THE KEYNESIAN THEORY AND THE THEORY OF CYCLE OF MONEY

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Abstract: *The Keynesian theory aims at issues that authorities are able to interact with the economy, to face crises and to administrate dysfunctions on the economy. The Keynesian theory uses the demand side effect and not the supply side effect on the economy. The government and the authorities provide financial liquidity solutions. But, the basic issue that authorities try to solve in that case is the inflation effect. Therefore, for this reason, is preferred by certain authorities the supply side effect economic solutions. Thence, according to the theory of cycle of money is plausible to proceed to with a different approach as there the authorities can use the supply side or the demand side according to their willingness. The theory of cycle of money can include any theory to its application, as maximizes the utility in any economic view making to each case the appropriate adjustments. The choice of policies is subject to the special needs and circumstances of the bank system, and of governments. In this paper is given an overall view of the Keynesian theory and of the theory of cycle of money. This study is about the way that the Keynesian approach could be included in the theory of the cycle of money.*

Keywords: the cycle of money, the velocity of liquidity, the velocity of savings, tax& public policy

JEL classification: B41, F40, F43, F62

I. Introduction

This paper analyzes some key points of Keynesian theory and of the theory of cycle of money giving the similarities and the differences between the two theories. Therefore, should be mentioned that exist some special characteristics about them. The Keynesian theory has some attributes that come from the idea of government intervention to the economy. The establishment of the IS-LM model is a thesis that comes from the Keynesian theory. The effect on the IS-LM model affects the demand side. Thence, the authorities try to solve a dysfunction to the economy through an increase in the demand side of the economy. Videlicet, the economy robust by the choice of the authorities to increase the financial liquidity to the public investments. On the other hand, there are and supply-side theories. But, in this paper is scrutinized the adoption of the Keynesian approach in the limits of the theory of the cycle of money.

II. Methodological application

This paper scrutinizes the issues about the Keynesian theory and about the theory of cycle of money. To this thesis is made an analysis to show the way that applies Keynesian theory in the field of the cycle of money. The Keynesian theory uses the IS-LM to clarify its model from the methodology of axiomatics. In addition, the theory of cycle of money is based on the velocity of liquidity, on the velocity of escaping and enforcement savings, using the Q.E. method (which could be viewed as multiple forms of axiomatics). Then, using these two theories we are able to determine an overall view when the governments enforce liquidity and as a result, then try to face issues about the fluctuations. The government tries to solve issues about the unemployment and the low private investments by making public investments and therefore increasing the financial liquidity, applying with that way the demand side policies. The inclusion of the Keynesian approach to the scale of the theory of the cycle of money resolves the fluctuations and the extended need for demand-side policies. The methodological approach here pends on the scrutiny of these issues and to the identification of the conjunction points between the two theories.

The Keynesian theory is based on axiomatics and the theory of cycle of money on the Q.E. methodology. Both of them then have as root the axiomatics, as the Q.E. method is a kind of axiomatics method.

The axiomatics is the indicator for the determination of the reliability of a study. The axiomatics stands on the assumption that we don't know the result of one hypothesis. The hypothesis is used for the study of compliance with the results. The hypothesis is the axis for the further study of each economic model. Therefore, the axiomatics is giving the background of economic analysis and confirms that the initial hypothesis of the model is fine. If the hypothesis complies with the results then the model is reliable and the principles of the model are adequate to be used to further scientific researches. Thence, we identify two cases about the axiomatics:

- To the first case of the axiomatics the results agree with the hypothesis and according to that, the model is fine. To that case, the model doesn't need further examination and is considered reliable.
- To the second case, the model is not satisfied, because the hypothesis of the model does not comply with the results. Therefore, should be done more adjustments to the model. The role of feedback is crucial for these further modifications, as gives the chance to model to be reexamined with some changes.

Therefore, in this case, we conclude that the economic model is not sufficient. Then, the main concept of axiomatics stands on the correspondence of the initial hypothesis to the mathematical and economic result of the scrutiny. Inasmuch as is plausible to the scientist to clarify the theory about the chosen model.

