

Central Banks, Expectations and Collective Psychology - Limits and Possibilities of Behavioral Monetary Policy

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Abstract: This paper presents a critical review of the concept of animal spirits and its importance in shaping contemporary monetary policy. Starting from Keynes's theoretical assumptions and contributions in the field of behavioral macroeconomics, the paper analyzes the ways in which psychological factors such as trust, optimism, fear and panic affect economic cycles, decision-making processes and the application of monetary policy measures. The methodological framework of the paper is based on a comprehensive analysis of theoretical and empirical research, including behavioral macroeconomic models, expectations experiments and examples from central bank practice, which enables the integration of different approaches and evaluations of different arguments for and against the active management of collective expectations and sentiment at the macroeconomic level. The author's special contribution is reflected in the systematization of the literature and a critical review of the results so far, with a special emphasis on how market, institutional and cognitive aspects influence the creation of monetary policy. In this way, the paper goes beyond classical approaches that rely exclusively on rational expectations and offers a much broader framework for understanding the role of central banks in stabilizing the economy. The scientific significance of the topic stems from the fact that behavioral monetary policy is becoming increasingly important in conditions of global crises and financial instability, while traditional models often fail to adequately explain the occurrence of

extreme economic fluctuations. The paper concludes that the concept of “animal spirits” can no longer be treated only as a metaphor, but also as a measurable and analytically significant phenomenon that requires systematic attention from policymakers and researchers, which ultimately opens up space for the development of new institutional solutions and research directions.

Keywords: Behavioral macroeconomics; Collective Psychology; Central banks; Monetary policy; Financial stability.

JEL Classification: E52, E58, D84.

1. Introduction

Monetary policy is considered to be based on the assumption of rational expectations and that economic actors make optimal ones. However, there have also been periods in economic history marked by phases of both irrational optimism and irrational pessimism, which Keynes called “animal spirits” or emotions that drive different economic behavior (Keynes, 1936). Keynes himself emphasized that the “animal spirits” of investors and consumers, namely psychological incentives such as trust, optimism or fear, lie at the very core of economic expansion and contraction (Keynes, 1936; Akerlof and Shiller, 2009). In other words, it is important to emphasize that collective feelings, but also subjective expectations, can have a significant impact on the process of making decisions about consumption, investment or savings, and in this way can potentially affect the way the economic cycle moves. It is important to emphasize that this concept has been revived through works in behavioral economics and finance, which emphasize that human psychology can have a significant impact on macroeconomic developments (Shiller, 2017).

Looking back over the past few decades, central banks have reached a consensus that managing public expectations is a key part of effective monetary policy. Bernanke (2013) summarized this idea by saying: *“Expectations are so important that a central bank can make policy more effective by working to shape those expectations”*. This statement is important because it indicates the awareness of monetary policymakers that public perceptions, trust, and emotions, which can be explained as animal spirits, are already central to the explanations of monetary policy. The traditional rational expectations framework assumes that clearly

defined monetary policy objectives, such as inflation targeting, will anchor and rationalize private sector expectations. However, the 2008 global financial crisis raised the question of whether such an approach is sufficiently effective. Therefore, two key questions have arisen: (1) to what extent elements such as investor enthusiasm or panic can throw the economy out of balance, and (2) whether the central bank should actively try to manage this *animal spirits* phenomenon in order to stabilize economic activity, if it does occur.

