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**Keynes: investment theory and practice
in comparison with contemporary
markets**

Relatore
Prof. Gianfranco Tusset

Diplomando
Giacomo Polignano

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Abstract

Keynes is generally studied and recognized for his theories on economics, especially those springing out the General Theory (1936). A lot less known are other interests in his life, like his involvement in financial markets as speculator and investor. The goal of this thesis is to look both at the evolution of Keynes' thought on speculation and investment and at the his style of trading in the market. Finally, looking at the current behaviour of investors as extrapolated through ethnographic studies and interviews, we will try to see whether the mathematical revolution begun with Markowitz has changed completely the landscape, or leaves still room for some of Keynes' lessons.

1 Introduction

Keynes has been one of the most influential economists during his lifetime and his legacy is still present in nowadays' discourse both among professionals and academics. In particular the General Theory (1936) has reached an extremely broad audience, including financial markets professionals (e.g. Wasik 2013; Walsh 2021), despite having as intended recipient his fellow economists. In particular, some ideas expressed in Chapter XII have been widely popularized, like the beauty contest and the animal spirits.

However, much has changed in the financial markets since the General Theory (GT) has been written and a new paradigm has become the dominant one among academics and professionals alike. Based on the early researches by Markowitz, financial economics has grown in importance thanks to the contributions of Sharpe, Fama, Merton, Black and Scholes among others (MacKenzie 2008). Differently from Keynes, in this new paradigm the agents are seen as rationally maximizing a given utility function and the markets are considered efficient, making it impossible for anyone to regularly achieve returns above the market unless provided with non-public information.

Because of the strong rationality bounds under which agents are constrained, both economists and academics of other disciplines started to list deviations from the expected rational behaviour and providing psychological explanations for these biases. Among others, Tversky, Kahneman and Thaler contributed to the founding of behavioural finance. Despite highlighting the presence of biases and heuristics that bring into question the neo-classical concept of rationality, behavioural finance does not propose a paradigm different from the one of financial economics for the way investors take decisions, thus limiting the supposed change it can bring.

If behavioral finance is therefore not able to break away from the neo-classical tradition, is there any alternative that is being developed? Looking at the social sciences field, we can notice that the border between sociology and economics has been rarely crossed from economists in the second part of the XX century. This is sometimes linked back to the so-called Parson's Pact which, as Stark (2009) reports "imposed a jurisdictional division of the social sciences that placed constraints on sociology by limiting its range. Yet, by delimiting a legitimate object of study - society, though not the economy - it ensured that the discipline would flourish in the great postwar expansion of the social sciences." However, while economists developed a mathematical theory of how the economy works and tried to make economics look as similar as possible to the so-called hard sciences focusing their efforts on individualities (e.g. the consumer, the firm, the public sector), sociologists and

social scientists more in general were postulating the embeddedness of economic action in structures of social relations (Granovetter 1985) and developing economic sociology (some pioneering studies include, in addition to the one by Granovetter mentioned above, White 1981; Burt 1992; Fligstein 2001; Podolny 2001).

A similar division affected the studies of finance as well. While the nascent field of financial economics became more and more mathematical and focused on the investor as mentioned above, sociologists started to get interested in financial markets, as distinct from real markets, only with the expansion in importance and volume traded started in the 1980s (e.g. Smith 1981; Baker 1984; Smith 1989; Abolafia 1996; Sassen 2001).

Because it takes in consideration the role of uncertainty and conventions in financial markets and it uses a different methodological approach than the qualitative one usually studied in business schools and economics and finance degrees, we believe that the sociology and ethnography of finance can provide a valuable analysis of financial markets, complementing a more mathematical approach in the study of investors' decision making.

The goal of this study is therefore comparing the description of financial markets as done by Keynes with the behavior of nowadays investors. The objective is twofold. First, to show that the differentiation of risk and uncertainty is still present and, we will argue, always will be independently of how complex the instruments developed by the financial industry can be. Secondly, by showing the actuality of Keynes' analysis, we hope to show that, despite the many changes in society, there are some aspects that remain more stable throughout time, thus justifying the study of apparently "not useful" disciplines such as history of economic thought, usually set aside for the development of more "practical" skills.

This study is articulated in two parts. In the first one we will look at the development of the ideas described in the *General Theory*, starting from the ideas expressed by Keynes' mentor, Marshall, and the at-the-time main point of reference for financial studies, Emery. We will then look into his early lectures and his original theory of probability as outlined in the *Treatise of Probability* of 1921 to describe his starting point and the connections with the two aforementioned authors. Finally, we will pass through two different texts, the *Tract on Monetary Reform* and the *Treatise of Money* and we will conclude with the *General Theory*. In addition, we will also look at Keynes' practical acquaintance with markets, as this will be a factor explaining the evolution of his thought. This will provide us with the theoretical framework we will use in the second part, where we will

look at current behavior of traders and see if it fits with the framework described.

2 Keynes and speculation

Keynes' financial activity began on July 6, 1905, when as reported in CWK XII he bought 4 shares in the Marine Insurance Company at the age of 22 years. While we will focus on his investment style and the evolution of his capital later in this chapter, it is important to highlight that Keynes' theoretical views are deeply intertwined with his practice, as the latter was providing evidence for his pragmatic method of analyzing and creating theories. To fully understand Keynes' original views on finance, we will look into his starting points on the topic, mainly his master Marshall¹ and Emery, the at-the-time main point of reference for financial studies. The main source on this point will be Lawlor (2006).

2.1 Marshall and Emery influence

When we look at Marshall's theory, we can see that it was under strict scrutiny in the 1930s Cambridge, with the main topics of discussion being the dynamics of investment in industries dominated by increasing returns, joint-stock ownership and large units of production. Indeed, at the beginning of the 1900s, the economic landscape under which Marshall had written his *Principles* had changed drastically. Indeed, if Marshall could still write in a letter to A. W. Flux in 1898

My confidence in Cournot as an *economist* was shaken when I found that his mathematics *re* I.R. [Increasing Returns] led inevitably to things which do not exist and have no near relation to reality. One of the chief purposes of my *Wanderjahre* among factories, etc., was to discover how Cournot's premises were wrong. The chief outcome of my work in this direction, which occupied me a good deal between 1870 and 1890, is in the 'Representative firm' theory

(quoted in Hart, 2003, p. 165)

and attempt at resolving the issue using a biological analogy² (Lawlor, 2006), already as early as 1907 he was aware that some changes were needed because of the rise of the modern large public

¹For a study on the influence of Marshall on two other members of the Cambridge school, Pigou and Lavington, and their respective views on speculation, the reader can refer to the doctoral thesis of Stevens (2022).

²As trees cannot live longer than the forest they're in, so, given a firm's founders limited natural life span, the firm ("the tree") would not have been able to exploit the increasing returns and create a monopoly in the industry ("the forest").

corporation (Whitaker, 2003). When he turned to this problem in writing in *Industry and Trade* (1919), he had to abandon the concept of the representative firm at the base of long-run equilibrium at the favor of a more dynamic social change where competition was a struggle between large and small firms and technological change altered in the process the grounds on which competition itself took place. While a third of the book is devoted to a comparative historical account of how the industry of various nations had developed, it is in Chapter 5 that Marshall discusses "Constructive Speculation [and] Organized Produce Markets". The main service Marshall believes this institution provides is the shifting of risks to a concentrated locus of knowledgeable and prudent speculators, resulting in a form of insurance:

A produce exchange can best undertake such risks as these, because many minds of first rate ability and many large capitals are occupied there in dealing with just these risks: and because many of the risks are in opposite directions and cancel one another. The broad shoulders of an exchange can carry without effort the intense risk, relatively to his financial strength, which the chance of a rise in price has imposed on one man; and can generally neutralize it by carrying the equal risk, which the chance of a fall in price has imposed on another.

