

## How much does finance benefit society?

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### Abstract:

*The financial crisis that erupted in 2007 has generated feelings of deep aversion towards finance among the public. Zingales (2015) urges the economics profession not to underestimate these feelings, noting that economists tend to overestimate the benefits of finance and to ignore that the 'best form of finance' is accompanied by a 'bad type of finance'. The problem with these statements is that the macroeconomic theory elaborated over the last decades is unable to provide a satisfactory explanation for the coexistence of these two forms of finance. The aim of this work is to present a sound explanation of the distinction between 'good' and 'bad' finance, based on: i) Keynes's distinction between 'enterprise' and 'speculation'; ii) Schumpeter analysis of the role of bank money in a capitalist economy.*

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The financial crisis that broke out in the United States in 2007 and the subsequent Great Recession have generated among the public feelings of deep aversion towards the banking system, bankers and, more generally, finance. Luigi Zingales, for example, in his presidential address to the American Finance Association (AFA), exhorts the economics profession not to undervalue these feelings, as, in his opinion, they are based on valid reasons. He underlines that economists tend to overestimate the benefits of finance and to ignore that the "best form of finance", which generates positive effects on society, is accompanied by a "bad type of finance", which instead is based on rent-seeking activities that are not justified by the production of any useful service to society (Zingales, 2015, p. 1338).

The problem with these statements is that the macroeconomic theory developed over the last few decades is unable to provide a satisfactory explanation of the distinction between 'good' and 'bad' finance. The aim of this paper is to show that, in order to elaborate a solid explanation of the presence of these two forms of finance, it is necessary to retrieve Schumpeter's analysis of the role played by bank money in a capitalist economy and Keynes's analysis of the relationship between money and crises based on the concepts of 'enterprise' and 'speculation'.



The paper is divided into two parts. The first part highlights the reasons why the mainstream theory is unable to explain the distinction between ‘good’ and ‘bad’ finance. In the second part, we elaborate an alternative explanation of the meaning of ‘good’ finance and of the differences between ‘good’ and ‘bad’ finance that is based on two points: i) Schumpeter’s analysis of the role of bank money in a capitalist economy; ii) Keynes’s distinction between ‘enterprise’ and ‘speculation’. We will show that Schumpeter’s analysis of the role of bank money in a capitalist economy allows for the elaboration of a sound explanation of the meaning of ‘good finance’ and for the disclosure of the relationship between money and crisis that is at the core of Keynes’s theoretical framework. In other words, we will conclude that Schumpeter’s analytical approach is essential for explaining the Keynesian concepts of ‘enterprise’ and ‘speculation’. Finally, we will show that the concepts of ‘good’ and ‘bad’ finance based on Keynes’s and Schumpeter’s analyses allow us to highlight the endogenous nature of the contemporary crisis.

## 1. Mainstream theory and the distinction between ‘good’ and ‘bad’ finance

Zingales (2015, p. 1328) invites economists to not underestimate the public’s aversion for finance, as this feeling is justified by the presence of a component of finance aimed exclusively at the obtainment of a rent. He underlines (pp. 1343-44) that the obtainment of a rent means to record private profits that do not match the production of useful services to society. He then distinguishes two types of finance: the “bad type of finance”, which is based on rent-seeking activities, and the “best form of finance”, which instead provides useful services to society. According to Zingales, the presence of these two components of finance depends on the particular characteristics of the financial markets compared with those of the other markets. He states that the specific nature of financial markets can be inferred by the effects produced by the financial innovations introduced over the past 40 years. Zingales notes that the empirical evidence does not show any positive effects produced by the financial innovations conceived in recent decades:

A common belief in our profession is that all that we observe is efficient. [...] here is no theoretical basis for the presumption that financial innovation, by expanding financial opportunities, increases welfare. [...] I am not aware of any evidence that the creation and growth of the junk bond market, the option and future markets, or over-the-counter derivatives are positively correlated with economic growth. (Ibid., pp. 1340-1342)

The complexity of the financial instruments created in recent years has been used to dupe unsophisticated investors. Zingales recalls that between 2012 and 2014 the total amount of fines paid by financial institutions in the United States reached \$138 billion USD. He thus concludes his analysis by stressing that economists should be aware of the presence of these two forms of finance and that they should thus devote their research and teaching “to curb the rent-seeking dimension of finance” (ibid., pp. 1328-1329).

The mainstream theory of finance is unable to explain the distinction between ‘good’ and ‘bad’ finance and the reasons why the financial innovations introduced in recent decades did not produce positive results. In fact, the mainstream theory defines the phenomenon of finance by emphasizing the close link between savings decisions and credit supply on the one hand, and between investment decisions and credit demand on the other hand (Gurley and Shaw,

1956, pp. 257-258). The interest rate is the price that equilibrates the demand and supply of credit, thereby guaranteeing coordination between the investment and savings decisions.

The dissociation between savings and investment decisions introduces an element of fragility in the system because the debtor may not be able to pay back what he borrowed. Consequently, savers are forced to gather information on the characteristics of the investment projects to be funded and on the characteristics of the potential borrowers. The mainstream theory developed in the last 40 years describes the services offered by the financial system by applying the conclusions of Akerlof's (1970) seminal work on informational economics to the credit market. According to this theory, the primary function of financial intermediaries, most especially banks, is to overcome the problems associated with asymmetric information.<sup>1</sup> In other words, banks play the same role as mechanics do in the second-hand car market. The dominant theoretical approach therefore states that financial innovations have the same characteristics as the innovations introduced in the automotive industry. The latter certainly improve the quality of the cars produced and the ability of the mechanics to assess the quality of second-hand cars. Similarly, financial innovations should improve the ability of the banking system to assess the quality of the borrowers and of the investment projects to be financed. In other words, financial innovations should achieve the same results that would be achieved in a world with perfect information, a world in which investors finance businesses directly without the intervention of any intermediary.