The aim of this paper is to critically explore the concept of *animal spirits* in the context of monetary policy, and to analyze the arguments for and against central banks actively managing collective economic expectations and public sentiment. This paper will present behavioral macroeconomic models, then available empirical studies and the experiences of policymakers, all in order to show how psychological factors can influence macroeconomic developments and how central banks could and/or should not react in these situations. The paper continues by presenting a theoretical framework that explains the concept of *animal spirits*, as well as the evolution of the behavioral approach in macroeconomics. It then discusses the role of central banks in *managing expectations*, which may include various communication strategies, and controversial measures to suppress market euphoria or panic. Special attention is also paid to behavioral biases in the process of creating monetary policy itself. At the end of the paper, the key findings and the author's critical view and commentary on this topic are presented. Finally, the paper summarizes the key dilemmas of the so-called behavioral monetary policy, which is to try to give a balanced answer to the question of *whether central banks should manage animal spirits or stick to traditional goals and instruments?*

2. The Concept of Animal Spirits and Macroeconomic Fluctuations

The idea of animal spirits in economics originated with Keynes, who observed that investment decisions and risk-taking are often driven by expectations from the business world (Keynes, 1936). He argued that “herd instincts” and emotions, such as optimism in times of economic prosperity or panic and fear, play a key role in driving booms and busts in economic activity. In contrast to neoclassical models that explain business cycles primarily through various

exogenous shocks, Keynes offered a different view, arguing that large fluctuations within a business cycle can arise endogenously due to changes in collective economic sentiment.

In modern times, the term animal spirits was popularized by Akerlof and Shiller (2009), who managed to show how human psychology drives the economy and how it affects global trends. They further state that there are five key characteristics of animal spirits in the economy: trust, fairness, corruption and antisocial behavior, the money illusion, and the narratives that people tell each other. It is important to emphasize that consumer and investor decisions are often also driven by psychological factors such as confidence or panic, which means that when there is high confidence that economic growth will be present, companies are more likely to invest and households to spend their money, even if some indicators do not fully justify this. Conversely, if there is a sharp decline in confidence, for example due to the onset of a financial crisis, the consequence will be a decrease in consumption and investment at the macroeconomic level, which will further increase the negative effects of the recession (Shiller, 2000). In this context, it is important to note that Shiller, while analyzing stock markets, used the term *“irrational exuberance”*, with which he wanted to describe that excessive optimism of investors leads to overvaluation of company assets, and as a result bubbles appear in the financial market (Shiller, 2000). Additionally, this term became famous after it was used by the then chairman of the FED as a form of warning, by saying that the market value of stocks can reflect the *“irrational exuberance”* of investors (Greenspan, 1996). This statement was of key importance, because at that time the FED did not directly intervene to try to contain the bubble in the market, which brings us to the key and fundamental question, which is *whether it is, or can it be, the role of the central bank to “cool down” excessive enthusiasm when it appears in the market?*

Minsky (1986) also thought similarly and he observed that during a stable period, there is increasing optimism, then a decrease in risk perception and an increase in borrowing, which ultimately leads to financial instability. His Financial Instability Hypothesis is closely related to the concept of animal spirits because during a period of expansion, investors become increasingly bold and confident that things will “be different this time”, which, according to him, creates the foundations for a crisis. When their perception shifts in the other direction,

i.e. investors suddenly become panicked due to doubts about the value of assets or the sustainability of debt, there is a sudden sale of company shares, then a decrease in credit activity and finally a recession. Here, in fact, we have a classic example of how psychological factors create a pro-cyclical feedback loop. On the one hand, optimism feeds even greater optimism and growth, while fear feeds even greater fear and decline.

From a monetary policy perspective, these phenomena raise a dilemma. If recessions are at least partly caused by a sharp decline in confidence and excessive pessimism, can central banks do anything to prevent or mitigate the economic downturn that ensues? The traditional answer would be that the central bank influences economic activity primarily through interest rates and credit conditions, rather than directly on the “psychology” of consumers and investors. However, central banks are increasingly aware that market expectations are crucial, since the very announcements of certain measures or activities affect the economy mainly because they change market expectations about what is expected in the future. For this reason, there is increasing talk of “expectations management” as an integral part of monetary policy (Woodford, 2005; Bernanke, 2013). In the remainder of this paper, we consider how the inclusion of animal spirits in analysis has evolved in theory and practice, especially through the development of behavioral macroeconomic models and new approaches to monetary policy.