(Marshall, 1919)

This result can be achieved thanks to the superior knowledge of traders, while Marshall defines the opposite, trading on the basis of purposely false information, "manipulative speculation". This speculation is caused by the "folly of amateur speculators", who trade without the knowledge and judgement of insiders and on the base of news old to experienced insiders:

But ill-informed speculators generally suppose themselves to be basing their action on the most recent news. Now the latest information accessible to outsiders has nearly always been acted on by well-informed persons, and has exerted the full influence, belonging to it, before it has reached the public.

Finally, it is in the last published work by Marshall, *Money, Credit and Commerce* (1923) that these issues are looked at more deeply from a point of view more useful in understanding the starting point of Keynes' thought on speculation and finance, specifically the supply and demand aspects of financial markets and the economic functions and influence of trading opportunities on organized

exchanges for produce, credit and equities. Here, Marshall indicates the value of stock exchanges as barometers of the confidence of the investing class:

Stock exchanges are not merely the chief theatres of large business transactions; that are also barometers which indicate the general conditions of the atmosphere of business.

While repeating the functions and possible evils of speculation indicated in *Industry and Trade*, he weakly declares that stock speculation is on balance beneficial, including, as one of the reasons, the beneficial exposure of long-period values:

The purchaser of almost any "security" of which considerable quantities are habitually bought and sold on a stock exchange, is generally fortified by the knowledge that expert and well-informed capitalists regard its price as fairly representing its real value. Therefore, although stock exchange machinations may occasionally set for a time, an unduly high value, or an unduly low value on a particular "security", yet, in the main, the judgement of well-informed, capable men protects the general public from grave errors of judgement in their investments, so long as these are conducted with reasonable caution.

It has also to be highlighted a point that easily reminds of the Keynesian beauty contest:

It may indeed be said that shrewd, far-seeing speculators sometimes govern their own action, not so much by forecasts of the distant future, as by forecasts of the inaccuracy of the forecasts of that future,

thus showing again his awareness of the possibility of large abuses on stock markets.

However, in addition to the published work on monetary theory, we have to consider Marshall's influence by "oral tradition" through unpublished testimony and memoranda (Laidler, 1991; CW 10, Section 4). In particular we will look at the essays "Money" (1871) and "The Folly of Amateur Speculators Makes the Fortunes of Professional. The Wiles of Some Professionals" (1899), neither of which was published during Marshall's lifetime.

Looking at "Money" it can be seen as an attempt by Marshall to include the value of money under the same theoretical treatment - "supply and demand" - as is the determination of the exchange

value of all other commodities. When Marshall tries to do so, we can see that the point he gets to sounds extremely similar to the Keynesian concept of liquidity preference:

This then is the balancing of advantages which each individual has to adjust for himself. If he retains but a very small ready command over commodities he is likely to be put occasionally to considerable inconvenience; if he retains a very large one he receives no adequate compensation for the inaction to which so much of his wealth is doomed. He has thus to settle what is the exact amount which on the average it will answer his purpose to keep in this ready form. Each individual settles this and therefore the whole amount retained in this form by the community is determined by this process on the part of each individual member of it balancing opposing advantages.

(Marshall, 1871)

The 1899 essay can be seen instead between the traditional view of speculators in English economics³ and Keynes' later views as we will describe them below. Indeed, if before 1899, Marshall did not consider speculation as a factor capable of upsetting the reach of a long-term equilibrium as described in the *Principles*, in "The Folly of Amateur Speculators" he looks more seriously at the possibility that speculation might be more than a passing cyclical factor, thus shifting his position to a modern view which places speculation at the very center of the capitalistic engine, as Dardi and Gallegati (1992), the finders of the manuscript, put it⁴. It is important to stress that, despite recognizing the possible risks for the community created by speculators and the possibility of them having an incentive to hide the true values of securities, Marshall's argument will always assume the presence of fundamentals values to be found, diverging from the more radical views of the last Keynes.

As mentioned above, there is a second author that had a strong influence on Keynes and other economists of the time, including Marshall, Fisher and Veblen: H. C. Emery with his book *Speculation in the Stock and Produce Exchanges in the United States*. By trying to fill the gap he was

³As an example we can bring Mill (1871), who indicates speculators as agents whose prominent function is to generate and extend "contagious" buying and selling among the less informed mass of amateur agents, thus causing "some accident which excites expectation of rising prices" to result in "a generally reckless and adventurous feeling" and subsequent commercial panics and price instability.

⁴For an alternative opinion, the reader can refer to Bateman (1996, 2006), who provides two reasons why Dardi and Gallegati views cannot be taken as definite.

seeing in the study of product and stock exchanges in the United States, Emery wrote the book that served as the standard reference for the whole profession until the 1920s at least.

Here we will focus in particular on Emery's historical and theoretical treatment of the economic function of speculation, which he defines by reference of "trading over time". While speculation had been already existing since antiquity, it is because of the standardization of products into grades and legal rights of ownership into generalized claims to a specific quantity of a standardized product, deliverable at a specified future date that a new organization of trading activity could take place:

The development of the system of grading and of elevator receipts is the most important step in the history of the grain trade. It is only with such a machinery that an extension of forward sales in the modern sense is possible, that is of forward sales of goods having no definite existence until the moment of delivery.

But while the main advantage for product markets was transferring the risk-bearing of future price movements to a specific class of individuals as we saw before in Marshall and that justified the possibilities of "speculative" time dealing by speculators, Emery, as Marshall and Keynes after him, struggled in establishing exactly what in the stock market setting constitutes the counterpart to the hedging of intertemporal risk by primary producers and users of commodities that form the *raison d'être* of the produce exchanges:

There is not the same economic reason for future dealings in stocks as in produce, for while any kind of produce is something the supply of which is itself a future thing, and so often cannot be contracted for except for future delivery, a particular stock on the other hand is, in the main, fixed in amount. The stock to be delivered is all in existence at the time of sale, and there seems to be no reason, except for speculation, for postponing its delivery.

However, in trying to show speculation as a normal business practice, he notes that in the case of stock exchanges, differently from produce exchanges, the main reason of existence is not hedging of risk, but rather "direction", providing the liquidity necessary to make large-scale investment palatable to individual investors and, through channelling information into prices fixed on the exchange, ensuring the best distribution of resources among these investments (Lawlor, 2006).

2.2 Early lectures and the *Treatise on Probability*

In this section we will look into the early writings by Keynes, in particular his lectures and the *Treatise on Probability*. We will notice in the lectures that at the beginning of his career Keynes' theories are very similar to those of Marshall as described above, despite he will strongly contribute later to putting them under scrutiny. The lectures and the *Treatise* are deeply connected as Keynes was working on them in the same period. Indeed, despite it was published in 1921, Keynes was already working on it since 1907 and it was ready to be given to the printing press since 1913. In addition to the similar timeline, Keynes' interest in finance appears in the *Treatise* as well, which is however a book on philosophy as he started his career as a logical philosopher influenced by the Bloomsbury Group (Raffaelli 2006, Gillies 2006). Finally, since after the *Treatise* Keynes did not write again on probability, this book is our starting point to interpret some aspects of the 1936 *General Theory*.

It must be pointed out that a lively debate sparked in the 1980s and 1990s regarding the possibility that by the late 1930s Keynes had, at least partially, changed his previously held views on probability (Bateman 1987 and 1991, Davis 1994), while another school of thought stated that this alleged change had not taken place (Lawson 1985, Carabelli 1988 and 2021).

