

What is a Speculative Bubble?

Gloria Sansò

gloria_sanso@libero.it

Abstract: According to complexity economics, a speculative bubble is a paradigmatic case of emergence which forms from individual behaviour. In order to provide a more detailed ontological investigation of this 'lower level', this paper aims to understand what a transaction is and how people actualize their financial choices. Given that selling and buying operations may involve just machines, it is argued that collective intentionality, at least in John Searle's version, is not successful. It would seem, therefore, that the pivotal role is played by documents. The paper focuses mostly on the documents' capacity to anchor quasi-abstract entities to reality and to attribute social and economic properties, such as property having a certain value. The latter is clearly involved in the emergence of a bubble.

Keywords: social ontology, speculative bubbles, emergence, documents, collective intentionality

According to Wikipedia, a speculative bubble is 'trade in an asset at a price or price range that strongly deviates from the corresponding asset's intrinsic value',¹ and it usually occurs when, in a compressed period of time, many people decide to invest in a certain asset. Demand growth causes the boosting of prices. This fact induces new people to think that it is a very good deal and that it is profitable to invest in this asset; therefore, the price continues to rise and to deviate increasingly from the asset's intrinsic value, namely the production cost. At this point, demand starts to decrease typically for two main reasons: the asset price is now too high and it does not attract new investors, while asset-holders try to sell it in order to collect the

1 Wikipedia <https://en.wikipedia.org/wiki/Economic_bubble>

capital gain. The consequence is a steep fall in asset price: the bubble is burst.

Undoubtedly, speculative bubbles belong to the social world. However, like other interesting social entities, such as the unemployment rate and Gross National Product, they are quite different from other social objects such as marriages, presidencies, and university degrees. The most evident difference is that, with respect to the former, one cannot say that they are constructed *directly* by human beings because the latter only detect them. At most, one may say that they are *indirectly* created by human being's activities. A very interesting consequence is that, while it is true that 'no realist would deny that VAT depends on conceptual schemes',² the same cannot be said about speculative bubbles. On one hand, they cannot exist regardless of us and our activities but, on the other hand, they are external to our conceptual schemes and may exist even though we ignore them. The first speculative bubble in the history, for instance, took place in The Netherlands in 1637: at that time, no one knew what a bubble was, yet it occurred anyway.

Something similar was also noticed by Jonathan Friedman. Referring to John Searle's theory about the construction of the social reality, he argues that it leaves *non-intentional properties of social life* out and he provides the example of business cycles. They 'are not institutions in practice, but they are systemic and they have crucial effects ... They are emergent properties of interaction over time.'³

What does 'emergent properties' mean? Broadly speaking, the concept of emergence is used to account for those circumstances in which there is an entity that arises from the interactions among parts. The latter are self-governing and their relations are not controlled by external agents. The emergent entity cannot be considered a mere sum of isolated parts but something novel and different compared to them.

Since a speculative bubble is a spontaneous process that occurs without any central intervention, and since it is supposed to be the result of people's actions, reactions, and interactions, it is rather intuitive to rely on the concept of emergence in order to offer an explanation of it. Indeed, complexity economics, a field of research in which scholars

2 M. Ferraris, *Manifesto of New Realism* (Albany, 2014), 35.

3 J. Friedman, 'Comment on Searle's 'Social Ontology': The Reality of the Imagination and the Cunning of the Non-Intentional', *Anthropological Theory*, 6 (2006), 75.

try to apply complexity science to economics, regards a speculative bubble as a paradigmatic example of emergence. According to Brian Arthur, ‘these aggregate patterns form from individual behaviour, and individual behaviour in turn responds to these aggregate patterns: there is a recursive loop. It is a recursive loop that connects with complexity.’⁴

Individual behaviour constitutes the lower level; it basically consists in buying and selling, namely the actions by means of which people give concrete expression to their beliefs and preferences. What is the best way to account for trade? What happens during a transaction? Without proper answers, it is not possible to provide a reliable explanation of speculative bubbles. This paper aims exactly to investigate trade’s nature and to put together a preliminary reflection about emergence, intentionality, and documents.

Intentionality

John Searle is the author of the most popular theory about social ontology. In *The Construction of Social Reality* (1995) and in *Making the Social World* (2010), he provides a fascinating explanation of the ways in which we construct institutional facts such as money, elections, and marriages.

In the first book, Searle accounts for the creation of social objects by considering three fundamental elements: the assignment of function, collective intentionality, and constitutive rules.