3. Behavioral Macroeconomics and Monetary Policy

Traditional macroeconomic models, such as the DSGE model, are based on the assumption of a representative agent with rational expectations. In such a module and framework, it is almost impossible for systemic errors in expectations or some form of mass delusions to arise because cycles arise only if external shocks lead to implementation in the economy, and the central bank balances the output gap and inflation according to, for example, the established Taylor rule. However, after the global financial and economic crisis of 2008, many economists began to question these assumptions. One of them is De Grauwe who developed alternative models in which agents have limited cognitive abilities and use heuristics, i.e. mental shortcuts for decision-making, instead of being perfectly rational. In De Grauwe's model (2011), agents

choose between several simple forecasting rules, e.g. optimistic or pessimistic, and learn from their mistakes in an adaptive way. The key aspect is that these rules are subjectively biased and even “*self-confirming*”. For example, if a significant portion of the population has optimistic expectations, their behavior through higher consumption and investment can lead to growth that seemingly justifies this optimism, and thus endogenous fluctuations in waves arise within the economy, precisely what we call animal spirits (De Grauwe, 2012). It is important to emphasize that these collective expectations are not completely irrational since agents learn and change their rules when they make mistakes, but due to their bounded rationality and social interaction, there is a link between their beliefs and the level of reinforcement within the economic cycle (De Grauwe, 2011, 2012).

In addition to these considerations, De Grauwe (2011) has shown that strict inflation targeting, which means that the central bank only reacts aggressively when inflation deviates from the target, becomes suboptimal. According to him, the reason is that an excessive focus on price stability, while ignoring the output gap, can leave the economy more vulnerable to waves of pessimism and optimism. In his model, a central bank that keeps the interest rate fixed and that is exclusively focused on inflation actually allows for greater instability in output and inflation. In contrast, if the central bank were to pursue a slightly more expansionary policy when output is significantly below potential, thus also reacting to the output gap, and not only to inflation, this would help to contain excessive pessimism and shorten the duration of the recession (De Grauwe and Macchiarelli, 2015; Hommes et al., 2019). Hommes et al., (2019) found, through a laboratory experiment with participants who form their own expectations, that a behavioral expectations model predicts lower inflation volatility if the central bank targets the output gap in its response, as opposed to inflation alone. In another experiment, participants whose expectations are formed through learning led to larger oscillations when monetary policy was strictly anti-inflationary, but when the policy was more flexible, i.e. when it also targeted economic activity, stability increased, in line with the predictions of the behavioral model (Hommes et al., 2019).

In other words, a key implication of behavioral models is that central banks can improve macroeconomic performance if they recognize the existence of animal spirits and adjust their

strategies. De Grauwe and Macchiarelli (2015) show that, in a model that includes the banking sector, a more aggressive central bank response to cyclical output deviations can dampen the amplitude of financial cycles. Thus, paradoxically, a policy that is somewhat less strict on inflation during normal times could lead to greater stability in both inflation and output by reducing endogenous expectations fluctuations.

On the other hand, some economists believe that too much easing to maintain output levels can undermine the central bank's credibility when it comes to inflation. However, it is worth noting that some leading economists within central banks have also recognized the value of behavioral insights. For example, Haldane (2014) has pointed out that policymakers are prone to various cognitive biases, and that understanding psychology can increase the effectiveness of policy . He has also argued that some reforms of the institutional framework of central banks, such as the introduction of committees instead of relying on individual decisions, are partly motivated by the need to mitigate the effects of bias and groupthink. Similarly, a new trend in macroeconomic research is incorporating heterogeneous expectations into monetary policy models (Evans and Honkapohja, 2003; Molnar and Santoro, 2010). Evans and Honkapohja (2003) have shown that policies that would be optimal under the assumption of perfectly rational expectations can become unstable if the private sector actually forms expectations through adaptive learning. Their conclusion is that the central bank should "condition" its response not only on movements in the underlying variables, but also directly on private sector expectations. In other words, if surveys show that household inflation expectations are rising above the set targets, the central bank should take this into account and respond, even if current inflation is not yet outside these values, because expectations are not always rationally anchored. In practice, this actually means managing expectations in real time, which is exactly the essence of the idea of "guiding animal spirits" .

