

Flaws of Modern Economic Theory: The Origins of the Contemporary Financial - Economic Crisis

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Abstract

The Paper shows how fundamental flaws in the modern economic theory are a central part in the formation of financial bubbles: 1) The Keynesian multiplier is based on the substitution of the cause (the national income) for the effect (investment); which yields inadequate results. 2) Modern general equilibrium theory is based on the following assumptions: a) modern version of free goods conception; b) “Walras’ Law”; This is realistically absurd, as according to these assumptions, the equilibrium price of some goods and services might be equal zero. 3) Modern money theory assumes that fiat money is the only type of money, which is erroneous.

Keywords: Flaws of Modern Economic Theory, Keynes’s Multiplier, Modern General Equilibrium Theory, Modern Money Theory, Smith, Walras, Keynes

1. Introduction

Financial bubbles are a major issue when discussing the current global financial - economic crisis. Yet, their origin in economic theory has been not adequately discussed. This paper discusses crucial flaws in the modern economic theory and shows that these flaws are the origins of the financial bubbles and consequently of the contemporary financial - economic crisis.

P. Krugman (Nobel Prize Winner in Economic Sciences) concluded his recent paper stating that, “So here’s what I think economists have to do. First, they have to face up to the inconvenient reality that financial markets fall far short of perfection that they are subject to extraordinary delusions and the madness of crowds. Second, they have admit and this will be very hard for the people who giggled and whispered over Keynes that Keynesian economics remains the best framework we have for making sense of recessions and depressions. Third, they’ll have to do their best to incorporate to realities of finance into macroeconomics” [1].

Classic economists (Smith, Marx) and Walras attest to the complexities of real economics and used abstractions to research specific issues. However, they emphasized that mathematical models must closely represent reality, but these models never quite reproduce reality. For example, Marx and Walras stated that in reality general

economic equilibrium can never be achieved. Walras’s theory illustrates how equilibrium might be established for hypothetical economics. A model, such as Walras’s would have to be considered in the framework of the reality to be recommended or applied.

While modern authors have not merely assumed that theory may diverge from reality, they extended this premise to an extreme, “the more significant the theory, the more unrealistic assumptions”. For example: 1) the Keynesian multiplier is based on the substitution of the cause (the national income) for the effect (investment); which yields an inadequate results. 2) Modern general equilibrium theory is based on the following assumptions: a) modern version of free goods conception; and b) “Walras’ Law”; which assume that with an excess supply of a commodity, its price has to be zero; which is realistically absurd [2]. (There are three Nobel laureates Arrow, Debreu and Hicks on the GET; and two others, who earned their Nobel on the topics involving the GET: Samuelson and Allias). 3) Modern money theory assumes that fiat money is the only type of money, which is erroneous.

Classics considered money theory as a central and non-separate from economic theory and have discussed their reciprocal influence. Smith discussed his monetary theory, not only in the Book II, but also throughout the *Wealth of Nations*. Marx did not focus his money theory

only once, but his significant ideas on money appear throughout the four volumes of his *Capital*. One of Walras's major and unique contributions is his integration of his money theory into his general equilibrium theory which enabled him to consider real economic and the financial sector as one integrated system. Yet, Walras considered two types of money: money as a medium of exchange, a measure of value and store of value (the money commodity - *numéraire*) and money for circulation (the money commodity - *numéraire* or fiat money); thus there are two different prices for the money commodity: a) when money commodity is used as a measure of value its price equal to one; b) when money commodity is used in circulation its price equal to the rate of interest. In contrast, in the works of most modern economists, these sectors are separated and there is only one type of money - fiat money. Moreover in the modern general equilibrium theory, money either disappeared (Arrow-Debreu Model), or considered in very simplified form and with unrealistic assumptions (see Applicable (Computable) General Equilibrium, Input-Output Analysis, and Dynamic Stochastic General Equilibrium Theory).