According to the dominant theory, the presence of unsophisticated investors is not a sufficient condition for the obtainment of rents and the spread of 'duping' and frauds because the competition between financial intermediaries prevents the exploitation of the investors' ignorance. Merton and Bodie, for example, observe:

it has been shown that when individual choices depend on probabilities, subjective estimates of these probabilities are often subject to large biases. It does not necessarily follow, however, that the market prices of products whose demand depends on probability estimates – products such as insurance – will reflect those biases. To see why, consider the market for life insurance. [...] For example, suppose that the actuarially fair price is \$20 per \$10,000 of insurance, but people would be willing to pay \$40 as their 'reservation' price. What would be the likely institutional dynamics of price formation in this market? Life insurance firms that enter this market early might earn large profits because they can charge the reservation price of \$40 while their underwriting cost will be the \$20 expected loss. But others will examine the mortality data [...] and soon discover the profit opportunity available. If there are no effective barriers to the entry of new firms, price competition will drive the price to the zero excess-profit point. (Merton and Bodie, 2005, p. 9)

It does not seem possible to explain the obtainment of rents and the spread of 'duping' and frauds by assuming the presence of barriers to the entry of new insurance companies or of new banks capable, as in the case of the mechanics in the second-hand car market, of distinguishing the good from the bad creditors.

In the next pages we will show that, in order to explain these phenomena, it is necessary to make use of a different theory of finance based on important elements of Schumpeter's and Keynes's thinking.<sup>2</sup>

<sup>1</sup> See, for example, Bernanke (1992-93; 2007), Bernanke and Gertler (1995), Wurgler (2000), Stulz (2001), Gorton and Winton (2002), Levine (2002; 2004), Stiglitz and Greenwald (2003).

<sup>2</sup> Several economists have emphasised the desirability of integrating the Keynesian theory of income determination with Schumpeter's theory of economic development. For example, see Minsky (1986; 1993), Morishima (1992), Goodwin (1993), Vercelli (1997), Whalen (2001), Bertocco (2007), Dosi (2012), Dosi et al. (2010), Mazzucato and Wray (2015), and Kurz (2016).

## 2. The 'good' and the 'bad' types of finance in a Keynes-Schumpeter perspective

We wish to stress that Schumpeter's analysis of the role of bank money in capitalist economies allows for the elaboration of a sound explanation of the concept of 'good' finance. In what follows, we show that Schumpeter's analysis is essential to explain the relationship between money and crisis defined by Keynes. In other words, Schumpeter's theoretical approach is essential to explain the Keynesian concepts of 'enterprise' and 'speculation'. These concepts are, in turn, necessary to highlight the endogenous nature of the crisis that erupted in 2007. In this work we underline a particular aspect of the endogenous nature of the contemporary crisis, that is, the relationship between economic theory and economic crises. We show below that ignoring the distinction between 'good' and 'bad' finance has contributed to creation of the conditions that led to the crisis.

### 2.1. Finance and change in Schumpeter's analysis

Schumpeter argues that finance is an essential element of the process of economic development that characterizes a capitalist economy. According to Schumpeter, in capitalist economies change is caused by the innovations introduced by entrepreneurs that allow the launch of new methods for the realization of existing goods and the production of new goods. Schumpeter states that, without the presence of an evolved financial system, there could be no economic development. In fact, in recent years numerous studies have used Schumpeter's insights to highlight the role of the financial structure in the process of economic development of contemporary economies.<sup>3</sup>

The credit market illustrated by Schumpeter, which is of central importance in his analysis of the process of economic development, sharply differs from that described by the traditional theory. In fact, Schumpeter emphasizes that the supply of credit does not depend on the flow of savings but on the decisions taken by banks. According to Schumpeter, banks are not mere intermediaries collecting savings to be transferred to businesses but subjects that are able to offer credit by creating new money. Schumpeter thus eliminates the separation between money and credit that characterizes the traditional theory of finance and instead emphasizes the close link between the process of money creation and the supply of credit, distinguishing an economic system based on the use of bank money.

Schumpeter underlines that, without bank money, there would be no innovations or economic development. For this reason, Schumpeter felt the need to develop a new theory based on a heresy concerning the definition of the role of money, that is, "the heresy that [in a capitalist economy] money [...] perform[s] an essential function, hence that processes in terms of means of payment are not merely reflexes of processes in terms of goods" (Schumpeter, [1912] 1949, p. 95).<sup>4</sup>

To illustrate the key role played by bank money in the process of economic development, it is worth remembering that, in Schumpeter's view, the introduction of innovations requires special skills, as the decisions made by an entrepreneur-innovator deeply change the structural features of the economic system. In fact, the entrepreneur-innovator is forced to plan his

<sup>3</sup> See, for example, King and Levine (1993), Levine (1997; 2002; 2004), Wurgler (2000), Stulz (2001), Gorton and Winton (2002), Wachtel (2003), Capasso (2004), and Fergusson (2006).

<sup>4</sup> See, for example, Messori (2002; 2013), Nasica (2002), Festré and Nasica (2009), Mazzucato (2013), and Mazzucato and Wray (2015).

productive activity in an attempt to anticipate the possible reactions of a world that does not yet exist (Schumpeter, [1912] 1949, p. 66). Schumpeter thus concludes that, in general, it is 'new men' who, unlike those running existing businesses, do not control the basic production factors (i.e., labor and land) that introduce innovations.

Schumpeter furthermore assumes that innovations are implemented in conditions of full employment and that, in this situation, innovations can be introduced only if, thanks to the existence of bank money, new entrepreneurs can subtract control of part of the available productive resources from existing businesses. Through expansion of the supply of credit, banks provide new purchasing power to the entrepreneurs-innovators, allowing them to add their demand for labor services to that of previously existing businesses. This additional demand for labor services triggers an increase in the level of wages. Entrepreneurs-innovators can thus get hold of some of the production factors previously used by existing businesses and employ them for the realization of innovations (Schumpeter, [1912] 1949, pp. 106-109).

The phenomenon of credit based on the creation of new money by the banking system therefore represents an essential element of the process of change characterizing capitalist economies, because it allows entrepreneurs-innovators to obtain control of the production factors and in particular of the workforce, which is required to realize their innovative investment projects. Without banks and credit, the presence of a consistent flow of investments and the process of economic development of capitalist economies could not be explained.