4. Managing Expectations - Central Banks Tools for Influencing Collective Psychology

It is important to emphasize that central banks cannot directly control the emotions of investors or consumers, but they can influence expectations, which are closely linked to mood

and confidence. Accordingly, several ways in which central banks seek to shape expectations, and thus directly “manage” the animal spirits factor in the economy, can be distinguished:

- **Public communication and forward guidance.** Clear communication of its measures has become a pillar of modern monetary policy. In the past, central banks made decisions that were not communicated to the public in a timely manner, which is not the case today, since they now regularly issue statements, projections and hold press conferences, all with the aim of guiding market expectations. An example is the so-called forward guidance, which implies that the central bank signals in advance the future direction of interest rates. This allows investors and consumers to adjust and reduce uncertainty if it arises. When the level of economic activity is weak and interest rates are at or near zero, the central bank can promise to keep rates low “for an extended period of time”, which is a signal that aims to stimulate optimism, confidence and the propensity to spend, because economic agents believe that conditions will remain stimulating. Empirical data indicate that this strategy was used after the 2008 financial crisis and during the COVID-19 pandemic (Williams, 2013; Cziser, 2020). Forward guidance is essentially the public's belief in the central bank's future measures, which influence today's decision-making.
- **Transparency and credibility.** Public trust in the work of the central bank is crucial in the process of anchoring inflation expectations and maintaining financial stability. For example, if the population believes that the central bank will keep inflation low and stable over a certain period of time, it is less likely to panic due to short-term price increases or temporary shocks. Research shows that low trust in the central bank is associated with higher inflation expectations among households (Christelis et al., 2020). Therefore, central banks make efforts to maintain a level of transparency by explaining their decisions, but also offering projections of future economic developments. On the other hand, credibility built over the years becomes invisible “capital” that helps prevent the negative effects of animal spirits. As an example, despite strong monetary stimulus after 2008, inflation expectations have remained relatively stable because central banks have convinced the public that they will not allow uncontrolled inflation growth.

- **Response to financial bubbles.** The traditional way of thinking, which existed before the 2008 crisis, is that the central bank should not intervene specifically in bubbles that arise as a result of rising real estate prices, but should focus exclusively on maintaining stable levels of inflation and output, and if bubbles do arise, they should be allowed to burst on their own and only then intervene in the market. Bernanke and Gertler (2001) believed that monetary policy should respond to stock or real estate prices only if they affect the expected level of inflation and output, but not for the sake of prices themselves, because it is difficult to determine when a bubble has formed, and raising interest rates at that moment would have major consequences for the entire economy. However, critics such as Claudio Borio and Philip Lowe have argued that ignoring financial imbalances leads to the accumulation of risks and more severe crises, and that central banks should, as they called it, “lean against the wind” and stop excessive credit growth, and thus the growth of real estate prices, even if this does not lead to inflationary pressures in the short term (Borio and Lowe, 2002). This argument is actually an argument for curbing excessive animal spirits in the financial sector, because credit expansions and bubbles are often the result of excessive optimism, underestimation of risk and group behavior of investors. Today, this is better understood through the dual mandate of many central banks, which is that in addition to price stability, central banks also care about financial stability. As part of their research, Borio and Zhu (2012) introduce the concept of the risk-taking channel of monetary policy, which means that expansionary policy affects not only the classic channels, such as the interest rate or exchange rate, but also the willingness of investors to take risk. Low interest rates over a long period can lead to a search for yield, where investors, driven by animal spirits, invest in riskier assets due to their desire for profit. Thus, monetary policy also has a psychological effect, influencing the perception of risk and the behavior of market participants (Borio and Zhu, 2012).