In particular, the reasons for the debate are Ramsey's critical review of the *Treatise* in 1926:

But let us now return to a more fundamental criticism of Mr. Keynes' views, which is the obvious one that there really do not seem to be any such things as the probability relations he describes. He supposes that, at any rate in certain cases, they can be perceived; but speaking for myself I feel confident that this is not true. I do not perceive them, and if I am to be persuaded that they exist it must be by argument; moreover I shrewdly suspect that others do not perceive them either, because they are able to come to so very little agreement as to which of them relates any two given propositions.⁵

This criticism caused Keynes to review his theory, but despite conceding some terrain to Ramsey's arguments, Keynes could not accept his view entirely. Indeed in the *Essays on Biography*, when paying tribute to Ramsey, Keynes writes:

⁵Ramsey (1926), cited in Gillies (2006).

Ramsey argues, as against the view which I had put forward, that probability is concerned not with objective relations between propositions but (in some sense) with degrees of belief, and he succeeds in showing that the calculus of probabilities simply amounts to a set of rules for ensuring that the system of degrees of belief which we hold shall be a consistent system. Thus the calculus of probabilities belongs to formal logic. But the basis of our degrees of belief – or the a priori probabilities, as they used to be called – is part of our human outfit, perhaps given us merely by natural selection, analogous to our perceptions and our memories rather than to formal logic. So far I yield to Ramsey – I think he is right. But in attempting to distinguish ‘rational’ degrees of belief from belief in general he was not yet, I think, quite successful. It is not getting to the bottom of the principle of induction merely to say that it is a useful mental habit.

It therefore seems reasonable to me to adopt an intermediate approach, as described in Gillies (2006), who suggests that by 1936 Keynes had adopted an intersubjective theory of probability, while still maintaining some of the basic principles he had put forward with the *Treatise*.

Therefore, we will start this paragraph first by describing the philosophy of the *Treatise* in order to grasp more fully some concepts of the lectures we will discuss later.

It is important to note how in the preface of the *Treatise* Keynes states that he has been

much influenced by W. E. Johnson, G. E. Moore and Bertrand Russell [which] continue in direct succession the English tradition of Locke and Berkeley and Hume, of Mill and Sidgwick.

In particular, Hume had showed how inductive reasoning can prove neither the truth of the conclusion nor the validity of inductive reasoning. Moore was extremely influential on the Apostles, the Cambridge society that Keynes belonged to, in their research of good and beauty, although his conclusions were to them highly unsatisfactory and, according to Keynes, were based on a wrong account of probability. Russell, as a major proponent of logicism, was the author of *Principia Mathematica*, a major attempt to reduce the whole of mathematics to logic.

It is therefore with this premise that in his *Treatise* Keynes tries to show how probability is part of logic, how it is concerned with the degree of belief which it is rational to entertain in given conditions, and what ground we have for regarding inductive arguments as rational. It has to be stated that Keynes does not look at probability in a physical way (the happenings of events), but

exclusively in a logical way. Indeed, he deals with propositions and how probable the conclusions are given some instances. It is impossible to talk about probability without this relational aspect, as no proposition is in itself either probable or improbable, just as no place can be intrinsically distant. However, the probability-relation $a/h = c$ is not subjective⁶. Even if

what particular propositions we select as the premiss of our argument naturally depends on subjective factors peculiar to ourselves [...], the relations, in which other propositions stand to these, and which entitle us to probable beliefs, are objective and logical.

Furthermore, differently from what is commonly believed and what some theories, such as Venn's or Laplace's, state, not every probability is numerically comparable to any other, and sometimes we are not even able to argue whether some argument is more or less likely than another. In order to do any comparison, some particular conditions have to be fulfilled.

Indeed,

the so-called magnitudes or degrees of knowledge or probability, in virtue of which one is greater and another less, really arises out of an order in which it is possible to place them. Certainty, impossibility, and a probability, which has an intermediate value, for example, constitute an ordered series in which the probability lies between certainty and impossibility. In the same way there may exist a second probability which lies between certainty and the first probability. When, therefore, we say that one probability is greater than another, this precisely means that the degree of our rational belief in the first case lies between certainty and the degree of our rational belief in the second case.

This is expressed more simply through an example: when we leave our home and we try to understand if we have to bring an umbrella with us or not, we can look at multiple evidence, which can either be concordant or discordant. If the weather forecasts state that it will be sunny, but the sky is full of dark clouds, eventually our decision will depend exclusively on our caprice. There is no way to rationally compare the probabilities of these two different pieces of evidence.

⁶This notation has to be interpreted as follows: the probability of the conclusion a based evidence h is c

In order to explain this more formally, we can look at Figure 1, which Keynes himself inserted in the Treatise (CWK VIII, pag. 42).

The point O represents impossibility and the point I certainty, and we can see how all paths necessarily start at O and ends in I. In order to compare probabilities, they have to be on the same path. For example, we can compare W, Y and X to V and Z, but we cannot compare them to neither to A nor to U, since we cannot reach the latter ones moving always in the same direction. Therefore, we can say that Y is more probable than W, since they are on the

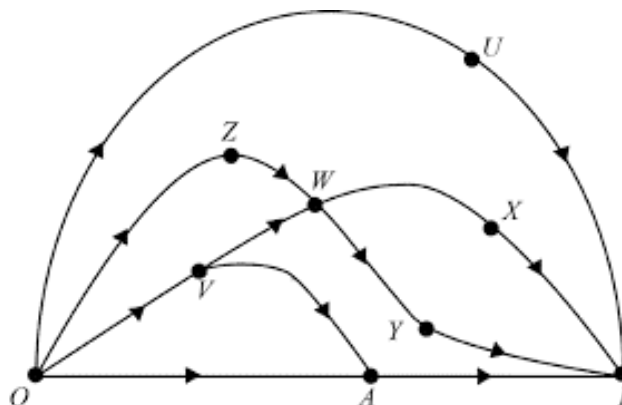


Figure 1: Probabilities

same path, but we cannot say anything about the relationship Y has with and U. Furthermore, we can notice how probabilities can belong to different paths, as in the case of W. Finally, probabilities which are numerically comparable will all belong to one series, and the path of this series, which we may call the numerical path or strand, will be represented by OAI.

However, when are probabilities numerically measurable and therefore comparable? To answer this question, it is fundamental to introduce the principle of non-sufficient reason, or, as Keynes prefers to call it, the principle of indifference, which states that

there must be no relevant evidence relating to one alternative, unless there is corresponding evidence relating to the other. [That is to say,] our relevant evidence must be symmetrical with regard to the alternatives, and must be applicable to each in the same manner.

It is thanks to this principle that Keynes can write

it is evident that the cases in which exact numerical measurement is possible are a very limited class, generally dependent on evidence which warrants a judgement of equiprobability by an application of the principle of indifference [and] unless we are dealing with independent arguments, we cannot apply detailed mathematical reasoning even when the individual probabilities are numerically measurable. The greater part of mathematical probability, therefore, is concerned with arguments which are both independent and numerically measurable.

How all of this is relevant to action generally and to his investment activity specifically is made clearer in a later chapter, *The Application of Probability to Conduct*, where Keynes clearly states that "the probable is the hypothesis on which it is rational for us to act". However, he adds:

It is not as simple as this, for the obvious reason that of two hypotheses it may be rational to act on the less probable if it leads to the greater good. We cannot say more at present than that the probability of a hypothesis is one of the things to be determined and taken account of before acting on it.

Can choice be achieved as utilitarian ethics prescribe, by "summing up consequences"? This presents some difficulties, given the two main assumptions it makes:

First, that degrees of goodness are numerically measurable and arithmetically additive, and second, that degrees of probability also are numerically measurable.

As we already seen before, probability is not always numerically measurable in Keynes' view and, despite not going deeper into it, he states that goodness has the same issue. It has also to be precised that in his argument, goodness does not equate to a monetary value like it happens in economics theory, but it relates more broadly to an ethical concept of good.