As underlined by Mazzucato and Wray (2015, p. 19), Schumpeter's adoption of the hypothesis of full employment derives from "the acceptance of too much of the methodology of the neoclassical approach – including the adoption of the notion of an economy that is equilibrium seeking." The acceptance of this hypothesis deeply divides Schumpeter from Keynes. Nevertheless, it can be shown that, contrary to Schumpeter's claims, the essential role of money in the introduction of innovations does not depend on the presence of full employment but on the type of credit agreement needed to allow the entrepreneur-innovator to gain control of the required workforce. In fact, regardless of the presence of full employment conditions, such a credit agreement cannot be concluded through an exchange of real goods. It must necessarily be concluded in monetary terms.

To explain this point, following Schumpeter, we consider a static economic system, a corn economy, for example, in which a single homogeneous good is produced and in which, at a certain moment, an entrepreneur-innovator plans to introduce an innovation and, for example, build a railway. We furthermore assume that, in order to complete his project, the entrepreneur-innovator needs to hire a certain number of workers who will use their entire salary to buy corn, which represents the wage good of the system. As a result, the necessary condition for the construction of the railway is that the workers employed in the production of corn will be required to produce not only the amount of corn corresponding to their own salaries but also the amount of corn demanded by the workers employed in the realization of the railway.

One may wonder if this condition is also sufficient to build the railway without the use of bank money. To answer this question, let us for example imagine that the producers of corn are willing to lend directly, or indirectly through the intermediation of a bank, a part of the corn produced to the entrepreneur who wishes to undertake construction of the railway, so that he will be able to pay the workers required for the realization of his innovative project. However, it is difficult to reach a credit agreement of this type as it is not at all clear what the debtor will have to return to the creditor. Since the entrepreneur-innovator does not produce corn, he

cannot repay the creditor in real terms. The credit agreement allowing construction of the railway must therefore necessarily be concluded in monetary terms: the entrepreneur-innovator will have to obtain money from the subjects, the banks, which are able to extend credit through the creation of new money, and he will be committed to repay his debt by returning a certain amount of money.

This kind of credit agreement sharply differs from the one concluded in a corn economy. In fact, in the latter case investment decisions are taken after comparing costs and revenues in terms of quantities of goods consumed and produced. But such a decision criterion cannot be applied to construction of a railway. Indeed, an entrepreneur is not interested in building a railway as a monument to himself. Rather, by selling transportation services, he wishes to make a monetary profit, that is, to obtain a monetary income higher than the monetary costs incurred. He will thus make the decision to realize his investment project by comparing the monetary values concerning the cost of the wages that would have to be paid to the railway-construction workers to the expected revenues from the sale of train tickets.

These monetary values are not a simple 'veil'. On the contrary, they represent the only elements allowing entrepreneurs-innovators and the banks to make a decision about the realization of an investment project. In other words, in a capitalist economy characterized by the introduction of innovations, the quantities compared by an entrepreneur-innovator to evaluate the opportunity to carry out an investment-innovation can be expressed only in monetary terms: the monetary costs of the wages to be paid to the workers and the expected monetary revenues of the investment. This implies that profits can be defined only in monetary terms. Hence, regarding the function of unit of account played by money, Schumpeter notes that "processes in terms of means of payment are not merely reflexes of processes in terms of goods" (Schumpeter, [1912] 1949, p. 95). To emphasize this function means not only observing that the prices of all goods are expressed in units of money but, above all, recognizing that money is essential for the realization of an accounting system that allows for defining the costs and revenues and the credit and debit relationships underlying the introduction of innovations and the process of economic development. With regard to the accounting system based on the working of the banking system, Messori (2013, p. 27) underlines "the function of social book-keeping fulfilled by banks".

In conclusion, Schumpeter's analysis offers a significant explanation of the concept of "best type of finance", since it shows that a financial innovation such as the introduction of bank money represents a fundamental factor in the process of economic development. However, Schumpeter's theoretical approach does not allow for an explanation of the concept of a "bad type of finance", nor does it explain the reasons why financial innovations may generate rents instead of producing positive effects on the economic system. As we will see in the following section, an explanation of this second dimension of finance can be elaborated by starting from Keynes's examination of the link between money and economic crises.

## 2.2. Keynes and the relationship between money and economic crises

As with Schumpeter, Keynes's objective is to develop a 'heretical' monetary theory aimed at highlighting the non-neutrality of money. While Schumpeter underlines the relationship between money and the process of economic development that characterizes a capitalist economy, Keynes addresses the relationship between money and economic crises. In a paper dating back to 1933, in which he sketched the contours of *The General Theory*, Keynes stresses

the need to elaborate a *monetary theory of production* in order to explain the phenomenon of economic crises and the relationship between money and the fluctuations of income and employment characterizing a monetary economy.

The relationship between money and crises that is at the center of Keynes's theoretical approach seems to be very far from the relationship between money and economic development analyzed by Schumpeter. As pointed out earlier, Schumpeter describes the process of change in capitalist economies starting from the assumption that the economic system is in a position of full employment. Notwithstanding this assumption, we will show that there is a significant link between the analyses of Schumpeter and Keynes.

As underlined by Mazzucato and Wray (2015) and by Wray (2016), Hyman Minsky is the contemporary economist who, more than any other, explains the link between Keynes and Schumpeter. In his interpretation of Keynes's thought, Minsky (1975; 1986; 1993; 1996) has shown that the evolved financial system that is at the heart of the process of economic development described by Schumpeter also introduces an element of fragility into contemporary economies that can cause deep economic crises.<sup>5</sup> In other words, according to Minsky, the spread of 'good' finance lays the basis for the development of 'bad' finance and, thus, for the outbreak of economic crises.