Krugman states that "that Keynesian economics remains the best framework we have for making sense of recessions and depressions", because, by his opinion, "It's important to understand that Keynes did much more than bold assertions. *The General Theory* is a book of profound deep analysis that persuaded the best young economists of the day" [3]. Meanwhile, the Keynes's crucial suggestion for "active government intervention - printing more money", is based on his Multiplier concept, which is incorrect (*vide infra*).

Yet, Keynes's second central issue, Involuntary Unemployment is still controversial: a) there is no existing conventional determination of involuntary unemployment; b) there is no measuring method for it; c) the linkage between involuntary unemployment with voluntary and full employment is not considered. Unfortunately, Keynes's definitions of full employment, voluntary unemployment and involuntary unemployment are extremely vague and incomplete [4]. These definitions only became murkier as Keynes's followers tried to explain them. For example, post-Keynes's economists have been discussing whether "involuntary unemployment" is equilibrium or a disequilibrium phenomenon. There are two opposite claims, those that claim it is a disequilibrium phenomenon [4,5] and those that claim that it is an equilibrium phenomenon [6,7]. Therefore, the economics literature to date either ignored the co-existence of these two kinds of unemployment or claimed they were both the same [8-11]. Moreover, there is Macroeconomics text books of which make no mention of it at all. Meanwhile, it might be demonstrated the following main characteristics of a general definition of involuntary unemployment:

1) It is an equilibrium phenomenon; 2) It may or may not exist, and, if it does, then equilibrium employment is less than the available quantity of the primary factor; 3) It may co-exist with voluntary unemployment.

The money theory is an anchor of Keynes's economic theory and his main contribution; and the source of *Keynesian Revolution*. However, Keynes was not the first who suggested government intervention. Walras stated that in real economics where distorted equilibrium conditions persist, the State should intervene by regulating wages, prices and the quantity of money [12]. But Keynes was the first, with no theoretical foundations, to call for 'printing more money'.

Meanwhile, Keynes's money theory is incomplete and even incorrect. First, Keynes merged the transaction - motive, which already represents a combination of the income - motive and the business - motive, with precautionary - motive. This eliminates the difference between two types of money: money as a medium of exchange, a measure of value and a store of value (the money commodity - *numéraire*) and money for circulation (the money commodity - *numéraire*, or fiat money), and therefore, consequently, the difference between two various prices for money commodity are also eliminated. This is the main reason that in modern economics only fiat money is used.

Second, Keynes asserted that L_1 liquidity function of the amount of cash to satisfy the transactions and precautionary motives (M_1) depends mainly on the level of income [$M_1 = L_1(Y)$]. Here, Keynes assumed that the liquidity function is the inverse function of the income function. Keynes used this approach very frequently, for example for the employment function, which is determined as the inverse function of the aggregate supply function [13], Hicks also used this approach in his famous *IS-LM* model). However, the inverse function exist only for the function of one variable with specific properties, namely, the function must be either strictly increasing or strictly decreasing function. Yet, the income function is the function for many variables (prices and available quantities for all categories - goods, factors of production (labour, fixed capital and money) and so on). Therefore, the assumption that the income function as the function of one variable, ones of money, ones of available quantities of either labour or fixed capital, is incorrect. What means that the liquidity function for the transactions-and precautionary - motives [$M_1 = L_1(Y)$] as the inverse function of the income function is not exist.

2. The First Flaw: Keynesian Multipliers

The multiplier, one of the central issues of *The General Theory*, is a major tool developed by Keynes for establishing a relationship between income, investment, con-

sumption and employment. Majority of economists have been stating that the Keynesian multiplier is a new paradigm in economic theory and asserting that ‘without the multiplier there would have been no *General Theory* no Keynesian macroeconomics’ [14]. Furthermore, Keynes, himself, stated that ‘*The theory of the multiplier*. ... half the book is really about it’ [15]. However, there were economists who expressed doubts regarding the multiplier [16,17].

Keynes stated that “Let us call k the investment multiplier. It tells us that, when there is an increment of aggregate investment, income will increase by an amount which is k times the increment of investment” [13]. This must mean that an increment of the investment a certain time period would yield increasing income by the multiple of k (multiplier) in the future (forthcoming time periods). In other words, the source of income’s increase must be the additional fixed capital which is a transformation of the new investment.