However, also waving both these points, using mathematical expectation as a tool for decision making is open to doubt because it ignores the weights of the arguments, defined as the amount of evidence available for a given argument, and the element of risk, defined as the undesirability of a given course of action increasing in direct proportion to any increase in the uncertainty of its attaining its object⁷. Taking those values into consideration, it follows that

Is it certain that a larger good, which is extremely improbable, is precisely equivalent ethically to a smaller good which is proportionately more probable? We may doubt whether the moral value of speculative and cautious action respectively can be weighed against one another in a simple arithmetical way, just as we have already doubted whether a good whose probability can only be determined on a slight basis of evidence can be compared by means merely of the magnitude of this probability with another

⁷As Keynes puts, ignoring the concept of risk corresponds to assuming that "an even chance of heaven or hell is precisely as much to be desired as the certain attainment of a state of mediocrity".

good whose likelihood is based on complete knowledge.

There seems, at any rate, a good deal to be said for the conclusion that, other things being equal, that course of action is preferable, which involves least risk and about the results of which we have the most complete knowledge.

As indicated at the beginning of this paragraph, we will now turn to the lectures. Since the lectures we will refer to have not been published, we will rely on the secondary literature, especially Carabelli (1998, 2002), Carabelli and Cedrini (2013) and Lawlor (1994). The complete notes of the lectures are available in the Keynes papers at Kings College (KCKP). In particular, we will refer to some set of notes, the ones for the course "Modern Business Methods II"⁸ dated 1910, those for "The Stock Exchange and the Money Market"⁹, dated from 1909 to 1914, and the ones for "Company Finance and Stock Exchange"¹⁰. It is relevant to note how at this time Keynes did not have any practical experience on financial markets, and it relied heavily on Emery, as we can see from the quote below on the economic function of speculation:

Thus the function of an organized speculation is limited to certain classes of goods. Its object is to relieve trade of the risks of the fluctuating values by providing a class always ready to take or deliver a property at the market price; and, in so doing, to direct commodities to their more advantageous uses, and the investment of capital into the most profitable channels.¹¹

The reason for presenting the *Treatise* above is made clear when we look into how Keynes justifies speculation and separates it from gambling by creating different types of speculation:

The Nature of Speculation

1. Where the risk is incalculable
e.g. some political insurance at Lloyds
2. Where the risk is more or less calculable

⁸Available in KCKP MM/26.1

⁹Available in KCKP UA/4.5

¹⁰Available in KCKP UA/6.3

¹¹KCKP MM/26.1, cited in Lawlor (1994).

- (a) the risks not averaged
 - e.g. roulette at Monte Carlo
- (b) the risks averaged + commission
 - life insurance
 - fire insurance

3. Whether the speculator's knowledge or judgement is superior to that of the market

1 and 2a - Gambling

2b - Insurance

3 - Speculation - Not identical with "taking risks"

Perhaps bookmaking partakes of all these.

The essential characteristic of speculation is, it seems to me, the possession of superior knowledge. We do not mean by the risk of an investment its actual future yield - we mean the degree of probability of the yield we expect. The probability depends upon the degree of knowledge. In a sense, therefore, it is subjective. What would be gambling for one man, would be sound speculation for another. [...]

If we regard speculation as a reasoned attempt to gauge the future from present known data, it may be said to form the basis of all intelligent investment. But it is better, I think, to regard the speculator as a person who endeavors to make a profit by means of a power of forecasting the future superior to the ordinary.¹²

And similarly

the essential characteristic of speculation is, it seems to me, the possession of superior knowledge. We do not mean by the risk of an investment its actual future yield - we mean the degree of probability of the yield we expect. The probability depends upon the degree of knowledge. In a sense, therefore it is subjective. What would be gambling for one man would be sound speculation for another (instance from betting).¹³

It is clear then that in 1910 Keynes is looking at speculation in a positive light, where the speculator has the duty of freeing traders from the risk that has been brought upon them by the internation-

¹²KCKP UA/4.5, cited in Lawlor (1994).

¹³KCKP UA/6.3, cited in Carabelli and Cedrini (2013)

alization of markets, like Emery was pointing out, and the activity of speculators differs from the one of gamblers (identified with small investors) because of the higher level of information that the former ones have compared to the latter ones thanks to their positions as insiders. This position creates the possibility, described already by Marshall and Emery, of possible abuses perpetrated by speculators, as they have access to real knowledge and are not affected by rumors like gamblers are. However, as of 1910, it does not seem possible that the risk of abuses on the speculator sides will outweigh the benefits of speculation, thus leading on the whole to a gain for society. Finally, it is important to note how in 1910, Keynes is indicating as speculators every individual that acts based on superior information, with no distinction between who buys stocks with a short view and who buys them with a long view:

When, however, we are considering philosophically the true nature of speculation, we must admit that the investor who buys stocks with the full intention of holding it, because he has reason to believe that its future yield will be higher than the generality think, is equally with him, who buys to sell again soon, a speculator.¹⁴

2.3 Keynes's investments

In this section we will focus on Keynes' practical acquaintance with financial markets, and we will describe the evolution of his investment style, as it happened between the late 1920s and early 1930s. This studies were pioneered by Moggridge in CWK XII together with other early sources (Davenport 1975; Chua and Woodward 1983a; 1983b; Pierce 1993; Mini 1995), but in the last 15 years the topic has seen a substantial increase in interest and research (Fantacci et al. 2010; 2012; Holder and Kent 2011; Boyle et al. 2012; Marcuzzo 2012; Chambers and Dimson 2013; 2015; Wasik 2013; Woods 2013; Cristiano and Naldi 2014; Chambers et al. 2015a; 2015b; Accominotti and Chambers 2016; Chambers and Kabiri 2016; Marcuzzo and Sanfilippo 2016; Cristiano et al. 2017; Foresti and Sanfilippo 2017; Cristiano and Marcuzzo 2018; Marcuzzo and Rosselli 2018, Marcuzzo and Sanfilippo 2020; Sicsú 2020; Marcuzzo and Sanfilippo 2022), giving a clearer view on both Keynes' practices and his results. However, rather than delving into the numbers, what we would like to achieve is connecting the practical early experience with Keynes' views as described

¹⁴KCKP UA/6.3, cited in Carabelli (2002).

above, and prepare a similar link with the more mature theoretical views as will be described in the following chapter.

As mentioned above, Keynes began investing at a relatively young age, but it was only after World War I that his dealings increased in volume, thanks to both his revenues linked to the publishing of *The Economic Consequences of the Peace* (1919) and the new personal connections he had developed during his time at the Treasury, especially with O. T. Falk. It's in the first years of the 1920 indeed that Keynes becomes involved in multiple financial institutions: he joins National Mutual as a director in 1919 (he will then become chairman in 1921), the A.D. Investment Trust in 1921, the P.R. Finance Company and the Provincial Insurance Company in 1923, and the Independent Investment Company in 1924. Keynes also followed a similar path at King's College: after being elected as Inspector of Accounts for 1909 and made a member of the Estates Committee in 1911, he became Second Bursar in 1919 and from 1924 First Bursar.

It has to be noted that Keynes' investment style not only changed through time, but differed between institutions in which he was involved and when trading for his personal account, thus making comparison of results rather complicated and not completely useful. If he naturally enjoyed the maximum degree of freedom when trading for himself, he was usually more limited in the insurance companies and investment trusts, both because of the presence of more people in the boards and because of a usually more conservative investment mandate. In the case of King's, Keynes enjoyed instead an ample space of freedom, managing almost as he wished a fund, the Chest, where he was originally authorised in June 1920 to invest £30,000 in foreign government and other government non-trustee securities and subsequently allowed to include shares and currency and commodity speculation.