Humans beings, but also other animals, have the capacity to impose functions on objects. Sometimes, functions cannot be carried out simply by objects’ physical properties but in virtue of the fact that individuals acknowledge those objects as having a new status. These functions are called *status functions*.

What allows the assignment of function is the *intentionality*: according to Franz Brentano, our mental states, such as beliefs and desires, have the property of being intentional, of being directed at an object. In Searle’s opinion, intentionality may be individual but also collective:

4 W.B. Arthur, *Complexity and the Economy* (New York, 2015), 3.

The crucial element in collective intentionality is a sense of doing (wanting, believing, etc.) something together, and the individual intentionality that each person has is derived from the collective intentionality that they share. Thus, to go back to the earlier example of the football game, I do indeed have a singular intention to block the defensive end, but I have that intention only as part of our collective intention to execute a pass play.⁵

The last element to consider is the *constitutive rule* which has the following form: *X counts as Y in C*, a physical object counts as a social object in a certain context.

In order to explain how these three elements work together, Searle often resorts to the example of banknotes: by means of collective intentionality, we acknowledge that, in a certain context some pieces of paper have a new status, the status of banknotes. In accordance to this new status, these pieces of paper can carry out some functions, e.g. the function to be used as a medium of exchange.

In *Making the Social World*, Searle proposes a new and more general theory in which the creation of the social reality is explained by means of particular types of declarations called *Status Function Declarations*: ‘in such cases language enables us to create a reality by representing that reality as existing’.⁶ They have this general form: *we make it the case by declaration that the Y status function exists*. One can see that this formulation does not require necessarily an X term, a physical object; therefore this approach has the benefit of accounting for the so-called *free-standing Y terms*. Indeed, as Barry Smith⁷ notices, some social objects, such as debts, do not have a physical form, there is not a physical object that becomes a debt.

Declarations can be formulated in different ways according to the type of institutional fact in question. Therefore, X counts as Y in C is only one kind of Status Function Declaration, but there are many other types. This allows them to adapt to the social reality’s complexity.

In this new account, collective intentionality also plays a crucial role, and Searle provides a more detailed examination of it. According to him, there are two forms of collective intentionality: *cooperation*

5 J. Searle, *The Construction of Social Reality* (New York, 1995), 24–5.

6 Id., *Making the Social World. The Structure of Human Civilization* (New York, 2010), 68.

7 B. Smith, ‘Un’aporia nella costruzione della realtà sociale. Naturalismo e realismo in John R. Searle’, in Paolo Di Lucia (ed.), *Ontologia Sociale* (Macerata, 2003), 137–52.

and *collective recognition*.⁸ The creation of an institution, such as the institution of money, and the acts within an institution, such as buying and selling within the institution of money, require cooperation. People cooperate when each member of the group believes that other people have an *intention-in-action* of the same form as his. Put another way, each member of the group must believe that there is a common goal and that each individual contributes to the achievement of that goal by means of singular actions. The existence of an institution, on the contrary, requires only a collective recognition, namely the sharing of some beliefs, such as the belief that pieces of paper with specific characteristics are banknotes.

At this point the question is whether such an approach can help to account for trade and thus for the *connection* between trade and speculative bubbles. Unfortunately, it would appear not. By claiming that acts within an institution require cooperation and collective recognition, hence collective intentionality, Searle takes it for granted that a transaction occurs always between human beings.

However, there are two interesting counter-examples. The first regards E-commerce, a form of trade that allows us to sell and buy online. In this case, transactions occur between a human being and a piece of software: the former has intentionality, the latter does not have it. Therefore, there is neither cooperation nor collective recognition. The second counter-example is more extreme and regards automated trading systems. They are computer programs that, by following a defined set of instructions, do what human traders usually do, namely buy and sell securities. According to Wikipedia, ‘as of 2014, more than 75 per cent of the stock shares traded on United States exchanges (including the New York Stock Exchange and NASDAQ) originate from automated trading system orders’.⁹ Also this case shows that some transactions may occur between a human being and a program, but only the former has intentionality. Most importantly, this case shows that some transactions may even occur between two automated trading systems; in this case there is no intentionality at all. At this point, it would seem that there are two alternatives: either accept that acts within an institution do not necessarily require collective intentionality or argue that machines possess intentionality.

8 J. Searle, *Making the Social World*, 42–60.

9 Wikipedia, <https://en.wikipedia.org/wiki/Automated_trading_system>

The first option appears to be much more feasible, but one has to recognize the fundamental role played by *traces*. Searle does not completely overlook them; indeed, in his opinion the creation of complex entities such as a corporation requires ‘an elaborate set of written constitutive rules ... and an elaborated written record of the activities of the corporation’.¹⁰

Nevertheless, in an effort to provide an explanation of *all* forms of trade, not only those between human beings, one may go further and provide a more detailed analysis of this ‘written record’.