Here, Keynes made two incorrect suppositions. First, income and investment have been substituted; investment now becomes the cause and income the effect. Moreover, here investment is determinant, which is opposite to Keynes’s another statement that “Saving and Investment are determinates”. However, the theory of causality teaches that such a substitution is generally incorrect.

Second, Keynes’s “multiplier” is only a psychological phenomenon, while the basic component - production - is omitted.

Hence, we can conclude that k cannot be the multiplier.

Careful analysis shows that Keynes’s “multiplier” is the inverse of the marginal propensity to invest (save). This means that the rate of the multiplier depends on the marginal propensity to invest and the lower the latter, the higher the multiplier. For example, if the marginal propensity to invest is 0.1 then the rate of multiplier is 10, and if the first is 0.05, then the latter is 20. Consequently, *to increase income is it better to consume than to save. So individuals were encouraged to spend on consumption and not save.* Therefore, for the last twenty years the average propensity to invest in USA was decreased and reached 0.04 which means that the multiplier rate must be 25. *This is madness (!).*

To decode this puzzle it is enough to remind that by definition the inverse of the marginal propensity to invest (save) indicates *the required quantities of income* for a unit of investment when the marginal (average) propensity of both does not change. Therefore, the real meaning of Keynes’s multiplier is a *requirement*, and not a multiplication. Hence, the *requirement* indicates the amount of national income required to realize one unit of investment (saving) in the same time period, when the mar-

ginal (average) propensity to consume is constant, since “when investment changes, income must necessarily change in just that degree which is necessary to make the change in saving equal to the change in investment” [13,18]. This means that the increment of the income is not derived from the increment of the investment, but the derivation must come from the existing unemployed primary factors (fixed capital and labour).

By this definition, again using Keynes’s example where the marginal (average) propensity to invest equal to 0.1, to increase the investment by one, at the same time the income must increase by 10, where 9 units are intended to increase consumption. It must be stressed that the corresponding increase of income might not be possible at all, because it depends on the magnitude of the available unemployed factors: labor, fixed capital, scarce raw materials, etc. [19]. In the latter case, the relationship between national income and investment is inversely, whereas in the previous case, the relationship is direct.

Concurrently, it must be emphasized that Keynes also used similar interpretation of “multiplier” not only in *General Theory* (see the quotation above on this page, and [13], but also another publication. Keynes wrote: ‘According to the multiplier theory, there is an arithmetical relation between the level of consumption and the level of net investment, so that, other things being equal (*i.e.* nothing occurred to change the value of multiplier) consumption and net investment rise and fall in the *same* proportion’ [15]. The comments are needless! Moreover, Harrod and Hicks, mainly used the second interpretation of “multiplier”. It is amazing that authors such as Keynes, Harrod, and Hicks termed as a ‘multiplier’, which has to be source of multiplication, but actually meaning requirement!

Keynes’s followers have been trying to vindicate the ‘multiplier’ and therefore, have been considered successive-period (lagged or dynamic) multiplier according to Kahn [20] in parallel with his instantaneous (static) version. However, there are two crucial differences between them. First, Keynes discussed closed economy where the source of the investment is the national income, while Kahn considered open economy where the borrowing is the source of the investment increment. Second, in the latter case, to calculate net multiplier it is necessary to reduce the amount of repayment for borrowing from yielding increasing income.

Finally, in the consequence of Keynes’s multiplier, his followers created three additional multipliers: government spending, taxes, and money. However, sometimes their utilization is contrary to economic theory. For example, it has been claimed that on the one hand, an increase in government purchases will raise the income,

while on the other hand, an increase in tax will decrease the income, or alternatively, a decrease in tax will increase the income [21]. But this claim is *erroneous*, because it is generally conventional that in the close economics taxes are main source of the government revenue (spending). Meanwhile, R. J. Shiller [22], in his recent paper, suggests a tax increase to stimulate ‘our ailing economy’.