The link between these two dimensions of finance can be illustrated by making use of the concepts of 'enterprise' and 'speculation' specified by Keynes in *The General Theory*. Keynes uses the term 'enterprise' to describe the activity of an entrepreneur evaluating the opportunity to undertake investment decisions based on the expected future revenues generated "over their whole life" (Keynes, 1936, p. 158). It is worth recalling that the examples of investment decisions provided by Keynes in *The General Theory* can be assimilated to Schumpeter's innovations.<sup>6</sup> We can therefore assume that, in the monetary economy described by Keynes, investments allow the launch of new products, or the modification of the productive methods used to realize already existing goods. We can also assume that the entrepreneur making investment decisions in a monetary economy possesses the same characteristics as the Schumpeterian entrepreneur who introduces innovations.<sup>7</sup>

<sup>5</sup> "[T]he primary policy message of Keynes – that slumps are unnecessary and a waste of both human and nonhuman resources – has become a fundamental political axiom guiding economic policy. [...] However, this victory for Keynes's policy objectives and activist policy posture obscures the fact that implicit in his analysis is a view that a capitalist economy is fundamentally flawed. This flaw exists because the financial system necessary for capitalist vitality and vigor – which translates entrepreneurial animal spirits into effective demand for investment – contains the potential for runaway expansion, powered by an investment boom. This runaway expansion is brought to a halt because accumulated financial changes render the financial system fragile, so that not unusual changes can trigger serious financial difficulties. Because Keynes arrived at his views on how a capitalist economy operates by examining problems of decision-making under conditions of intractable uncertainty, in his system stability, even if it is the result of policy, is destabilizing" (Minsky, 1975, pp. 11-12). See also Roncaglia (2013) and Kregel (2014).

<sup>6</sup> "Our knowledge of the factors which will govern the yield of an investment some years hence is usually very slight and often negligible. If we speak frankly, we have to admit that our basis of knowledge for estimating the yield ten years hence of a railway, a copper mine, a textile factory, the goodwill of a patent medicine, an Atlantic liner, a building in the City of London, amounts to little and sometimes to nothing; or even five years hence" (Keynes, 1936, pp. 149-150).

<sup>7</sup> Paul Davidson (2007) uses the concept of "crucial decisions" to emphasize the link between Keynes's and Schumpeter's analyses. In particular, he introduces the distinction between ergodic and non-ergodic systems: "If entrepreneurs have any important function in the real world, it is to make crucial decisions. Entrepreneurship [...] involves cruciality. To restrict entrepreneurship to robot decision making through ergodic calculations in an ergodic stochastic world [...] ignores the role of the Schumpeterian entrepreneur – the creator of technological revolutions that bring about future changes that are often inconceivable even to the innovative entrepreneur" (Davidson, 2007, p. 112). Both Keynes and Schumpeter stress that investment decisions and innovations are carried out by agents possessing particular skills, that is, agents that are guided by what Keynes (1936, p. 161) defined as *animal spirits*.

The use of the concept of 'enterprise' leads to the observation that Keynes's monetary economy is characterized by the process of change described by Schumpeter.<sup>8</sup> But, compared to Schumpeter, Keynes's fundamental contribution consists of emphasizing that 'good' finance can generate 'bad' finance. The link between these two forms of finance can be defined by considering that the concept of 'enterprise' makes it possible to explain two fundamental characteristics of Keynes's monetary economy: i) the presence of uncertainty; ii) the presence of speculative markets.

The relationship between bank money and the process of economic development highlighted by Schumpeter shows that the employment of money is of fundamental importance for the explanation of the presence of uncertainty. To better understand the monetary nature of uncertainty it is useful to remember that Keynes describes the relationship between production decisions and uncertainty through the use of two formulas originally developed by Marx. The sequence C (Commodity) → M (Money) → C' (Commodity), which Keynes uses to describe the characteristics of what he calls a *real-exchange economy*, corresponds to the economic system described by the classical theory, while the sequence M (Money) → C (Commodity) → M' (Money) describes the distinctive features of a monetary economy.<sup>9</sup>

In the world described by the classical theory, the results of production decisions can be defined in terms of the amount of produced goods. As the existing technology defines the relationship between the input of productive factors and the quantity of final products, these results are certain. In a monetary economy, however, the results of a production decision can be defined only in monetary terms because they correspond not to the quantity of produced goods but to the monetary value of the goods that will be sold:

In a real-wage and co-operative economy there is no obstacle in the way of the employment of an additional unit of labour if this unit will add to the social product output expected to have an exchange value equal to 10 bushels of wheat, which is sufficient to balance the disutility of the additional employment. But in a money-wage or entrepreneur economy the criterion is different. Production will only take place if the expenditure of £ 100 in hiring factors of production will yield an output which is expected to sell for at least £ 100. (Keynes, 1933, p. 78)

The impossibility of forecasting the results of production decisions in probabilistic terms is not related to the obtainment of the desired amount of goods. Uncertainty instead concerns the possibility of selling the goods produced and, thus, the possibility of achieving a profit in monetary terms. In other words, in a monetary economy uncertainty depends on economic factors. Keynes makes use of the M→C→M' sequence to emphasize that entrepreneurs acting

<sup>8</sup> Moreover, Schumpeter's analysis of the role of bank money in capitalist economies does not conflict with Keynes's thought. While in *The General Theory* Keynes leads the reader to identify money with the liabilities of the central bank and to overlook bank money, he nevertheless recognized this omission in his reply to the criticisms of *The General Theory* formulated by the advocates of the *loanable funds theory*. In his reply to Ohlin, in particular, Keynes acknowledged that an entrepreneur planning an investment has to look for the liquidity needed to finance the cost of the investment. Keynes therefore associated investment decisions with the demand for credit (Keynes, 1937, p. 216). In contrast with the loanable funds theory, Keynes (1937, p. 222) uses the presence of bank money to underline that the demand for credit is satisfied through the creation of new money by the banks and not through the availability of savings.

<sup>9</sup> "The attitude of *business* [...] is a case of M-C-M', i.e. of parting with money for commodity (or effort) in order to obtain more money. This is important for the following reason. The classical theory supposes that the readiness of the entrepreneur to start up a productive process depends on the amount of value in terms of product which he expects to fall to his share; i.e. that only an expectation of more *product* for himself will induce him to offer more employment. But in an entrepreneur economy this is a wrong analysis of the nature of business calculation. An entrepreneur is interested, not in the amount of product, but in the amount of *money* which will fall to his share. He will increase his output if by so doing he expects to increase his money profit, even though this profit represents a smaller quantity of product than before" (Keynes, 1933, pp. 81-82).

in a monetary economy evaluate the results of their investment decisions based not on the amount of produced goods but on the monetary proceeds they expect to obtain from the sale of these goods.