Documents

An interesting alternative to Searle’s approach is the theory drafted by Maurizio Ferraris in *Documentality* (2009). In Ferraris’ opinion, it is possible to account for the construction of the social world by means of a simple rule: *Object = Inscribed Act*. A social object is an act that involves at least two people; this act is inscribed in a document, in a computer file or in people’s mind.¹¹

The law *Object = Inscribed Act* is omnipresent in social reality, and can be articulated in two ways, one strong and the other weak. The strong or literal version has to do with the construction of documents within an institutional reality. Here we have genuine writing at work ... Then there is a broader and weaker understanding that concerns the construction of social objects; in this zone, we take in forms of inscription that are not identified with writing in the full sense – from marking a territory to making a mental note to performing a ritual – but that in point of fact fall within the sphere of what Derrida called ‘archiwriting’.¹²

Hence, a transaction would consist in an act that involves a buyer and a seller and is inscribed in a document. One may wonder whether Ferraris’ rule is able to account for transactions that involve machines. The answer seems to be positive. Elsewhere, Ferraris himself specifies that a social act may ‘involve at least two people, or a delegated machine

10 J. Searle, *Making The Social World*, 98–9.

11 M. Ferraris, *Documentality. Why it is necessary to Leave Traces* (New York, 2014), 159.

12 *Ibid.*, 206.

and a person'.¹³ Moreover, whereas his theory does not require that intentionality has to be present during each act (indeed, it plays a minor role in the construction of social objects),¹⁴ it is possible to advance still further and claim that a social act may involve just machines. The key word is *delegated*. By means of a delegation, a person allocates to someone else the power to do something. Nowadays, we constantly delegate machines to carry out tasks for us; therefore it is no surprise that, among these responsibilities, there is the creation of social entities.

In summary, one may say that a social entity such as a transaction arises when three conditions are satisfied. First, there must be a social act that involves at least two agents (people or delegated machines). Second, this act must be inscribed in a material support. Third, in order to be binding, the act and the inscription must be executed in accordance to the institution's rules, namely the system to which they belong. In Italy, for instance, a real-estate transaction may occur only in the presence of a notary, otherwise it is not legal.

It is now clear that, in the creation of institutional entities and therefore in economic transactions, documents are pivotal, whereas intentionality, in some cases, may be even absent. With regard to intentionality, as Giuliano Torrenco points out, one may simply think that 'the only relevant shared intention in an institutional context for the existence of institutional entities is that of deferring to established procedure as to what contents are socially binding, namely, as to what grounds facts about institutional reality'.¹⁵

Barry Smith recognizes the significance of documents; however, he maintains a different position from Ferraris. As has been mentioned in the second paragraph, according to Smith, the constitutive rule proposed by Searle, *X counts as Y in C*, is flawed. Indeed, in the case of social entities such as debts, financial instruments, or rights, 'there is no physical X term to which the corresponding properties or powers could be ascribed'.¹⁶ Smith terms these particular social entities *quasi-*

13 Id., 'New Realism, Documentality and the Emergence of Normativity', in Fabio Bacchini – Stefano Caputo – Massimo Dell'Utri (eds.), *Realism and Ontology Without Myths* (Newcastle, 2014), 114.

14 M. Ferraris, *Anima e Ipad*, ed. Ugo Guanda (Parma, 2011), 90–1.

15 G. Torrenco, 'Institutional Externalism', *Philosophy of the Social Sciences*, 47 (2017), 83–4.

16 B. Smith, 'Searle and de Soto: The New Ontology of the Social World', in Smith-Mark-Ehrlich (eds.), *The Mystery of Capital and the Construction of Social Reality* (Chicago, 2008), 39.

abstract entities: on one hand, they are both non-physical and non-psychological, but on the other hand, unlike standard abstract entities (e.g. numbers), they are historical: they exist in time.¹⁷

Even though a debt does not have an X term, it is still linked to the physical reality, more specifically it is anchored ‘in the realm of records and representations’.¹⁸ It means that ‘debts depend for their existence on representations, which may enjoy a merely ephemeral existence in the form of memory traces, or which may be transformed into enduring representations by being written down’.¹⁹ It is important to notice that, albeit a debt is linked to a document, the latter *only* represents the debt. Consequentially, the document neither *counts as* the debt, nor is the debt the document.