The money multiplier shows that an increase in the monetary base increases the money supply by the multiple of the money multiplier. Thus, the money supply depends on the rate of money multiplier; a high money multiplier considerably increases the money supply. The money multiplier is inversely dependant on the reserve-deposit ratio and the currency - deposit ratio; the lower these factors, the higher the money multiplier. Consequently, if the government prints more money, as Keynes advised and spending on consumption and banks decrease the reserve-deposit ratio and the currency-deposit ratio then the money supply might be considerably increased. This is a central cause of financial bubbles!

3. The Second Flaw: Modern General Equilibrium Theory

The modern general equilibrium theory (MGET) is considered a major achievement in the abstract science of economic theory and regarded “as the kernel of economics or even social science” [23]. The importance of the MGET is that it provides proof of the existence of general equilibrium ‘The proof of general equilibrium is the crowning achievement of mathematical economics’ [24,26]. It might be that the proof of its existence is a mathematical achievement, but the question is whether this proof is harmonious with the economic situation in reality.

However, the above statement requires compatibility between the MGET and real economics. Yet, when they are incompatible, the MGET violates the underlying assumption of classical economic methodology; the reciprocity between theory and reality, which renders MGET irrelevant. Unemployment (voluntary and involuntary) of primary factors (included labor) is a clear example, which cannot be satisfactorily solved by modern theory. Unemployment is primarily a structural problem and, therefore, the only possible solutions are within the general equilibrium framework. However, the MGET cannot be used, since the MGET does not apply to real economics. Not only is the MGET based on the Walras’s assumptions [25] (free competition, uniformity of prices, and no taxation, public sectors and international trade are omitted), but the MGET also ignores some of Walras’s realistic achievements. Furthermore, the MGET is based on several unrealistic additional assumptions [27]: First,

the free goods conception, as formulated by post-Walras economists (in contrast to the classical free goods concept); Second, “Walras’ law”; Third, the excess demand (supply) for goods and services is determined as a difference between the final endowment and the initial (available) endowment; which providing crucial role in the proof for the existence of equilibrium [26]. According to these assumptions, the equilibrium price of some goods and services, specifically when these are in excess supply, might be equal zero, or even negative (a rather absurd assumption, which does not warrant our attention). For example, in an equilibrium situation, with high unemployment, wages have to be equal zero: ‘In a purely neoclassical version, permanent unemployment would require a zero wage [28]. However, such wages contradict reality economics. Therefore, the main achievement of modern general equilibrium theory (MGET), the proof of equilibrium existence basing on these unrealistic assumptions, becomes completely meaningless.

Yet, according to the MGET, prices are exclusively determined by the model; namely, by the internal conditions of the model, but these are not options in the given framework of changing of prices (demand and supply function). Therefore, the equilibrium prices of the MGET might not be represented by positive values. Moreover, the measurement of prices depends, if money is also included, on the measurement of utility functions, which may vary for different individuals.

Consequently, there is an additional distortion. When price of the primary factors is particularly strongly positive and price of a certain goods is equal to zero, then the value of the factors used in the production of these goods is distributed between other goods and thus, “falsifies” their prices.

Finally and perhaps most importantly, the “Walras’ Law”, formulated by post-Walras economists, is one of the crucial assumptions of the MGET and differs essentially from Walras’s original laws. Moreover, it is an intermediate stage of Walras’s own laws. Moreover, Clower used it “to demonstrate” Keynes’s contribution to economic theory in his influential paper [5] and Morishima alleged that Walras’s General Equilibrium Theory does not recognize “Walras’ Law” [29]. Yet, with regard to the conception of free goods, which is crucial in providing the proof of existence of equilibrium, Walker states that ‘His (Walras’s) assertion have been erroneous because he neglected to consider free goods, which are used in positive amounts but have zero prices’ [30].

The “Walras’ Law”, unfortunately, has replaced Walras’s original laws, not only in the textbooks, but also in professional literature. Subsequently, the original laws have become relatively unknown and abandoned, a significant loss to economic science. *The thought of an “alternate” to Newton’s laws coexisting with the original is*

ludicrous, yet in economics such anomalies are common place.