The second characteristic of a monetary economy is the presence of speculative markets. Keynes suggests the existence of a relationship between 'enterprise' and 'speculation' when he contrasts the concept of 'speculation' with that of 'enterprise'. In fact, he uses "the term *speculation* for the activity of forecasting the psychology of the market and the term *enterprise* for the activity of forecasting the prospective yield of assets over their whole life" (Keynes, 1936, p. 158).

In order to show the reasons why the phenomenon of 'speculation' can be considered a consequence of the phenomenon of 'enterprise', it must be stressed that Keynes introduced the concept of speculation after specifying the relationship between savings and wealth decisions. Keynes pointed out that, in an economic system in which wages and profits are distributed in monetary form, the decision of an individual to save part of his income involves choosing to accumulate money and, thus, to increase his wealth. Wealth can be defined as the total amount of money and other financial and real assets owned by an economic agent at a certain point in time. Wealth therefore represents the purchasing power that can be used at any future time in order to buy any desired good. Keynes emphasized the relationship between saving decisions and wealth in order to show that, when an individual decides to save part of his income, he does not at this point choose to purchase a particular good or service in the future but only to accumulate a certain amount of purchasing power.<sup>10</sup>

The concept of 'enterprise' and the relationship between finance and innovations described in section 2.1, explains the relationship between saving decisions and wealth and the phenomenon of speculation. In fact, we can observe that the process of wealth accumulation is relevant only in a world ruled by the principle of the insatiability of needs, that is, in an economic system in which individuals have unlimited wants and in which, as a consequence, resources are inevitably scarce. It is no doubt difficult to assume the existence of a process of wealth accumulation in a static system such as that of an agricultural economy, a system in which, to satisfy the essential needs of households, only a few goods are produced. In such a world it is reasonable to assume the existence of a physiological limit to the amount of goods that individuals wish to accumulate (on this point, see Keynes, 1930).

The principle of the insatiability of needs, and the presence of individuals accumulating wealth because their resources are scarce compared to their unlimited needs, can be explained through the Schumpeterian concept of innovations and the Keynesian concept of 'enterprise'. The introduction of innovations constantly changes the consumption pattern of households, pushing them to accumulate purchasing power because they know neither the quality nor the quantity of the goods they will desire in the future.

Furthermore, the continuous introduction of innovations gives rise to the emission and the subsequent accumulation of a growing amount of financial assets, consisting of debt instruments or stocks, that match the value of the innovations. Thus, as described by Keynes, a saver is a wealth holder who first decides how much to save and then chooses "in *what form*

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<sup>10</sup> "[...] the act of saving implies, not a substitution for present consumption of some specific additional consumption which requires for its preparation just as much immediate economic activity as would have been required by present consumption equal in value to the sum saved, but, a desire for 'wealth' as such, that is for a potentiality of consuming an unspecified article at an unspecified time" (Keynes, 1936, p. 211).

he will hold the command over future consumption which he has reserved, whether out of his current income or from previous savings” (Keynes, 1936, p. 166).

The process of wealth accumulation based on the relationship between savings decisions and wealth represents the necessary condition for the explanation of the presence of speculative markets. Keynes introduced the term ‘speculation’ to emphasize that financial markets differ from traditional markets, which are ruled by the law of supply and demand. In traditional markets, purchased goods are not subject to subsequent exchanges, as the buyer uses them to meet his own needs. In financial markets, however, debt securities and shares can be continuously traded, and the decisions of wealth owners concerning the composition of their wealth depend on the expected yield of the different assets representing an alternative to money.

To fully understand the meaning of Keynes’s definition of speculation, it is worth recalling that he identifies two separate categories of speculators. The first category consists of the ‘professional’ speculators, that is, individuals possessing the necessary information and skills to properly assess the present situation and the prospective returns of a company. The second category consists of “a large number of ignorant individuals [...] who do not manage and have no special knowledge of the circumstances, either actual or prospective, of the business in question” (Keynes, 1936, pp. 153-154). Fundamentally, this distinction is justified by the fact that expectations of the future value of financial assets are formulated under conditions of uncertainty (Keynes, 1936, p. 168).<sup>11</sup>

The existence of these two groups of speculators specifies the limits of the Efficient Market Theory (EMT), which claims that the prices of financial instruments always fully reflect the available information. The EMT implicitly assumes that financial markets are composed only of professional speculators. The choices of ignorant speculators can therefore be completely neglected. Keynes, however, notes that the choices made by ignorant speculators, which are influenced by “factors which do not really make much difference to the prospective yield” (Keynes, 1936, p. 154), might well prevail. According to Keynes, the prices formed in the financial markets are the result of a ‘convention’ and can vary depending on factors that influence the expectations of ignorant speculators, even though these factors may not have any impact on the actual future returns of a company.

The potential prevalence of conventional evaluations affects the behavior of the professional speculators, since they may decide to act not on the basis of their informed and knowledge-based estimates of a company’s future performance but on the basis of their expectations of how the mass of ignorant operators will evaluate the company’s situation. Professional speculators will thus specialize in foreseeing the ‘psychology of the market’ (Keynes, 1936, pp. 154-155). Keynes emphasizes that the ‘conventional evaluations’ and the attempts of the ‘professional’ speculators to predict the ‘psychology of the market’ can push

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<sup>11</sup> The distinction between ignorant and professional speculators makes no sense in the traditional markets, since in those markets there is no uncertainty. In the world described by Adam Smith, ignorant butchers, bakers or brewers, that is, individuals incapable of doing their job properly, would not survive. Furthermore, not even the presence of asymmetric information can justify the structural presence of ignorant subjects. In the second-hand car market described by Akerlof (1970), information asymmetries between buyers and sellers encourage the emergence of mechanics specializing in the assessment of second-hand cars. In this market it is impossible to introduce a distinction between professional and ignorant mechanics, that is, mechanics who are unable to assess the quality of used cars, as the latter would soon disappear from the market.

the prices of financial assets very far from their fundamental levels. In other words, they can generate a speculative bubble and a deep economic crisis.<sup>12</sup>

As remembered by Mazzucato and Wray (2015), Minsky emphasized that one of the reasons justifying the integration of Keynes's and Schumpeter's theoretical approaches is that Schumpeter neglects the presence of speculative markets in which the price of assets is set. We hold that the relationship between savings decisions and wealth on which the Keynesian analysis of speculation is based holds only in an economic system characterized by the relationship between money and innovations described by Schumpeter.