Both Smith and Searle, hence, claim that the social reality is partially constituted by non-physical entities. The same perspective is also confirmed by the economist Hernando de Soto. In *The Mystery of Capital* (2000), he argues that the capacity of an asset to create wealth, and therefore to become live capital, depends on formal property systems. In the countries where these systems are absent, such as the former Soviet Union, the Middle East, and Latin America, houses are simply shelters. On the contrary, in the West, houses have a parallel life as capital outside the physical world. They are live capital; indeed, for instance, they may be used as collateral for a loan by which it is possible to start or expand a business and thus create wealth.²⁰

The following passage, that is often cited by both Smith and Ferraris, elucidates the point:

Capital is born by representing in writing – in a title, a security, a contract and other such records – the most economically and socially useful qualities *about* the asset, as opposed to the visually more striking aspects *of* the asset. This is where potential value is first described and registered. The moment you focus your attention on the title of a house, for example, and not on the house itself, you have automatically stepped from the material world into the conceptual universe where capital lives.²¹

17 Ibid., 37.

18 Ibid., 44.

19 Ibid., 39.

20 H. de Soto, *The Mystery of Capital. Why Capitalism Triumphs in the West and Fails Everywhere Else* (New York, 2000), 36–7.

21 Ibid., 48.

De Soto, like Smith, uses the verb *to represent*; however, there is a relevant difference. According to Smith,²² a marriage license, namely a document, allows the creation of a bond of matrimony. The latter is a quasi-abstract entity and, as such, it is anchored to the document. The marriage license *represents* the bond of matrimony. According to de Soto, a document *represents* an asset's qualities but these qualities are not anchored to the document; they are rather anchored to the asset itself by means of *that* document. It would seem, therefore, that qualities are attributed, not represented. Consider this simple case. Carlotta has just graduated with a degree in veterinary science. Her diploma allows the existence of some quasi-abstract entities, such as a qualification, and the latter is anchored to the document. In addition, on the document, some social properties are specified. Some of them, such as name, surname, date of birth, and so on, belong already to Carlotta; these types of properties are only proposed again by the document in order to specify her identity. Other properties, such as the property of being graduated, are *attributed* to Carlotta by means of that very document. In these cases, there is no representation of properties.

Now, let us get back to speculative bubbles and in particular to a real-estate bubble. At the lower level, people sell and buy houses. Transactions occur by means of documents, specifically property contracts. The latter are the physical objects to which some quasi-abstract entities, such as property rights, are anchored. Moreover, contracts attribute some properties to people involved: the buyer, for instance, acquires the property of being the owner. Contracts attribute some properties also to assets, namely the houses, such as the property of having a certain value. The crucial point is that the first property may be permanent: the owner ceases to be an owner only if he decides to sell the house. On the contrary, the property of having a certain value is unstable, it may change continuously, irrespective of our will. This difference is due to the fact that the property of having a certain value is involved in the loop associated with complexity of which Brian Arthur speaks. People actualize their behaviour by signing documents, these documents attribute a certain value to assets, this value affects the market trend, the latter, in turn, affects people's behaviour, and so on.

22 B. Smith, 'Document Acts', in Anita Konzelmann Ziv – Hans Bernhard Schmid (eds.), *Institutions, Emotions, and Group Agents. Contributions to Social Ontology* (Dordrecht, 2014), 22.

Conclusion

There are good reasons to think that a speculative bubble is an emergent entity. It is usually regarded as the outcome of agents' behaviour that is actualized by means of buying and selling operations. Since transactions may occur even between two delegated machines, such as automated trading systems, in order to provide an adequate account of the lower level from which a bubble arises, the essential element to consider is not the intentionality, but rather the *document*. On one hand, it allows the anchorage of quasi-abstract entities: property right, for instance, is not a physical entity, therefore it needs to bind to a material object, namely a document. On the other hand, this paper has argued that a document also has the function to attribute properties to people and assets, such as the property of having a certain value. The latter is particularly important in so far as it is one of the most important property involved in the existence of a bubble.

Acknowledgments

I would like to thank Tiziana Andina and Maurizio Ferraris for interesting discussions about this article's issues. I am grateful to Elena Benzo for useful comments on an earlier draft.

Gloria Sansò, MA (Turin), graduated in Philosophy under the supervision of Maurizio Ferraris in 2016. Her main interest is social ontology with a special focus on the role played by documents in the economic field. She is currently working on speculative bubbles and in this paper she presents the initial results of her research.