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What Does Matter in Economy Today: When Human Psychology Drives Financial Markets



Abderrazak Dhaoui *

¹University of Sousse, Faculty of Economic Sciences and Management, Tunisia

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ABSTRACT

This paper provides the first evidence for empirical tests of the impact of rational expectations as well as behavioral biases, including among other animal spirits such as defined by Akerlof and Shiller on the variability of trading. Using a daily data for five international capital markets in developed countries, strong evidence is found. The hypothesis of rationality fails to determine the investors' trading behavior. The economy is, however, driven by behavioral biases, including more especially animal spirits summarized in investors' sentiments and beliefs.

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1. Introduction

During the last five decades, a point of view commonly shared by many authors is that it becomes more difficult to understand how the economy really works (Akerlof and Shiller, 2009; Dhaoui et al. (2013); Dhaoui (2013).

The efficient market and the rational expectation hypotheses loss of significance and fail in explaining the return and trading volume behavior in the major international markets in both developed and emerging countries. The authors attribute the dysfunction of economies and markets to human psychology, sentiments and feelings (Keynes, 1936); Akerlof and Shiller (2009); Dhaoui (2013). Variables such as overconfidence, (Daniel, Hirshleifer and Subrahmanyam, 2001) optimism, (Haruvy, Stahl and Wilson (1999), Weinstein (1980), Otten (1989), pessimism (De Bondt and Thaler (1985); Barberis Shleifer and Vishny (1998) or more largely animal spirits (Akerlof and Shiller, 2009) are particularly suggested to explain the disruption of evolution of the trading volumes and of the returns.

In this regard, Akerlof and Shiller (2009), attribute the economic dysfunction to human psychology and introduce the “animal spirits” as one of the factors influencing the economies and markets. To define the “animal spirits”, the authors enlarge the definition given by Keynes (1936) in his General Theory and introduce confidence, fairness, corruption and association behavior, money illusion, and stories as items of animal spirits. For Keynes (1936) the animal spirit is defined as “a spontaneous urge to action rather than inaction”.

*Abderrazak Dhaoui. Tel.: +21622622821; fax: +0-000-000-0000.

E-mail address: abderrazak.dhaoui@fsegs.rnu.tn

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The main aim of this paper is to provide comprehensive empirical evidence on various implications of the psychological influences by focusing on investor behavior. Our focus on investor behavior is motivated in part by the argument of Odean (1998), Daniel, Hirshleifer and Subrahmanyam (1998), Gervais and Odean (2001) that investor behavior should be observed in market level data, and in part by that of Daniel et al. (2001), Haruvy et al., (1999) Weinstein (1980), Otten (1989), De Bondt and Thaler (1995), Barberis et al. (1998), Keynes (1936), and Akerlof and Shiller (2009) that investor beliefs and sentiments matter when making a decision in economic worlds. In this way, we provide the first evidence for empirical tests of the impact of departures and deviations from the rationality in the financial market working based on incorporating sentiments and beliefs as human psychological factors to supervise the changes in trading volume.

To empirically explore the psychological influences that can contribute to explain the variances in trading volume in most of international Stock markets, we investigate the impact of both the rational expectation and the behavioral biases with an extension to Keynes (1936) and Akerlof and Shiller (2009) on the trading volume. Expected results can give ideas about the factors likely influencing the investors' trading behavior in the major Stock Markets. The relation between these independent variables and the trading volume as a dependent variable serves to understand the factors approximately influencing the way the economy works.

In this order one question remains of a great importance, that is: How does human psychology drive economies and markets? Or in other words, in which way did the financial markets be sensitive to the investors' beliefs and sentiments?

To find some answers to this question we investigate the specific influence of the factors describing the Rational Expectation as well as the behavioral biases, including animal spirits' behavior (e.g. Overconfidence, Optimism, Pessimism and Spontaneous Reactions) on the trading volume such as considered as a financial proxy for the economy works.