### 2.3. A Keynes-Schumpeter explanation of 'bad finance' and of the subprime crisis

Keynes's and Schumpeter's insights allow for an explanation of the reasons why the diffusion of the 'bad type of finance' not only allowed some actors of the financial system to accumulate rents but also caused the outbreak of a disastrous financial crisis in the United States, the country that, according to Rajan and Zingales (2003), possessed the most efficient financial system in the world.

In order to explain the relationship between 'bad' finance and the contemporary crisis, it can be maintained that innovations do not produce any social benefit when they serve to encourage 'speculation' rather than 'enterprise'. In this case, innovations foster fraudulent behaviors, for they can be used to justify the dissemination of what Shiller (2008) has called the tale of a 'new era', that is, a myth about the reasons why the economy allegedly entered into a period of ever increasing prices of a specific asset. Innovations can be used to show that 'this time is different', to use the title of a celebrated book by Reinhart and Rogoff (2009) (on this point, see also Ülgen, 2014). The contemporary crisis is a significant example of how financial innovations can foster the prevalence of 'speculation' over 'enterprise' and, as underlined by Keynes, trigger deep economic turmoil.

The Great Recession has been caused by the burst of a real estate bubble in the United States. Over the last 40 years several financial crises did not significantly affect real variables. Hence, we need to shed light on the reasons why this financial crisis has had such bad consequences for production and employment rates. According to Bernanke (2012), the subprime mortgage crisis implied a destruction of financial wealth equal to approximately 7,000 billion USD, which is comparable to the loss caused by the stock market crash that occurred in 2000 when the dot-com bubble burst. In that case, however, no significant downturn in income and employment occurred. Bernanke argues that this difference is due to the different impact of the two crises on the banks' balance sheets. In the case of the dot-com bubble, the US banking system did not record the losses; but it did record the losses after the burst of the real estate bubble. These losses caused a contraction of the credit supply that led to a severe fall in aggregate demand and, hence, in the levels of income and employment.

Bernanke's explanation seems to be very reasonable, but it is not consistent with the mainstream theory of finance. As described earlier, according to the traditional theory, the

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<sup>12</sup> "Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done. The measure of success attained by Wall Street, regarded as an institution of which the proper social purpose is to direct new investment into the most profitable channels in terms of future yield, cannot be claimed as one of the outstanding triumphs of *laissez-faire* capitalism – which is not surprising, if I am right in thinking that the best brains of Wall Street have been in fact directed towards a different object" (Keynes, 1936, p. 159).

credit market works like the market of second-hand cars illustrated by Akerlof (1970) and banks are simple intermediaries helping to overcome problems of information asymmetry. Accordingly, in the economic system described by the traditional theory there can be no systemic economic crises due to losses caused by the banks' sudden inability to assess the quality of the debtors. In fact, the probability of a crisis would be similar to that caused by the blocking of car traffic due to the sudden inability of the mechanics to evaluate the quality of used cars.

To explain the economic losses produced by the choices of the banks, it is necessary to use the Keynesian theory of speculation and to specify the relationship between the financial innovations introduced in the last decades and the speculative behavior of the US banking system. This relationship is at the core of several analyses by Post-Keynesian economists of the process of financialization that has characterized what has been defined as *financial neoliberalism* or *finance-dominated capitalism* (see, for example, Hein, 2012; Palley, 2013; Hein et al., 2015; and Tridico, 2017). It is interesting to note that the relationship between financial innovations and the speculative behavior of the banking system has been emphasized even by mainstream economists like Gorton (2012), Admati and Hellwig (2013) and Rajan (2010). Without quoting Keynes, Rajan, in particular, has used the Keynesian theory of speculation to explain the origins of the Great Recession.

Rajan focuses on two fundamental innovations that have pushed the US banking system to create a real *iceberg of risk*.<sup>13</sup> The first is the standardization of financial instruments due to the ICT revolution, which produced a higher availability of information that increased the liquidity of bank loans. Bank loans thus became assets that could be sold on the financial markets. The second innovation is the process of securitization that allowed banks to sell part of their standardized assets on the market. This process profoundly transformed the business model of the banks, resulting in the transition from the traditional 'originate to hold' model to a new 'originate to distribute' model. The process of securitization should have improved the efficiency of the financial system since the division of labor between the banks and the so-called Special Purpose Vehicles (SPVs) increased the variety of financial assets. Actually, the banks' ability to transfer their credits and the associated default risks through the process of securitization reduced the banks' incentive to scrupulously assess the quality of the loans granted, therefore generating problems of moral hazard.

Rajan argues that the distorted use of securitization techniques has been fostered by the deregulation of financial markets that has occurred since the beginning of the 1980s. The deregulation of financial markets and the liberalization of capital movements marked a clear detachment from the rules introduced after the Great Crash of 1929. In 1933, the United States Congress approved the Glass-Steagall Act, which introduced federal insurance on bank deposits to prevent the outbreak of financial crises due to bank runs by depositors (see Hein, 2012; Palley, 2013; and Hein et al., 2015). Furthermore, commercial banks enjoying federal insurance on deposits were prevented from trading bonds and stocks on behalf of third parties or on their own, in order to avoid the spread of speculative transactions. However, after the marked increase of the inflation rate in the 1970s, things radically changed. When the U.S. inflation rate increased from an annual average of 2 percent in the 1960s to an annual average

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<sup>13</sup> "Banks make returns both by originating risks and by bearing them. [...] Banks cannot, however, sell all risks. They often have to bear the most complicated and volatile portion of the risk they originate. [...] In fact, data suggest that despite a deepening of financial markets, banks may not be any safer than in the past. Moreover, the risk they now bear is a small (though perhaps the most volatile) tip of an iceberg of risk they have created" (Rajan, 2006, p. 502).

of approximately 10 percent in the 1970s, the situation of commercial banks and of savings banks became critical, since they were not allowed to raise interest rates on deposits over the limits set by the 1930s regulations.