Looking at the theoretical background of that period, Keynes believed that the speculator was able to earn because of his knowledge, and we can see that this is reflected in the Prospectus of The Independent Investment Company, written in January 1924:

It is now known that fluctuations in the relative values of long-dated and short-dates fixed-interest securities and also of fixed interest securities generally and of ordinary shares are all affected by a periodic credit cycle. Changes in the short-period rate of interest affect the value of long-dated securities to a greater degree than should strictly be the case, with the result that considerable profits can be made by changing from one class to another at the appropriate phases of the credit cycle. Similar periodic

changes also take place in the relative values of money on the one hand and of goods and real property on the other, which are reflected in the relative values of bonds and of shares, representing as these do respectively money claims and property, so that here also the same principle of changing from one class to another at appropriate times can be applied.

The result of accumulated experience on these matters is to make it clear that the course of events is sufficiently regular to enable those who are in close and constant touch with the financial situation in certain instances to anticipate impending changes in the course of the credit cycle.

Keynes was also extremely public in his investment theory and when *The Nation* published an Insurance Supplement in May 1924, he wrote:

Thus it comes about that the management of an insurance company is almost inevitably driven, whether it likes it or not, into what has been termed lately 'an active investment policy'; which, after all, is merely another name for being alive to the fact that circumstances change. Unfortunately, it is not possible to make oneself permanently secure by any policy of inaction whatever. The idea which some people seem to entertain that an active policy involves taking more risks than an inactive policy is exactly the opposite of the truth. The inactive investor who takes up an obstinate attitude about his holdings and refuses to change his opinion merely because facts and circumstances have changed is the one who in the long run comes to grievous loss. Particularly in these days, no one is so wise that he can foresee the future far ahead, Anyone who obstinately takes up the view that over the next twenty years the rate of interest is bound to fall, or is bound to rise, is going beyond the evidence. If he is to be wisely guided he must take a shorter view and be prepared constantly to change it as the tide of events ebbs and flows.

It is equally false to believe that one form of investment involves taking a view and that another one does not. [...] No one can get both security of capital and security of income; yet it is a great mistake to think that an insurance company, which depends on both, can neglect either. [...] But it must be equally obvious that there is no golden rule for this, no invariable method. And this itself is the reason why constant vigilance, constant revision of preconceived ideas, constant reaction to changes in the external

situation, in short, 'an active investment policy', seems to some of us an essential condition, and at the same time the most difficult and important branch, of the sound management of the great insurance societies and corporations which now administer so considerable a proportion of the national savings.

This can be easily understood in the light of the *Treatise on Probability*. When taking investment decisions, the investor has to take all available information to increase the weight of his arguments and considering which one is the option that gives the highest return with the highest probability. However, this has not to be confused with the highest expected value as it would be considered nowadays, but that is quite a troublesome concept for Keynes as we saw above.

It is not sure why, and multiple reasons have been advanced (among others the evolution of his economic thought as we will see below, the financial crisis of 1929, the failures in the anticipating with precision the credit cycle), but what is certain is that from the beginning of the 1930s, Keynes changed drastically his investment method. Instead of trying to forecast the credit cycle from which, as he wrote to Richard Kahn, he had not seen a single case of success from the parties that had tried to use it, he decided to focus on intrinsic value. This also caused a change in the assets on which Keynes was dealing. Rather than commodities and currencies, Keynes greatly increased his position on shares, both in the UK and in the USA. The change can be well understood in the post mortem of his activity with King's for 1937-1938, where he indicates the three following principles for successful investments:

1. a careful selection of a few investments (or a few types of investment) having regards to their cheapness in relation to their probable actual and potential *intrinsic* value over a period of years ahead and in relation to alternative investments at the time;
2. a steadfast holding of these in fairly large units through thick and thin, perhaps for several years, until either they have fulfilled their promise or it is evident that they were purchased on a mistake;
3. a *balanced* investment position, i.e. a variety of risks in spite of individual holdings being large, and if possible opposed risks (e.g. a holding of gold shares amongst other equities, since they are likely to move in opposite directions when there are general fluctuations).

In a similar memorandum for the Provincial Insurance Company, when comparing the number of holdings between the Provincial and King's, he writes:

I am convinced that the good results shown by King's are *mainly* due to the large proportion of its assets held in the less than 50 favorite securities. To carry one's eggs in a great number of baskets, without having time or opportunity to discover how many have holes in the bottom, is the surest way of increasing risk and loss.

We can also see that this view was already present in 1934 in a letter to F.C. Scott, managing director of the Provincial:

As time goes on I get more and more convinced that the right method in investment is to put fairly large sums into enterprises which one thinks one knows something about and in the management of which one thoroughly believes. It is a mistake to think that one limits one's risk by spreading too much between enterprises about which one knows little and has no reason for special confidence.

and confirming that again in 1940:

At any rate, I am sure I could pick out six of my pets, and that much more than the whole of our profit would have been made out of them. Out of the ordinary mixed bag of investments nobody ever makes anything. And if one breaks more or less even, it is the best you can possibly hope for. This has been my uniform experience in all investment connections.

It could be argued that this change made Keynes the inventor of value investing (as Wasik; 2013 and Walsh; 2021 do), but although there are some similarities, Sicsú (2020) points out how Keynes' later investment style differs from Graham's as he describes in his famous book *The Intelligent Investor* (1949)¹⁵. Also, despite the multiple trips to the US and the number of important people Keynes met while there, Graham was never one of them (Chambers and Kabiri; 2016), thus making it more probable the both authors arrived to some similar conclusions without any respective influence.

¹⁵The book was co-authored by Graham's most famous student and widely recognized value investor Warren Buffett.

2.4 The confluence into the General Theory

As we have seen in the previous paragraphs, at the beginning of the 1920s Keynes held an overall theoretical positive view of speculation and relied on the theories developed by Emery and Marshall, while combining them with concepts he had developed in his *Treatise on Probability*. He was also at the beginning of his career as a speculator as well. If in 1910 he still didn't have any practical experience as he indicated in his lectures, he was about to fill what he saw as a gap and enter the commodities and currencies markets.

The question we will try to answer in this final paragraph on Keynes is how it is possible that his views were apparently completely changed by the end of 1930s when he was writing the *General Theory*? In his *magnum opus*, Keynes sees investment¹⁶ as one of the two main contributors to effective demand together with consumption, and devotes a lengthy part of the book to the describe how investors take decisions and how that affects society at large. However, when reading Chapter 12, titled *The State of Long Term Expectations*, his description of how investors take decisions highlights multiple possible pain points, culminating in the famous sentence:

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 outstanding triumphs of *laissez-faire* capitalism.

Looking at his trading experience, we can notice how in article written in 1923 for the Manchester Guardian Commercial Reconstruction Supplement, he still holds a positive view of the role of commodities speculators, their function has been limited:

Without any pretensions, indeed without paying the slightest attention to the prospects of the commodity he deals in or giving a thought to it, he may, one decade with another, earn substantial remuneration *merely* by running risks and allowing the results of one season to average with those of others; just as an insurance company makes profits

¹⁶Investment intended as investments in real economy (e.g equipment), not investments in financial assets. The two are naturally linked, but separate, as real investments enter into the the effective demand. It has also to be pointed out that the main driver of effective demand remains consumption.

without pretending to know more about an individual's prospect of life of the chances of his house taking fire than he knows himself. The explanation is in the fact that, for the sake of certainty, the producer, not unnaturally, is prepared to accept a somewhat lower price in advance than what, on the balance of probability, he thinks the price is likely to be when the time comes.