The theme of the Q.E. theory is based on a methodology which stands on the determination of mathematic equations subject to conditions which also considered. One more important thing is the determination of the upper and the lower limit of the values of the independent variables. Forasmuch as, the dependent variable represents the behavior of the selected model, pending on a generator which produces random values to all the independent variables to configure the interaction between them and their behavior under different conditions. At least the basic study includes two facets which are:

- The analysis of the behavior of the model which stands on the scrutiny of the structural characteristics of each model accordingly, allowing with that way the extraction of general conclusions about the model which is under examination. There is plausible the analysis of data into a two and to a three-dimensional analysis pending on the case.
- The frequency analysis behavior scrutinizes the behavior of the dependent variables, but from the view of the number of appearances of a variable than another, estimating basically the impact that one independent variable has with one or more others independent variables.[1]

The prior two key points permit the application of the Q.E. method, as show the behavior of the model. Hence, the Q.E. methodology follows as index four basic steps. These steps are described below:

- The first step is about the hypothesis. Thence, here at this stage, we have the scope and the aim of the analysis of each study.

[1] See the paper: Challoumis, Constantinos, Analysis of Axiomatic Methods in Economics (April 24, 2018). Available at SSRN: https://ssrn.com/abstract=3168087 or http://dx.doi.org/10.2139/ssrn.3168087

- The second step is about the generator, which produces the values for the independent variables. The generator randomizes numbers, which allow the clarification of the model. In this procedure is used an upper and a lower limit, which is important for the production of values through a randomization process. After a crucial number of iterations is plausible to determine the adequate mathematical equation. Then, is possible to have the behavior of the equation which is subject to examination.
- The third step is about the conclusions. Through the feedback, the conclusions are connected with the hypothesis. Then, these conclusions should be considered as the last stage of the research, except if the scientist obtains that they need further modifications. Thence, if needed further adjustments, the scientist uses feedback to solve the problem.
- The fourth step is about the feedback. The key element of feedback is the iterations and the appropriate adjustments of the model.

Therefore, we obtain that the Keynesian and the theory of cycle of money both use some kind of axiomatics procedures. The Keynesian theory through the confirmation of the initial hypothesis using the IS-LM diagrams obtains the behavior of the models. Moreover, the theory of the cycle of money, using the generator and the feedback is plausible to modify the model.

III. Keynesian principles

The Keynesian theory supports government interventions in the economy. According to the Keynesian theory, the government wants the extended production to be absolved, avoiding that way the unemployment. Proportionally the same could be when the demand is much more than the supply. To that second case, the government puts measures to stop the increased consumption. The authorities to succeed this put taxes. Thence, Keynes admits that the general equilibrium is not in balance to the case that we have full employment. The increase in demand which authorities choose to face unemployment is shown to the next schemes:

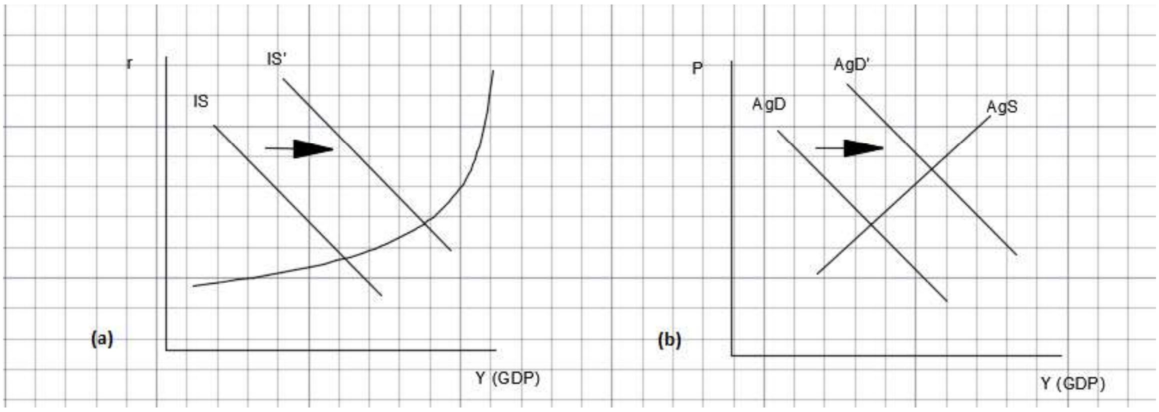

Figure 1: (a) IS-LM diagram (a) Aggregate demand-supply diagram

To the prior diagram and more precisely to figure 1 (b), we obtain that the increase in demand has an effect on the economic system because the aggregate supply has a positive slope. The effect of authorities to the public investments, which is showed with the change to the IS, increases the demand. The GDP is increased and the unemployment faced by the government using this economic tool. But, the same time has noticed an increase in prices showing that this economy has inflation. The inflation is caused by the movement of AgS to the left, but has not the same movement with the AgD, causing some inflation according to Keynes. This analysis is needed for the determination of its behavior with the theory of the cycle of money.

IV. The cycle of money principles and the effect of Keynesian policy

The theory of cycle of money represents the dynamic of the economy. It scrutinizes the structural characteristics of the economy and the appropriate behavior of authorities which are responsible for the public and the tax policy. Therefore, the dynamic of the economy is analyzed with the terms of savings. There has made a distinction between escaped savings and enforcement savings. The way that money of savings recycled or escaped from the economy affects the robustness of the economy. Then, the structural form and the decisions of the authorities on their economic units determine the dynamic of the economy. In the next units is analyzed the cycle of money and the forms that affect it, like the case of velocity financial liquidity and the velocity of escaped savings. These two economic velocities clarify the cycle of money. In the next scheme are used some symbols. The variable of $\mathrm{c_m}$ symbolizes the velocity of financial liquidity which being increased or decreased. The variable of $\mathrm{c_\alpha}$ symbolizes the velocity of escaped savings. Therefore, the variable of $\mathrm{c_y}$ symbolizes the term of the cycle of money.[2] Thence, we have the following equation which determines the relationship between these economic velocities:

$$c_y = c_m - c_\alpha \tag{1}$$

$$c_y = f * Y \tag{2}$$

Therefore, we obtain from the equation (1) the relation between the economic velocities and from the equation (2) the relation between the production and the cycle of money. To the next scheme is the represented the form of the dependent variable of the cycle of money with its two independent variables. Inasmuch as we have that:

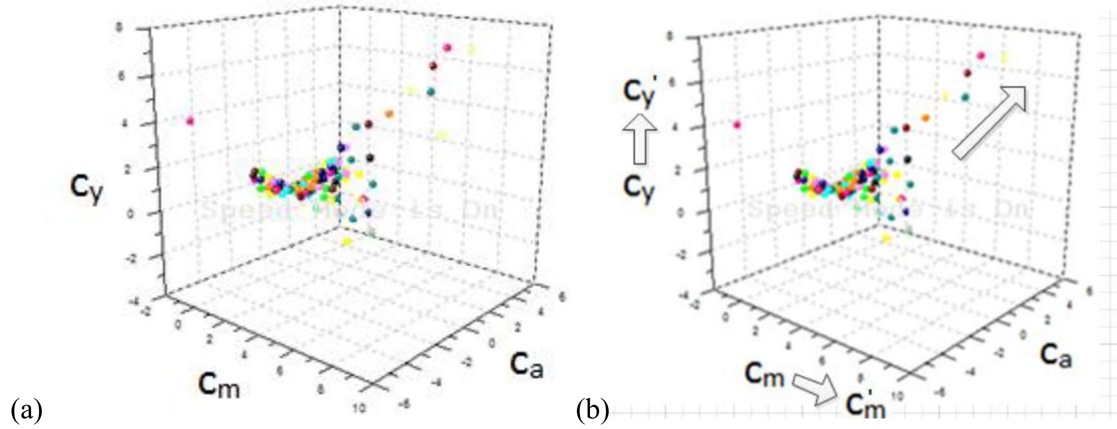

Figure 2: (a) Three-dimensional representation of the cycle of money (b) Three-dimensional representation of the cycle of money after the Keynesian influence