The problems caused by inflation and the spread of neoliberal ideology pushed US legislators to start a process of deregulation aimed at freeing banks from the constraints imposed by the Glass-Steagall Act. The cap on interest rates on bank deposits was removed and, in 1982, after approval of the Garn-St. Germain Depository Institutions Act, savings banks were allowed to trade securities. From the 1980s, the differences between commercial and investment banks were progressively reduced, while the competition among financial institutions significantly increased. In 1999, the separation between the activities of commercial and investment banks was formally repealed, with approval of the Gramm-Leach-Bliley Act.

The deregulation of the financial system transformed the banking system into a homogeneous organism dominated by the presence of huge universal banks set up in the form of joint stock companies that pursued the exclusive goal of maximization of the shareholder's value by means of speculation.<sup>14</sup> This evolution was accompanied by a substantial change in the compensation system for bank managers. In order to align the goals of the managers with those of the shareholders, banks introduced a remuneration scheme whereby bonuses were linked directly to the economic results obtained.<sup>15</sup>

Without citing Keynes, Rajan uses two concepts derived from Keynes's theory of speculation to explain the relationship between deregulation and speculation: these are the concept of *tail risk* and the concept of *herd behavior*. The concept of tail risk describes decisions that usually produce very high yields while presenting a low risk of catastrophic losses. Using the concept of tail risk, Rajan (2010) explains the bank managers' decision to increase the supply of mortgages to low-income households. This decision encouraged the demand for housing and thus contributed to development of the housing bubble, which, in turn, supported the creation of shareholder's value and the payment of bonuses to managers. We can add that the continuous rise in home prices represented the necessary condition to induce low-income households to continue undertaking mortgages. In fact, the ability of low-income agents to meet the commitments related to the mortgages strictly depended on a never-stopping rise of the real estate prices. In other words, the speculative bubble allowed the banks to induce potential borrowers to believe that the growth of housing prices would never end.

The tail risk associated with the decision of the banks to expand the supply of subprime mortgages thus corresponded to the probability that the housing bubble would burst. This risk was not independent of the behavior of the banks. On the contrary, the behavior of the banks increased the probability of a catastrophic collapse of the housing market and an ensuing financial crisis. Actually, with their decision to expand the supply of subprime mortgages, the banks created the risk that a financial meltdown would occur.<sup>16</sup> It is important to note that this

<sup>14</sup> At the beginning of the new millennium, Boyer (2000) stressed that the next financial crisis could occur in the United States due to the consolidation of a finance-led growth model based on financial institutions pursuing maximization of the shareholder's value.

<sup>15</sup> Hein (2012) and Palley (2013) point out that the diffusion of this form of remuneration of bank managers found a theoretical justification in the mainstream theory, which considered the issue of corporate governance as an agency problem.

<sup>16</sup> "When bankers attribute their problems to an unlikely event akin to a one-in-ten-thousand-year flood (thereby implicitly absolving themselves, for who could anticipate such a rare event?), they neglect to mention that their actions have increased the probability of such event – to something like one in every ten years, approximately the periodicity with which Citibank has gotten itself into trouble in the past three decades" (Rajan, 2010, p. 137).

definition of tail risk refers to the Keynesian concepts of ‘speculation’ and ‘speculative bubble’. Indeed, a catastrophic crisis originated by the burst of a speculative bubble can develop only within an economic system characterized by the presence of speculative markets and by the distinction between professional and ignorant speculators.

The second concept used by Rajan to explain the origins of the financial crisis is that of herd behavior. This concept serves to explain the decision of the banks to keep a large number of derivative securities, the so-called mortgage-backed securities (MBS), on their balance sheets. When the housing bubble finally burst, it became evident that the banks held a large amount of MBS on their books. This was a surprise for those who believed that the banks, which should have been aware of the low quality of the loans, had abstained from underwriting securitized mortgages. Diamond and Rajan (2009, p. 607) relate that the bank managers, far from being seized by sudden madness, were led to seek short-term gains and to assume large quantities of risk by the presence of a distorted structure of incentives. Once again without quoting Keynes, Diamond and Rajan have used this argument to explain why the bank managers, evidently possessing the awareness of professional speculators, continued to ‘follow the herd’ by betting on a continuous increase of housing prices, even though the latter were already significantly overvalued.

The concept of short-termism has been widely employed to illustrate the behavior of bank managers that is at the root of the contemporary crisis (see, for example, Haldane, 2016). The meaning of this concept can be clarified with reference to the Keynesian theory of speculation. Keynes combines *long-term expectations* with the concept of ‘enterprise’ and *near-term market fluctuations* with the concept of ‘speculation’ (Keynes, 1936, pp. 156-157). Long-term expectations influence the choices of entrepreneurs-innovators and bankers who are evaluating investment projects. But bankers may also choose to behave like Keynes’s professional speculators and thus specialize in predicting ‘the psychology of the market’ (Keynes, 1936, p. 154). In fact, for a bank manager it is difficult to make decisions based on long-term expectations if he continuously has to report on the performance of his activity to the banks’ shareholders (Keynes, 1936, pp. 156-7). Hein et al. (2015, p. 2) stress that “[t]he alignment of management with shareholder interests reflected the shifting focus towards pursuing short-term shareholder value maximization instead of the long-run growth objectives of the firms.”<sup>17</sup>

The phenomenon of short-termism characterizes what Minsky (1996) defined as “money manager capitalism”. With regard to the US economy during the period after World War II, Minsky distinguished two forms of capitalism. He labeled the first form of capitalism, which characterized the period from the end of the war to the mid-1970s, as “paternalistic, managerial and welfare state capitalism”; he called the second form of capitalism, which emerged after the mid-1970s, “money manager capitalism”. Minsky used the latter term to describe the features of an economic system in which the financial system is dominated by subjects whose final goal is not to promote ‘enterprise’ but to maximize short-term profits through speculative trading activities.