Therefore, the speculator does not have anymore a superior forecasting power¹⁷, but he still has the risk-bearing function. Furthermore, as he had found in the currencies market, a speculator may base their expectations on what he regards as probable, but he's still subject to what actually happens in the market and does not have the power to hold into his position for long if what he's expecting does not happen. As he writes in an article for the *Nation and Athenaeum* in 1923 titled *The Foreign Exchanges and the Seasons*

Speculators can only cause the exchange to rise or fall at an earlier date than it would have done otherwise. For they have to reverse their transaction in due course, buying back or selling out as the case may be; so that, whether the thing which they anticipated has happened or not, their influence washes out sooner or later. Generally sooner rather than later, because the mass of speculators take short views and lose heart very quickly if there is any delay in what they had anticipated.

This view is also represented similarly in the preface to the 1923 edition of the *Tract on Monetary Reform*:

This is not far removed intellectually, from an African witch doctor's ascription of cattle disease to the "evil eye" of a bystander or bad weather to the unsatisfied appetites of an idol.

In the first place, the volume of speculation, properly so called, is always extremely small in proportion to the volume of normal business. In the second place the successful speculator makes his profit by anticipating, not by modifying, existing economic tendencies. In the third place, most speculation, especially "bear" speculation, is for

¹⁷In the same article, Keynes write that the speculator "is not much a prophet (though it may be a belief in his own gifts of prophecy that tempts him into the business), as a *risk bearer*. If he happens to be a prophet also, he will become extremely, indeed preposterously, rich.

very short periods of time, so that the closing of the transaction soon exerts an influence equal and opposite to its initial effect.

In addition to that, Keynes still holds Emery's positive views of the economic function of speculation and extends to it the foreign exchanges¹⁸:

Where risk is unavoidable present, it is much better that it should be carried by those who are qualified or are desirous to bear it, than by traders, who have neither the qualifications nor the desire to do so, and whose minds it distracts from their own business. The wide fluctuations in the leading exchanges over the past three years have been due, not to presence of speculation, but to the absence of a sufficient volume of it relative to trade.

This being said, we will focus on the stock market for the remaining part of this chapter for multiple reasons. Firstly, it seems that Keynes will not change substantially his opinion of commodities and currencies speculation after the *Tract*. If one looks into the *Treatise on Money*, which as Skidelsky (1992) argues, can be seen as Keynes' "summing up of the 1920s", the discussion on currencies speculation is almost the same and the only difference on commodities seems to be a further reduction in the power of speculators in carrying out their risk-bearing function. Because of the elevated carrying costs speculators would need to support to smooth out price movements during the credit cycle, speculators would intervene only if the prices were brought down to such ruinous levels as to halt any further production (Lawlor, 1997). Secondly, while reviewing a book by Edgar Lawrence Smith, *Common Stocks as Long-Term Investments*, in an article for the *Nation and Athenaeum* in 1925, Keynes reports Smith's conclusions that indicate stocks' long-term higher returns because they are an investment in real values, rather than money values, and the element of compound interest present in business due to a non-complete distribution of earnings, with the re-investment in the business if the non-distributed part. Finally, if in the *Treatise* a discussion of all three markets is still present, in the *General Theory* the main point of discussion relates to the stock market, which, combined with the change in investing strategy occurred by then, indicates a clear change in Keynes' interests.

¹⁸Foreign exchanges were not possible prior to the 1920s because of the golden rule and a subsequent fixed exchange rate.

It is interesting to note how almost every matter of detail related to stock market speculation is identical between the *Treatise* and the *General Theory*¹⁹, with the main differences being the concept of long-term normal values, which in the *Treatise* is still Marshallian, and the policy suggestions. Indeed if in the *Treatise*

in the long-run the value of securities is entirely derivative from the value of consumption goods. It depends on the expectation as to the value of the amount of liquid consumption goods which the securities will, directly or indirectly, yield

in the *General Theory* there is no fixed long-term value of securities which will be reached at equilibrium, because the long-term state is based on current expectations of what that long term looks like, and expectations are subject to change. The only way to reach the long-term values is that long-term expectations are held for a long enough period of time. This is going to be difficult to happen, given the "extreme precariousness of the basis of knowledge on which our estimates of prospective yield have to be made" and causes us to fall on a convention, which essence "lies in assuming that the existing state of affairs will continue indefinitely, expect in so far as we have specific reasons to expect a change". But the probable forecast, the prospective yield, is not the only is not the only item on which the state long-term expectation depends, but

it also depends on the *confidence* with which we make this forecast - on how highly we rate the likelihood of our best forecast turning out quite wrong. If we expect large changes but are very uncertain as to what precise form these changes will take, then our confidence will be weak.

This causes the policy suggestions to ensure a smooth functioning of the stock market to be completely different in the two books. If in the *Treatise*

a currency authority has no *direct* concern with the level of value of existing securities, as determined by opinion

in the *General Theory* it is suggested that

¹⁹One can refer to Lawlor (2006, 145-146) for a side-by-side comparison of quotations from the two books.

The introduction of a substantial government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigating the predominance of speculation over enterprise [...]

The spectacle of modern investment markets has sometimes moved me towards the conclusion that to make the purchase of an investment permanent and indissoluble, like marriage, except by reason of death or other grave cause, might be a useful remedy for our contemporary evils. For this would force the investor to direct his mind to the long-term prospects and to those only.

In this chapter we have described Keynes' final views on financial markets, and the evolution of his thought on speculation, showing the historical origins of his views and how his views evolved and became original. It has been important to note that the views expressed in the *General Theory* were not completely new, but relate to a more general discussion on speculation started from the mid-1880s and that Keynes developed by mixing it with his studies on probability and his practical market experience.

The goal of next chapter will be to look into the behaviour of contemporary financial operators and see if with the introduction of new financial methods and the progressive mathematicization of the field, Keynes' views are still relevant, or belong exclusively to the past.

3 Today's investors

In this chapter, we will use the Keynesian²⁰ framework described above to analyze the behaviour of professionals in the finance industry. To do so, we will look into the field of sociology of finance to gather a view different from the one that is usually taught in business schools and reflect more broadly on the value of financial studies, as separated from the function of financial markets, (Preda 2017) the values of financial operators and how value is generated inside financial markets (Stark 2011, Beunza 2019). While doing so, we will also look into the role of models used by professionals (Ortiz, 2021) and the role of narratives in the financial industry (Beckert and Bronk, 2018).

When looking at financial professionals behavior, we will use the general assumptions of financial economics - that they are profit maximizers, their expectations are either correct or distributed according to a given probability distribution (usually Gaussian), and their decisions are not affected by social and psychological factors - as a benchmark for the analysis.

It has to be noted that a more recent approach, econophysics, does not share the same assumptions as financial economics. However, rather than replacing them with some different ones, econophysics focuses on the empirical analysis of market phenomena without any particular interest in theory. This seems to us an important issue to be confronted when looking at this field from a Keynesian perspective. It is important to report on this regard what Keynes was writing to Harrod during his debate with Tinbergen²¹

Economics is a science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world. It is compelled to be this, because, unlike the typical natural science, the material to which it is applied is, in too many respects, not homogeneous through time. The object of a model is to segregate the semi-permanent or relatively constant factors from those which are transitory or fluctuating so as to develop a logical way of thinking about the latter, and of understanding the time sequences to which they give rise in particular cases.

Good economists are scarce because the gift for using 'vigilant observation' to choose

²⁰With the word Keynesian in the remaining of the thesis, we do not mean to refer neither to the neo-Keynesians nor to the post-Keynesians nor to any other current that indicates Keynes as its starting point, but exclusively to the concepts described above as they appear in the General Theory, unless otherwise stated.

²¹Tinbergen is one of the fathers of econometrics and was awarded the first Nobel Prize in Economics in 1969 with Frisch "for having developed and applied dynamic models for the analysis of economic processes".

good models, although it does not require a highly specialised intellectual technique, appears to be a very rare one.