From the above, we can see that the way central banks operate has expanded from mere “interest rate adjustment” to sophisticated expectations management. In essence, the central bank seeks to shape the narrative about the economy in such a way as to convince the public that it has the situation under control, that it will not allow either galloping inflation or sinking

into depression. This is somewhat of a psychological game of confidence. Of course, the question of effectiveness remains, and that is, can central banks really control the expectations of the population? Experience shows that there are limits, because at certain times, especially during external shocks or when confidence is deeply shaken, even the strongest persuasions through expectations management do not help. An example can be given Japan from the 1990s and 2000s, when the Bank of Japan tried for decades to raise inflation expectations and “awaken” animal spirits in the economy after the collapse of the real estate bubble. Yet, despite zero interest rates and quantitative easing, the psychology of deflation has long been present, suggesting that expectations, whether inflationary or deflationary, can be very inert and that a central bank may not be able to easily reverse deeply entrenched narratives.

5. Behavioral Biases in Monetary Policymaking

When discussing the relationship between psychology and economics, it is usually the behavior of consumers, businesses, or investors that is being referred to. However, it should be emphasized that central bank employees are subject to cognitive biases, emotions, and political influences. Behavioral analysis of monetary policy therefore also includes how animal spirits, or psychological factors in general within a central bank, influence its decision-making. Haldane (2014) pointed out that “psychology in central banking” has until recently been largely unexplored territory. However, it should be emphasized that there are thoughts that the decision-making processes within the monetary policy committee are influenced by certain psychological factors, namely:

- **Board composition and the “behavioral preferences” of members.** In the literature, board members are often classified as “doves” or “hawks” when it comes to their attitude towards inflation. Doves tend to be more concerned about unemployment and are more willing to tolerate slightly higher inflation, while hawks are focused on price stability and tend to be more restrictive. Favaretto and Masciandaro (2016) also introduce the term “pigeons” for those members who balance between these two approaches. In this context, it is important to emphasize that these different

psychological views can lead to interest rate inertia. For example, research on voting at the Fed and other central banks shows that decisions are often made by consensus that implies smaller rate changes than would be required by the rules, and the reason for this is partly because hawks and doves make decisions that are more balanced. This status quo bias may be intentional, as Goodhart (1998) suggested that monetary authorities balance the level of interest rate movements in order to avoid causing a shock to the market, but also partly as a result of the positions of the committees. Sometimes the result can be the so-called delay policy or overly cautious policy, which can be described as the fear of starting a tightening cycle (Orphanides, 2015). This fear can also be explained as a psychological tendency to avoid negative reactions from the market and the public, so they prefer to postpone unpopular decisions, such as raising interest rates, even when models suggest that they are justified.

- **Groupthink and confirmation of existing beliefs.** As in any institution, there is a risk of groupthink in central bank boards. If there is a dominant doctrine or personality, such as a long-standing president or governor, members may be inclined to conform and confirm the views of the majority, rather than to critically examine them. Some research (Sibert, 2006) has considered the psychological aspects of monetary committees and indicated that rotation of members can reduce the risk of groupthink. Interestingly, some central banks, such as the Bank of England, have introduced external members to the monetary policy committee, who are not employees of the central bank, precisely to bring a broader perspective and avoid the risk of “groupthink”. The behavioral approach to monetary policy therefore advises not only “how to influence the public”, but also how to design decision-making in order to minimize errors in judgment within the institution itself.
- **Overconfidence and bias.** During the Great Moderation, which was marked by low inflation and relatively stable economic growth, there was a growing belief within central banks that they had “mastered” economic cycles. There is an argument that this led to the underestimation of risks in the run-up to the 2008 economic and financial crisis. This event and the economic crisis serve as a warning that central banks can succumb to cognitive traps and biases such as confirmation bias, which is giving

more weight to information that confirms their beliefs, such as that the system is stable, or recency bias, which is relying on recent periods of stability as an indicator of the future. When the crisis occurred, the models were found to have missed key elements, including not predicting the market freeze scenario due to the panic that prevailed at the time. Today, central banks are more aware of these risks, by conducting worst-case stress testing, “what-if” analyses, and recognizing non-cognitive factors, such as crowd behavior. However, critics of this approach point out that there is still a tendency towards certain narratives, such as the example that low inflation is the “new normal” and that the economy can be stimulated aggressively without inflationary consequences, which some have described as a new euphoria among policymakers that could prove to be wrong if inflation suddenly rises, as happened in the period 2021–2022.