Many mainstream and heterodox scholars have underlined the relationship between the phenomenon of financialization and the contemporary growing economic inequalities. Zingales (2015, p. 1350), for example, notes that the spread of the ‘bad’ type of finance caused

<sup>17</sup> This behavior characterized not only the banking activity but also the activity of nonfinancial corporations, which, starting in the 1980s, used increasing amounts of external financial resources to buy financial assets instead of financing investments. (See, for example, Altuzarra et al., 2016).

a “pure redistribution from the duped to the dupers [that is] from the (relatively) poor to the (relatively) rich”. According to Tridico (2017), the phenomenon of financialization caused not only a redistribution of financial rents between the duped and the dupers but, more generally, between wages and profits.<sup>18</sup>

The conclusion that the contemporary crisis has been caused by the speculative behavior of the banking system raises a question: what favored the process of deregulation that caused the prevalence of ‘speculation’ over ‘enterprise’? This will be addressed in the following section.

#### 2.4. Financial crisis and economic theory

In our opinion, a fundamental element explaining the prevalence of ‘speculation’ over ‘enterprise’ that led to the outbreak of the Great Recession is the paradigm elaborated by the economics profession since the beginning of the 1970s (on this point, see Palley, 2013). This paradigm arose when the stagflation of the 1970s and the monetarist counterrevolution based on Friedman’s criticism of the Phillips curve induced the majority of economists to abandon any reference to Keynes’s theoretical approach and to elaborate a new theoretical model based on the recovery of the fundamental pillars of neoclassical pre-Keynesian theory: a model that assumes that market economies are structurally stable and that they converge towards a ‘natural’ equilibrium in which the occurrence of a crisis is strictly ruled out.

By eliminating the distinction between ‘enterprise’ and ‘speculation’, this paradigm has brought about the prevalence of ‘speculation’ over ‘enterprise’, because it provided the theoretical justification for a political program based on deregulation of markets (in particular, deregulation of labor and financial markets) and on the liberalization of goods and capital movements, thus causing a clear detachment from the rules introduced after the Great Crash of 1929. The theoretical justification for this program was simple: more deregulation means more competition, and more competition means more efficiency. The link between market deregulation, greater competition, and a substantial improvement in the working of market mechanisms may be valid in non-speculative markets. However, in a monetary economy, financial innovations may generate instability and crises because, as pointed out by Keynes, they may pave the way for the prevalence of ‘speculation’ over ‘enterprise’.

Since the beginning of the 1980s, a clear sign of the increase of the weight of speculation comes from the misuse of securitization techniques. As we have seen earlier, deregulation transformed the American banking system into a homogeneous organism dominated by huge universal banks pursuing exclusively the goal of maximizing the shareholder’s value by means of speculation. Furthermore, the presence of speculative markets explains why deregulation and more competition did not cause a drop in profits and incomes in financial markets, as suggested by the traditional theory. Increased competition among mechanics in the second-hand car market, as described by Akerlof (1970), would have certainly caused a reduction of their income, but this did not happen with the banks and bank managers.<sup>19</sup>

<sup>18</sup> “In short, financialization worsens income distribution through two channels: i) it favours the aggressive implementation of the principle ‘downsize and distribute’ so that corporations’ managers have as the only objective to maximize and *distribute* dividends for the shareholders at the costs of squeezing production, cutting wages and *downsizing* [...] ii) it favours an aggressive short-term strategy of corporations’ managers interested mainly to sell products and to the maximization of bonus and profits in the short terms at the expense of the wage bill” (Tridico, 2017, p. 14). On this point see also Hein (2012) and Hein and Dodig (2015).

<sup>19</sup> On the relationship between financialization and income distribution, see Hein (2012) and Hein and Dodig (2015).

### 3. Conclusions

Since the outbreak of the financial crisis in 2007-2008 there has been a widespread diffidence in public opinion regarding finance, banks and bankers. Zingales (2015) has argued that economists tend to overestimate the benefits of finance and to ignore that the 'best type of finance' is accompanied by a 'bad type of finance'. We have stressed that the mainstream theory developed in the last 40 years is unable to explain the distinction between 'good' and 'bad' finance. In fact, this theory leads to the conclusion that "all that we observe is efficient" (Zingales, 2015, p. 1340). According to the mainstream theory of finance, the institutions created by the market, such as banks, produce only positive results because they allow for the elimination of the negative impact of informational asymmetries.

We have shown that the explanation of the distinction between 'good' and 'bad' finance requires the employment of an alternative theoretical approach based on relevant elements of Schumpeter's and Keynes's thinking. Schumpeter's analysis of the role of bank money in the process of economic development characterizing capitalist economies illustrates the concept of 'good' finance. Keynes's contribution, which is based on the distinction between 'enterprise' and 'speculation', instead shows that the same financial mechanisms underlying the process of economic development described by Schumpeter are at the root of the economic system's fragility and of economic crises. In other words, the financial mechanisms that make possible the phenomenon of 'enterprise' also create the conditions for the presence of speculative markets and for the burst of speculative bubbles that may trigger deep economic recessions. The Keynesian theory of speculation defines the concepts of *tail risk* and of *herd behavior* that, without quoting Keynes, mainstream economists like Raghuram Rajan have used to explain the origins of the contemporary crisis.

The contemporary crisis has shown that economic theory plays an important role in the conditions that may lead to the prevalence of 'speculation' over 'enterprise'. In fact, the diffusion of a paradigm that neglects the distinction between 'good' and 'bad' finance has provided the theoretical justification for the deregulation of financial markets and the liberalization of capital movements that induced professional speculators like the banks to emphasize 'speculation' over 'enterprise'.

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