In the second place, as against Robbins, economics is essentially a moral science and not a natural science. That is to say, it employs introspection and judgements of value.

(CWK XIV, 296-97)

And in a second letter sent a couple of weeks later, he explains further

In chemistry and physics and other natural sciences the object of experiment is to fill in the actual values of the various quantities and factors appearing in an equation or a formula; and the work when done is once and for all. In economics that is not the case, and to convert a model into a quantitative formula is to destroy its usefulness as an instrument of thought [...]

The point needs emphasising because the art of thinking in terms of models is a difficult - largely because it is an unaccustomed - practice. The pseudo-analogy with the physical sciences leads directly counter to the habit of mind which is most important for an economist proper to acquire.

I also want to emphasise strongly the point about economics being a moral science. I mentioned before that it deals with introspection and with values. I might have added that it deals with motives, expectations, psychological uncertainties. One has to be constantly on guard against treating the material as constant and homogeneous. It is as though the fall of the apple to the ground depended on the apple's motives, on whether it is worth while falling to the ground, and whether the ground wanted the apple to fall, and on mistaken calculations on the part of the apple as to how far it was from the centre of the earth.

But do not be reluctant to soil your hands, as you call it. I think it is most important. The specialist in the manufacture of models will not be successful unless he is constantly correcting his judgement by intimate and messy acquaintance with the facts to which his model has to be applied.

This, considered with the final investment style of Keynes as described above, seems to us a good reason to not focusing on this approach when analysing the behaviour of financial professionals

and the framework in which they take decisions. Also, we will focus on the behaviour of equities traders, as that is one of the oldest markets and one of the most analysed by sociologists so far. In addition, equities is one of the asset classes where Keynes was involved, so that will facilitate the comparison with the framework described in the previous chapter.

3.1 Valuation methods

When looking at the different valuation methods for equities currently used, we can generally group them in three main categories, fundamental, relative and speculative, each with a specific relation to the concepts of market efficiency, the investor and value (Ortiz, 2021).

Starting with the fundamental valuation, it usually refers to investors looking for the true value of a company based on the values indicated in the financial statement and then using the discounted cash flow (DCF) model to find an estimate of the long-term value. In this case, the market is considered to be inefficient in the short term because, if it was always efficient, there would never an opportunity to buy at a price lower than the real one. However, in order for this method to work, the market needs to be considered efficient in the long term in order for the price of the shares to get back to their correct value.

The relative valuation looks for mispricings between companies that are assumed to be similar, for example because they are in the same sector, by looking at some financial ratios to find any outlier. When using this method, the investor is faced with a constant contradiction: when screening for companies which are undervalued, the market is assumed to be efficient and to show the correct price for the securities, apart from the security that is eventually assumed to be mispriced. In addition, the market is assumed to get back to efficiency in the long term for the investor to make a profit when the error is corrected.

Finally, speculative valuation is the one that is the most similar to the concept of the beauty contest as described by Keynes, as it tries to infer the future prices of securities from the opinion of other market participants. An example of this method is chartism, which uses graphical representations of past prices and behavioural psychology to forecast their future evolution.

It is interesting to note not only the contradictions inside each valuation model, but also the interdependences between them. For example, in order to understand where the market will move, an analyst can use the fundamental and relative method to assess the lines of reasoning of other investors and predict their future actions, thus not limiting the analysis to one specific method of

valuation. In any case, as Ortiz (2021) points out "these relations concern the idea that stock prices reflect the value of the company in a way that is technically accurate and politically legitimate. Thus, through these interdependences and contradictions, the possibility that the truth of value exists and is revealed in prices is reiterated as the foundation of valuation and of the financial industry's contribution to a socially optimal allocation of resources".

Finally, these contradictions and interdependences are not something that could disappear from the market, but rather something that is fundamentally necessary for its functioning. Some participants are needed to believe the market is efficient and some to believe it is not for prices to be used as a signal and market efficiency to theoretically exist (Grossman and Stiglitz, 1980). Also, when looking at the reports generated by the analysts of a brokerage company based in New York and Paris written for fund managers, Ortiz points out how each one of them develops an argument about how the price of the company should evolve in the future and how "these lines of reasoning are a major tool of communication about the value of companies - and also the basis of official controversies about these values because different expectations about the future result in different present values". The most important issue therefore, is not the precision of the inputs used in the calculation, but the coherence and reasonability of the forecasted scenario, which needs to convince the fund manager the future that is being showed at the present moment corresponds to the future that will actually occur at a later point in time.

3.2 The narrative aspect of financial markets

This concept of reasonability and narrative is not limited to the brokerage profession, but is a fundamental element of current financial markets, of which monetary institutions, and central banks particularly, seem to be the most aware. As Ben Bernanke, former chair of the Federal Reserve and Nobel Prize laureate, put it:

When I was at the Federal Reserve, I occasionally observed that monetary policy is 98 percent talk and only two percent action. The ability to shape market expectations of future policy through public statements is one of the most powerful tools the Fed has. The downside for policymakers, of course, is that the cost of sending the wrong message can be high. Presumably, that's why my predecessor Alan Greenspan once told a Senate committee that, as a central banker, he had 'learned to mumble with great incoherence'.

The influencing of public perception on the future status of economics by the monetary authorities has been given the name of forward guidance and one of the most examples is Mario Draghi's words "Whatever it takes" in reference to the ECB efforts to save the euro as common currency in the European Union in the midst of the sovereign debt crisis in 2010.

As mentioned above, financial markets cannot be separated from this narrative element, to which Keynes was already referring to when introducing the concept of animal spirits. In order for professionals to make investments, they need to have confidence in a future over which they have a limited forecasting power. Indeed, even despite the ever-growing quantity of available data for analyses and the constantly increase in computing capabilities, it seems extremely difficult to conjugate modern societies, characterized by a spirit of innovation and openness of possibilities, with an ergodic system where data from the past can accurately represent the future within a certain margin of error.

That is however what finance has been promising to do, transforming uncertainty into calculable risk and creating therefore a safer investment space by allowing the financial system to hedge a growing number of risks (Merton, 1995). In order to make risk commensurable and objectify it, it is now measured by volatility, which, as Esposito (2018) points out, is usually measured in three ways in the financial world:

1. Historical volatility, defined as the standard deviation of a given asset and is calculated starting from the previous prices of the asset;
2. Advanced volatility, defined as the subjective expectations of an operator and how one expects the asset to behave;
3. Implied volatility, calculated as the volatility that returns the current option prices as quoted in the market and expressing therefore an estimate of the operators' perception of future market movements.

None of the three definitions is however able to objectify in a logical way the concept of risk, and thus every definition leaves room for miscalculations to happen. Indeed, if the issues with historical

volatility and advanced volatility as objective measures of risk are the most evident²², the limits of implied volatility require a more attentive analysis. Indeed, if implied volatility is calculated from market prices, and market prices are assumed to include all the relevant information, why would implied volatility not be an objective and correct measure of risk?

It has to be noted that when using implied volatility to analyze a given investment, volatility is both an input and an output. It is an input in the pricing formula when used to calculate a price for a option while searching for a bargain, and is then an output when the formula is reversed to measure the market sentiment, thus generating a loop issue. Therefore, implied volatility cannot be taken in an objective sense, but can be instead interpreted as the market sentiment as to what will happen in the future at different points in time, thus providing a measure to what one thinks and opening opportunities for profit in a way that resembles that aforementioned Keynesian beauty contest.