When we consider all of the above, it is clear that behavioral monetary policy has two sides to the coin, one external, through its influence on market psychology, and the other, internal, through the psychology of the decision-makers themselves. Critics of the idea that central banks should actively engage with animal spirits often warn that it is first necessary to overcome their own biases. As an example, if a central bank tries to “lead the market” but also succumbs to momentary optimism and delays tightening monetary measures for too long, a policy bias could arise that will later require sudden corrections and cause the very chaos that the central bank wanted to avoid. However, rigid rules again do not take into account developments in the real world, so they can ignore key information, such as the inability to respond adaptively to financial imbalances if they are not built into the formula. The debate essentially revolves around whether monetary policy should be automatic or adjusted by human judgment. The behavioral perspective would say that people are imperfect, but situations are too complex for an automatic response. So it is important to design institutions and procedures that will take advantage of human insight but minimize the appearance of bias.

6. Arguments for and Against Managing Collective Psychology

After considering the theoretical, empirical and practical aspects, we can see the arguments both for and against the active efforts of central banks to manage psychological factors in the economy.

The arguments that emerge for the active involvement of central banks in managing psychological factors are:

1. **Stabilizing the level of economic activity by strengthening confidence.** When public expectations have deteriorated and when pessimism is present, the central bank can prevent further deterioration of economic trends through interventions. An example is the prevention of a deflationary spiral, which means that if people expect a fall in prices, they postpone their own consumption, which will ultimately lead to a further fall in prices. If this scenario occurs, aggressive monetary expansion and the central bank's assurance that deflation will be prevented at all costs can reverse negative public expectations, which is what the FED did in 2008–2009, and the ECB in 2015, through quantitative easing. In this way, confidence that future growth and price stability will occur stimulates consumption in the present, so that in this way the management of animal spirits leads to the prevention of depression. The key Keynesian argument is that during deep recessions, fear paralyzes the private sector and someone must take on the role of restoring confidence, and the only institutions that can do this at that moment are central banks and governments.
2. **Preventing financial bubbles and crises.** During the course of an economic cycle, irrational euphoria in the market can lead to the emergence of a bubble, which opens up space for early intervention, which can act as a lesser evil. If at that moment, the central bank slightly reduces credit expansion because it has noticed that real estate prices are growing by 20% per year without real coverage, it may therefore prevent a much larger economic crash later. The psychological argument in this situation is that market participants do not want to stop during the euphoria, even if some individuals suspect that a bubble has formed. The central bank is then the only actor who can stop

this euphoria before negative effects occur. Here, therefore, the central bank is seen as a guardian against extreme animal spirits.

3. **More realistic models and better policies.** By introducing behavioral factors into the analysis, central banks can better forecast and understand the mechanisms of economic crises. An example is the occurrence of recessions such as the one in 2008–2009, the year that standard economic models did not predict could occur at all. If central banks integrate different behavioral views, they can obtain a wider range of instruments. Afterwards, some authors (Farmer, 2013) even proposed unconventional moves such as the central bank's targeted purchase of assets such as various stocks or real estate, when they are threatened with a collapse in value through falling prices, which would directly affect animal spirits in the capital market (Farmer and Platanov, 2019). In short, the argument for this is that central banks must take animal spirits into account, otherwise they make decisions "blindfolded".
4. **Evidence of success in practice.** Examples such as Draghi's "*whatever it takes*" or the Volcker turn in period of 1979–1983, when the Fed drastically raised interest rates and shattered inflation expectations, restoring faith in the dollar, are often cited as illustrations of the benefits of expectations management. These examples suggest that when central banks take decisive measures and decisions, they can drastically influence the direction of animal spirits. For example, Draghi prevented panic and Volcker broke inflationary inertia, thus building the argument that the power of persuasion and the reputation of the central bank can be used to guide the economy towards the desired outcomes.