In figure 2 (a) is illustrated the case of the three-dimensional representation of the cycle of money. Then, we obtain from that diagram that c_y and the c_m have positive values, and c_α has basically negative values. Therefrom, we obtain that the controlled transactions of transfer pricing decline the cycle of money as we expected. The velocity of escaped savings diminishes the cycle of money and therefore we have weak pa ositive cycle of money. The ideal economy is not a closed economy but an economy with fragments. The economy with fragments is that economy which maintains the financial liquidity through the decline of the escaped savings. Then, according to that mechanism is the cycle of money is enforced, with the investments and the consumption is in high level.

[2] See paper: "Challoumis, Constantinos, The Theory of Cycle of Money (March 25, 2018). SSRN: https://ssrn.com/abstract=/", as they use the same base for their analysis.

In figure 2 (b) is shown the cycle of money with the impact of the Keynesian policy. The combination of figure 1 (b) with figure 2 (b) reveals the relationship between the two theories. The conjunction point between these two approaches is the production Y (or GDP) which shows that the increase of GDP increases the velocity of liquidity and therefore the dynamics of the economy is increased.

According to Keynes, the AgS would be moved to the left, but no full equilibrium balance could happen. This procedure causes some inflation but contemporaneously faces unemployment through the investments of the private sector. The cycle of money increases the liquidity that is inside the economy, then robust the economy without to cause inflation as no entry of new money enter the market. Therefore, the government would be able to do not provide huge financial liquidity. Inasmuch as this situation with the cycle of money helps the structural elements of one economy and the supply side policies. Thence, the appropriate combination of Keynesian policy with the cycle of money achieves to face the unemployment and to enforce in general the economy without inflation effects.

Therefore, we are able to have some key points about the relation of the Keynesian theory and the theory of the cycle of money:

- The Keynesian policy achieves to face unemployment, but causes some inflation, because there we don’t have a full equilibrium balance to the economy.
- The Keynesian theory is about demand-side policies.
- The theory of cycle of money is plausible to combine with any policy, wherever belongs to demand-side policy or supply-side policy or any other economic implementation.
- The theory of cycle of money enforces the structure of the economy and increases its dynamic with the economic units which have this economy.
- The combination of Keynesian theory and of the cycle of money permits the enrichment of the economy without having the inflation because the better mechanism of the economy allows having no need for too much liquidity increase.

Thence, we obtain that the two theories under the appropriate combination serve the scope of the public and tax authorities, without an extended financial liquidity increase and without inflation. From equation (2) we have the next diagram:

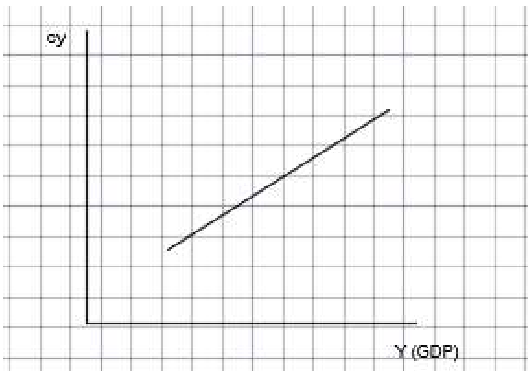

Figure 3: c_y-Y diagram

The prior diagram shows that the theory of cycle of money can empower the economic indicators using and the existing liquidity of the economy. These doesn’t mean that can‘t cooperate with supply side and with demand-side policies or any other kind of economic policy. Therefore, estimating the structural economic characteristics of the economy is able to avoid some effect, like the case of inflation or the case of stagflation.

V. Conclusions

This paper shows the connection between the Keynesian theory and the theory of the cycle of money. Both of them use the liquidity to robust the economy. The Keynesian theory enters the appropriate liquidity of the economy. The theory of cycle of money uses the liquidity whatever it comes from new financial enforcement or the remaining money in the economy. This special characteristic of the theory of cycle of money allows the combination of different policies.

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