Despite this may be potentially seem an innocuous process at first, this is precisely the process how unpredictability is created, by creating a distinction between the present future and the future present (Esposito, 2011, 2018). As she points out:

The present future is the future as we can see it in the present. As Knight²³ observed, it is inevitable for actors to react 'to the "image" of a future state of affairs' (Knight 1921 [1964], 201). This image is inevitably a fiction in the sense that it envisages a reality that does not (yet) exist, but at the same time it is not a pure fantasy because it has some basis in actual expectations or beliefs and cannot be changed at will. The same happens in novels with the characters and the events of narrative fiction. Everyone knows that Robinson Crusoe is a sailor and a castaway, even if they know that he never existed and that everyone else knows it. Nevertheless, when it comes to Crusoe and his adventures, it would simply not be true to say that he is a woman or that he died in the shipwreck, and one can assume that others share the same reference. Fiction has its objectivity and produces real consequences: for example, the experiences made while reading novels affect behaviour and expectations in real life. Similarly, financial traffic also produces its own kind of fiction, which is used to manage and exploit the uncer-

²²In the case of historical volatility, the operator is looking at past prices and using the value to forecast future values, but given the not-ergodic nature of financial markets, there is no way to assure that the past is a good representation of the future, while in the case of advanced volatility, since it is a subjective judgment, there is no way to combine different values in an objective way.

²³And Keynes together with others

tainty of the future. The present future is a fiction because it refers to a reality that does not exist yet, but it is not an arbitrary fantasy, since it uses probabilistic calculations and controlled models that help allow the actors to predict the course of events to the extent it is characterized by Knightian 'risk'. Like all fictions, financial models about the future are extremely controlled constructions - much more so, indeed, than reality - but they are not accurate representations of a future reality. They can refer only to present images and to the currently available data derived from the past.

These constructions, then are neither simply false nor wrong. Nor are they true. Their significance is rather that they can be extremely useful for directing decisions and actions. Their fictional scenarios are controlled and non-arbitrary, and have concrete and very real consequences, because they guide and orient our decisions and our behaviour. What will be real, however, is the future present, a present that does not exist yet but will come about later, as a consequence in large part of our present decisions and actions.

It can therefore be argued that

implied volatility is a fiction in this sense. Taken as the measure of risk, it does not deal with actual future contingencies, or even with future uncertainty (nothing guarantees that a turbulent asset will go on being turbulent in the future), but concerns the expectations of observers on uncertainty - what everyone expects others to expect. Implied volatility measures the level of restlessness of a financial activity as one can imagine it on the basis of its past restlessness. Implied volatility concerns the present future. This is the measure that guides options pricing models. It is at the level of this fiction that one can find an order, but the measure can only appear objective because the expectations of the observers are confused with the actual future development of the world: fiction is confused with future reality.

It is also interesting to note how, if enough investors actually use the same method and act based on the results obtained from it, it is possible that a formula returning initially "wrong" results when compared to market prices becomes more and more "correct" because of a self-fulfilling prophecy mechanics (or Barnesian performativity, as MacKenzie (2006) prefers to call it in his study of the revolution in financial studies and practice caused by the Black-Scholes formula).

In any case, any attempt to exploit either this performative function or the reflexive aspects of risks are the substance of the market and the originators of the same uncertainty that markets try to tame, thus making the process endless and the research potentially fruitless.

Of course, this aspect is not limited to options or equities markets, but is present in every kind of market. Paradigmatic from this point of view is the example of Max, the trader involved in merger arbitrage in Beunza (2019). When looking at the probability of a merger to happen, the models and the probability calculations are a starting point, but those are constantly compared to the what the market is pricing and in case of an excessive variance that cannot be explained, the original assumptions are doubted and rediscussed to improve ones' understanding.

The significance of the spreadplot could thus not be overstated. Its use provided merger arbitrageurs with a measurement of the extent to which their estimates deviated from their rivals'. It also warned them against missing information, prompted additional search, pushed them to use their business contacts, and ultimately gave them the necessary confidence to expand their position. [...]

Max used models to *infer* a form of social cue from market prices, and specifically, to infer the market's average implied estimate of merger probability.

This example, together with other ones reported in Beunza, Hardie and MacKenzie (2006), shows how strongly financial activity is embedded into social relations from which it cannot be abstracted and that creates a unavoidable feedback loops. As Beunza, Hardie and MacKenzie (2006) report from one of their interviews with a trader:

'All I want is people even to talk about it', the trader told us. If others also took action on the pricing anomaly, they would prevent it widening. Should it widen, the trader explained, he might even come to doubt his belief (the 'theory' behind the trade) that the anomaly was a discrepancy that would close. 'There might be a reason [for the anomaly] I don't understand. I might have to reconsider the decision [to construct a trading position predicated on it narrowing].'

Value in financial markets, therefore, does not seem to be created through the elimination of uncertainty, which, as we have seen, is a fundamental element of market existence, but rather through

the combination in an innovative way of elements already present in the market²⁴ (Stark, 2011). This innovative ideas can however only be generated throughout the communication with one another of market participants, belonging both the same company or different ones, with every trader developing scenarios that need to be deemed rational by their peers to spring action and in the end hopefully the achievement of the desired goal.

²⁴In a way that could recall the concept of "creative destruction" as theorized by J. A. Schumpeter.

4 Conclusions

In this thesis we have described the evolution of Keynes' thought on investment and speculation, starting from the early lectures he held in 1910 to the final version of it as expressed in the *General Theory*. In order to do so, we provided a description of the authors that mostly influenced him, his mentor Marshall and Emery. We hope to have showed that the description of the financial markets as it appears in the *General Theory* is innovative, but deeply rooted on the economics of the time, thus partially reconsidering the revolutionary status people usually ascribe to it (and that Keynes fostered with his language as a complete break from the "classics").

While describing Keynes' journey, we passed through multiple of his writings, including *A Tract on Monetary Reform* and *A Treatise on Money*, to show the evolution of his thought from a classic Marshallian framework to its full maturity. Also, we showed how one of his first writings, the *Treatise on Probability*, is still at the basis of his discussion on speculation, despite the debate with Ramsey. Also, we discussed how important Keynes' practical expertise with financial markets was in influencing his thought and vice versa, moving from a credit cycle investment style to one more similar to the principles of value investing.

In the second part of this thesis we tried to show how Keynes' framework can still be used to interpret behavior of nowadays' investors using research provided by the growing fields of sociology and ethnography of finance. In particular, we showed the irreducible contradictions that lay at the base of each investing method, and how actual decision making in uncertainty cannot be limited to a rational calculation, but requires to incorporate in the analysis the role of narratives which undermine the possibility of considering the system as ergodic.

We believe there are many ways to expand this research, focusing both on Keynes, current investors' behavior, or both.

Looking at Keynes the investor, in this paper we have focused on his activity on stocks, commodities and currencies, but these are not the only markets where he was involved. For example, Chambers, Dimson and Spaenjers (2020) analyze Keynes' investment in art and identify general attributes of art portfolios crucial in explaining why investor returns can substantially differ from market returns. Also, given the particularity and niche of the assets sold in art markets, it would be interesting to analyze how investors discover and analyze value in this sector.

Focusing instead on the more theoretical Keynes, the change in policy suggestion occurred between the *Treatise on Money* and the *General Theory* can be studied more deeply and possibly connected

with some of his more political writings to analyze if this change was part of a bigger swing in political ideas.

Finally, looking at the social study of finance, in this article we have focused mostly on stocks and trades decided by human, as this seemed the most reasonable option to compare to Keynes' own trading. It has however to be noted that nowadays both a new autonomous way to trade has risen and different types of assets are traded at a high volume, including among others trade receivables. This gives a way to further extend the current research in both directions: studying the effect of automatic trading on the narrative aspects of the market and if the same narrative framework applies to asset classes different from stocks.

All of this being considered, we hope that the present work will be just a first step towards a deeper understanding of market dynamics and the fitting of them in a broader theoretical framework that allows for a type of rationality complementary to the one assumed in financial economics.

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