On the other hand, the arguments that appear against the involvement of central banks in managing psychological factors are:

1. **Limited ability to forecast economic trends.** There are critics who are against the involvement of central banks, because they believe that central banks can hardly say with certainty whether a certain increase in asset prices is the result of a bubble or is truly justified, as well as whether the decline in confidence was due to some temporary reason or is structural in nature. If one were to start controlling "animal spirits", then

mistakes could occur, because for example, an increase in interest rates to “cool” the market could unnecessarily reduce the level of economic activity if it turns out that a certain situation was not the result of a bubble. Therefore, in this case, the central bank risks incorrectly diagnosing a psychological condition and therefore applying the wrong therapy. Unlike inflation, for which there is abundant data, confidence and mood are measured by indicators that are often qualitative and subject to different interpretations.

2. **Mandate and credibility.** Central banks have clear mandates, such as maintaining price stability. If the central bank were to actively engage in “managing animal spirits,” it could lead them into politically dangerous waters. For example, if the central bank were to try to curb the growth of the stock market because it believes that it was based on euphoria, it could be accused of going beyond its mandate and jeopardizing the economic standard of citizens and unnecessarily reducing the level of economic activity. On the other hand, an attempt to lift the mood may appear as a biased act of support for the currently ruling political option, in a way that it could overstimulate the level of economic activity before elections, in order to reduce unemployment. The politicization of the central bank poses a great danger, because the loss of independence would destroy its previously built credibility in the medium term. Therefore, many argue that the central bank should stick to simple and verifiable goals, and not chase “psychological” variables, because it is believed that the Central Bank is not there to make people happy, but to keep money stable.
3. **Risk of moral hazard.** If investors believe that the central bank will always step in and prevent market downturns, they may be encouraged to take on even greater risks, because they feel they will always be protected. This way of thinking can be very dangerous for the central bank, because it will be considered that it will always be the one to solve the problems caused by the investors, who were counting on this help of the central bank when making their decisions. In the long term, this can lead to the accumulation of so much financial risk that even central intervention can no longer solve all possible problems.

4. **Unpredictable effects and noise in communication.** Trying to influence expectations through communication is complex. If a central bank starts to “talk” too much and adapt to the sentiment in society, it can ultimately only create additional confusion. For example, if a central bank has an overly optimistic tone in its communication, aiming to build confidence, but if the data does not support this optimism, markets may react with the opposite effect, i.e. a loss of confidence in the assessments made by the central bank. On the other hand, warning about risks, in order to curb euphoria, can lead to panic in the market. These considerations show that the central bank must constantly take into account how certain measures are presented and so that there is no misinterpretation, as was the case in 2020, when the ECB announced that it was “closely monitoring the euro exchange rate”, which led to an unexpected reaction in the currency market.
5. **The market as a mirror of reality, not just irrationality.** Another argument against excessive interventionism is the view that market signals often carry important information about the future that the central bank should not ignore or suppress. For example, if there is a sudden decline in the stock market, the reason may be a change in key expectations, due to, say, a new technology that leads to changes in existing business models, which represents the so-called “creative destruction”. If the central bank were to persistently react to every major fluctuation in order to maintain “calm in the market”, it could lead to a misallocation of resources and prevent necessary adjustments. In this sense, animal spirits are not always “irrational”, because sometimes they are a mechanism by which the economy adapts to new realities. According to Hayek (1993), recessions are painful but necessary corrections of previous investment mistakes and attempts to prevent them can only lead to greater problems and crises. According to this view, central banks that overly care for the economy with low interest rates actually prolong the agony and create market inefficiencies, through so-called zombie firms that survive only thanks to cheap money. In this way, it is better to let animal spirits cycles play out and “cleanse” the system, than for the central bank to intervene every time.