So, modern general equilibrium theory diverged from representing the current financial sector, greatly simplifying the problem of money losing any ability to discuss the money quantity regulation problems. This is additional cause for the financial bubbles.

4. The Third Flaw: Modern Money Theory

From the seventies, the majority of countries of the world used a fiat money as standard money; fiat money replaced the money commodity and had to fulfill all four functions of money. But this is opposite with the principal statement of classical money theory, that only money commodity have to serve as a measure of value, and fiat money has to be used for circulation. Moreover, the quantity of fiat money must be regularized by the quantity of the money commodity. Smith has stated repeatedly, "The whole paper money of every kind which can easily circulate in any country never can exceed the value of the gold and silver, of which it supplies the place, or which (the commerce being supposed the same) would circulate there, if there was no paper money" [31]. Theoretical and practical backgrounds for that process, unfortunately, were not properly discussed. Friedman, the guru of monetarism and Nobel Prize laureate and Schwartz wrote "Unfortunately, there are currently legal obstacles to any developments that would enable gold to be used not only as a store of value or part of an asset portfolio but as a unit of account or a medium of circulation. Hence, the current situation provides little evidence on what would occur if those obstacles were removed" [32]. To the best of our knowledge, unfortunately, they did not reveal here or anywhere else, what kind of "legal obstacles" - because they do not exist. So, modern economics is "governed" by fiat money, namely by American dollar.

The replacement of the money commodity by the fiat money has yielded several phenomena, predecessors of the financial bubbles. First, because the fiat money has no objective value, economics (markets) is managed without valuating of goods and services; Moreover, the fiat money has subjective value, as Woodford states "We now live instead in a world of pure "fiat" units of account, where the value of each depends solely upon the policies of the particular central bank with responsibility for it" [33]. Second, because there is only one type of money, namely fiat money, there is only one price - the rate of interest and the price of the money commodity is absent. Therefore, this is another reason why fiat money cannot be served as a measure of value. Third, *there are neither obstacles nor limits to printing paper money* (one of the central causes for financial bubbles).

Modern theory of money is generally concentrated on the macroeconomic level [15]; despite that, it is convenient that the modern microeconomic theory has been compatible with reality rather than with macroeconomic theory. However, since Walras, unfortunately, microeconomics theory has not developed from the point of view of money theory [34-36]. First, fiat money is only served as money. Second, fiat money is valueless and useless; therefore, it has no direct utility and cannot appear in the utility function. Third, Walras manipulated the demand and supply of all categories, later obtaining the final endowment by their means. Hicks, Lange, Patinkin, and Clower use initial and final endowment, which allows calculating demand and supply. Finally, the utility function includes all goods simultaneously while Walras considered utility function for each good separately.

On the other hand, the modern theory formally determines the rate of interest similar to the classical approach; namely, according to modern theory the rate of interest is determined by the relationship between aggregate demand and aggregate supply of money. However, there are essential differences between them, since the modern theory of interest is based on the Keynes's approach (*vide supra*). Moreover, the differences are deepened. For example, the supply of money depends not only on the quantity of printed money as well as Keynes's approach but also on the rate of the money multiplier (see above p. 27). Yet, the modern theory of money continues determining the demand function for money as an inverse function of income according to Keynes, the existence of which is doubtful (see above p. 25).

5. Conclusions

Financial bubbles are the practical implications of flaws in economic theory. The paper considered flaws in the modern economic theory in three central topics: 1) the Keynesian multipliers; 2) Modern general equilibrium theory; and 3) Modern money theory showing them distant from reality and even erroneous.

Remedying these flaws is necessary, but still insufficient for preventing and resolving financial bubbles. Just as Keynes failed (because his theory is both incomplete and incorrect) to build a bridge between Classical Economic Theory and his era's economic reality, Krugman's suggestion to re-embrace Keynes must not and cannot be the solution. Urgent rethinking and reconsideration of modern economic theory in the spirit of Classical Economic Theory (Smith, Marx) and Walras to be more compatible and closer to the contemporary economics must be the first step for curing the sick state of our current economics.

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