to overcome these issues through Keynesian monetary policy: Fischer, Phelps and Taylor, Taylor etc.

#### 6.A.3. "Wrong Pricing"

Under IC, some companies, producers or consumers on market are "leaders" (large); some are "followers" (small). This causes wrong pricing and wrong pricing leads to UNE: Hart, Hall, Mankiw etc.

#### B. "Inertia"

The main idea in menu costs model depends on stabilization of prices instead of reducing them when there is a status of decrease in demand or increase in production costs. Inertia is a large scale implementation of this idea. Due to "constant costs of the decision concerning product purchases", no changes are made for purchase decisions and "inertia" of prices becomes valid in all fields: For example, inventory purchase decisions of companies, customers' demand for durable consumer goods, investments' demand for portfolio and consequently demand inefficiency and ANRUE: Blinder, Blanchard, Blinder and Gordon, Azaiadis and Stiglitz.

## C. "Coordination Failures or Lack of Coordination between Markets"

Lack of coordination between markets causes to inflexibility of P and W and this results in ANRUE. Axel Leijonhufvud's avant garde work on this issue and New Keynesian models that follow this work: Cooper and John, Diamond, Schleifer etc.

#### D. "Efficiency Wages"

According to these models, which accept that all units in economy are rational and maximize their profits and eventually accept REH, "high wages" increase MPPL and decrease labor turnover costs. For this reason, this model deals with maximization of company profits on a higher wage level that brings economy to ANRUE, which is called "efficiency wages". Consequently UNE occurs. These models investigate permanency of UNE in the LR and

probability of eliminating it through Keynesian policies. An extensive review of these models is done by Akelof and Yellen.

#### E. "Hysteresis"

According to these models, when economy comes to UNE once, due to several factors it cannot restore to ANRUE. In brief, as most of New Classicals agree, these models do not accept automatic NRU balance in the LR. They are also called as "Super-Keynesian" models.

As is seen, there are several New Keynesian models determining and explaining inflexibilities that stem from IC in prices and wages, lack of coordination etc. For example, even Mankiw and Romer's selection among these models consists of 2 volumes (880 pages in total).

#### 7. Hysteresis Models and Assumptions behind These Models

In the mid-1980s, some New Keynesian economists did not accept the fact that economy in UD comes to ONRUD. They claim that once EID occurs, this will not change and this new balance in economy will be permanent and the forces that lead economy to ONRUD will be lost. It is mentioned above that these model are called "Super-Keynesian models" as they fit to Keynes's original idea and they are not only based on macroeconomic analysis but they start from microeconomic bases.

In fact, "hysteresis" is a term of physics. It refers to the fact that when centre of density of an iron mass changes once, there will be no return to the original centre of density due to new forces emerge in this new situation.

In New Keynesian Economics, "hysteresis" refers to a concept that if a balance in economy (the NRU balance) changes, economy cannot automatically return to the initial balance (to the NRU balance). For this reason, according to New Keynesian economists, who acknowledge hysteresis, the state must intervene to economy.

In explaining hysteresis, there are three major assumptions and three model groups that are based on these assumptions:

Human Capital

Capital Scrapping

Membership Model or Insider-Outsider Model

Nowadays, the most recognized model is the Insider-Outsider Model

# A. Explaining Through "THE CHANGE OF CAPITAL"; or with an alternative term called "EMPLOYMENT DURATION"

According to this explanation, during laborers are employed, their proficiency, knowledge, experience and consequently their productivity increase and they deserve higher wages. On the contrary, when they lose their jobs due to a recession or depression, their proficiency, knowledge and experience diminish this time. Let's assume that effective demand increase after a year or two later and these laborer are hired again. In this situation, real income level cannot be as high as before because the economy cannot afford initial income level due to decreasing productivity of laborers ( $y\downarrow$ , N). Moreover, as laborers do not deserve higher wages because their productivity is lower when they remain unemployed for

that duration – considering the possible high wages that are determined through negotiations between labor unions- it is now more difficult for companies to hire these laborers.

On the other hand, long term unemployment of a laborer might detach him or her gradually from the labor market. That particular laborer gives up looking for a new job after a while and might choose to make his or her living with benefits such as unemployment insurance and allowance for the poor. Then labor supply and unemployment rate, which can reduce wages, are decreased. So this changes former balance of income and employment of the economy  $(y\downarrow, N\downarrow)$ . Apart from that, companies would not desire to hire these unproductive laborers with high wages; therefore economy's both former balance of income and balance of employment retreat  $(y\downarrow, N\downarrow)$ .

All these assumptions give rise to hysteresis models and make economy to remain on the new balance and not to return the initial one. They also explain why laborer wages do not decrease enough to reach ONRUD during depressions and recessions; in short they explain rigidity of W or actually sluggishness of wages. This is another basic Keynesian assumption. Under these conditions the existence of unemployment does not provide an adequate impact through excess supply of labor in order to reduce wages.

#### **B.** Explaining through "CAPITAL SCRAPPING"

Explanation of hysteresis models through "Capital Scrapping" has actually claimed by some Post-Keynesian economists rather than New Keynesian economist such as Carlin and Soskice. According to this explanation, a decrease in total demand (during depressions or recessions) companies both reduce production and lay off some of the employees. Alongside some employees are dismissed, companies scrap their investments goods such as old machines operating at high costs. Therefore, unemployment and high capacity use go together. If total demand increases later, there is a need to hire new laborer and to purchase new investment goods. This prevents or delays increase of employment  $(y,N\downarrow)$ .

# C. Explaining through "MEMBERSHIP MODEL" or "INSIDER-OUTSIDER MODEL"

In explaining hysteresis, this is the most accepted model. Lindbek and Snower gave the most prominent sample of this model. According to this model, company employees are members of labor unions. They pay membership fee and these unions work for them for high wages.

If a laborer loses his or her job because of decrease in total demand, this person's labor union membership expires immediately or in time. He or she loses chances to influence labor union's decisions. In a way, labor union does not operate to protect his or her interests. In brief, the unemployed have become "outsiders" for labor unions. Labor unions protect the interests of laborers, who are employed and members of unions; in other words who are "insiders". Labor unions continue to work for them to keep the wages high.

Because labor unions constantly keep wages high, it will be difficult to employ outsiders due to these high wages. This widely accepted model is able to explain both hysteresis and W's inflexibility or slow motion simultaneously.

### 8. CONCLUSION

Today, we witness that at present New Keynesian School is more widespread and influential compared to Post-Keynesian. One possible reason is that the former school sprang up in the USA while the latter basically in the UK; and USA today is much more influential worldwide compared say to the times when Keynes lived. But this should not be the sole or even the major reason why Post-Keynesianism is less popular. The reason which would likely explain the difference in popularity is that in their normative value judgments Post-Keynesian economists assign a heavy weight to improving income distribution while New Keynesian economists, on the whole, are less concerned with this goal.

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