In order to do this, we used a sample, including daily data for five international Stock Markets (Japan, U.S., France, U.K. and Switzerland) over the period from June 10, 2002 to November 17, 2011. Our results show that the economy is driven by non-rational expectation. Behavioral and animal spirits' biases influence significantly the evolution of trading volume in the major international Stock Markets. The presence of rational investors is, however, without impact on the process of trading in all the markets.

The remainders of this paper proceed as follows: in section 2, we present an overview of the literature on the rational expectation hypothesis and the behavioral biases, including animal spirits. Section 3 describes the methodology and the data framework of this study. In section 4, we present and discuss the principal results. Section 5 concludes.

2. Literature Review

For several decades, the financial and economic literature considers that investors trade rationally and that even they behave irrationally (i.e. they would trade in a random way) the deviation from the equilibrium state caused by irrational trading can be cancelled out by an opposite irrational trading of other irrational investors. This supposes naturally that markets are efficient and all isolated rare events cannot influence significantly the decision-making process. This normally induces less volatility of returns and trading on the major markets. The Efficient Markets Hypothesis (hereafter EMH) has known an impressive theoretical and empirical success since about the first decade after its conception in the mid-1960s. Especially, Michael Jensen (1978, p. 95), argues in this field that "there is no other preposition in economics which has more solid empirical evidence supporting it than the Efficient Markets Hypothesis". In spite of this success, the EMH has been, however, subject to serious challenges and critics particularly when observations have shown and confirmed the non-regular and supported the non-understandable function of economies and markets.

The incorporation of psychological factors into macro-economic models seems to confirm however the predictions of the behavioral finance theory according to which investors cannot behave totally rationally over the full time, and the economy is for the major cases driven by human psychology (Akerlof and Shiller, 2009).

Posner argues that economists have failed to understand how the economy works. The hypothesis of rationality largely associated with the efficient-market hypothesis loses its significance by failing to explain the variability between the stock prices as observed in international markets and their fundamental values and/or the excess in trading volume during about the five last decades (see, Lavoie, 2010).

The efficient markets hypothesis asserts that asset prices aggregate and reflect all relevant fundamental information. They provide, consequently, proper signals for resource allocation. The challenge of the efficient market and rationality hypotheses dressed by many authors has incited many authors to examine if human psychology may explain the way the economy really works.

The first work in the field has been realized by Keynes in 1936 who argued that about all of investors' decisions breaks with the foundation of rationality, and attributes the dysfunction of the economy to psychological factors and irrational behavior. This challenge has been confirmed more recently when Akerlof and Shiller (2009) have explained the way the economy works in terms of human psychologies' impacts. In the same framework, several authors such as Akerlof and Yellen questioned in 1985 if small deviations from rationality do not really matter. Fifteen years later, Shleifer (2000), pursued the same logic and questioned if the arbitrageurs succeed to drive irrationality out of the marketplace. Taken together these thoughts tend toward the same conclusions that the economy is driven in the major part by human psychology and irrational investors' behavior.

In the same line, Allais (1953), and Ellsberg (1961), demonstrated preferences that violate expected-utility theory. In 1986, Tversky and Kahneman (1986) articulated a direct challenge to the rationality assumption itself, based on experimental demonstrations in which preferences were affected predictably by the framing of decision problems, or by the procedure used to elicit performance. They argued that the demonstrated susceptibility of people to framing effects violates a fundamental assumption of invariance, which has also been labeled extensionality (Arrow, 1982) and consequentialism (Hammond, 1989).

Based on the aforementioned studies it is clearly documented that investors' beliefs and sentiments really matter in making decision in financial markets (trading behavior) and that investors are not fully rational. Departures from rationality are not however only random, they are in the major cases systematic. In this line, Shleifer (2000) notes, "investors' deviations from maxims of economic rationality turn out to be highly pervasive and systematic". One most problem can take place here which is, if we challenge the EMH and support the predictions of the behavioral finance, how we can

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