When all the arguments for and against are summed up, it can be said that the reality probably lies somewhere in between, since central banks have already entered the realm of expectations management, regardless of whether anyone wants to admit it or not, but they do so quite cautiously, aware of their limitations. There is a growing consensus that psychology plays a role, because almost no one adheres to the old view that markets are always rational anymore. It is a question of dosage, when to react and what measures to apply. For example, the FED has tried to balance in the last few decades, because it did not react to the level of stock market index movements, but during crises it intervened aggressively to ensure liquidity and prevent financial collapse, which can be interpreted as extinguishing negative animal spirits. On the other hand, in expansions it has been quite tolerant of asset value growth, as long as inflation remains low, so it has not inhibited positive animal spirits too much.

7. A Critical Review of the Concept of "Animal Spirits" and the Role of Central Banks

Contemporary economic trends show that markets do not always behave in accordance with the assumptions of complete rationality, which we could previously see through works and research. In contrast to classical economic theory, which starts from rational participants and efficient markets, reality is marked by periods of sudden expansions and contractions that cannot be fully explained by basic economic indicators. The term, which has been mentioned several times in this paper, originally introduced by Keynes (1936), showed how instinctive drives, emotions and mood swings influence the decisions of economic agents. Through the previous review of the literature and theoretical foundations, it was established that "animal spirits" play a significant role in shaping economic results, especially in the context of financial markets and during business cycles. Through this critical review, we, as the authors, want to build on these insights and provide a deeper analysis of the implications of the aforementioned concept, with special emphasis on the role of central banks in monitoring and curbing collective irrationality.

As we have seen, the key premise of classical economic theory is that individuals and firms behave rationally, seeking to maximize their utility or profit, based on all available information. Accordingly, markets tend to reach an equilibrium in which prices reflect the value of certain goods and services. However, in reality, things are somewhat different, as financial bubbles, market crashes or unpredictable recessions indicate that there are other factors that cannot be ignored. One of these is certainly "animal spirits", which is a concept that explains such a deviation from rationality. There is increasing evidence in the economic literature that emotions such as confidence, enthusiasm, fear or panic are integral to the decision-making process. We have seen, for example, that excessive optimism during periods of economic expansion can lead investors and consumers to overestimate real growth opportunities, which ultimately leads to overinvestment, speculative asset price increases and the creation of financial bubbles. In contrast, when pessimism and distrust appear in the market, entities may suddenly abandon consumption and investment, sell assets at any price, and thus further intensify the negative effects of the economic contraction.

It should be said that the phenomenon of "animal spirits" is most pronounced during changes in economic cycles, when it often happens that collective psychology has a great impact on investors, consumers and some other economic actors, which can greatly enhance the course and length of expansion or contraction. If we look at the years before the financial and then economic crisis of 2008, then we can see that, at the time, there was a strong optimism in the real estate market, as well as in the financial sector. The growth of real estate prices, which was accompanied by the availability of credit, led to the belief that such a trend would continue in the future, which encouraged an even greater inflow of investments in real estate and other financial derivatives, which were again connected to the mortgage market. However, when the bubble burst, the excessive optimism that prevailed turned into deep pessimism overnight, leading to panic in the markets. At that time, financial institutions lost trust in each other, which led to the fact that credit activity almost stopped. The consequences were a global recession, which was accompanied by the loss of millions of jobs. This example clearly shows us how irrationality in the market, accompanied by panic, can have a negative impact on real economic developments.

Similar patterns have been observed in other economic crises, such as the Great Depression of the 1930s, which confirms that collective expectations and emotions can intensify economic cycles. These phenomena confirm that market forces, if left completely to their own devices, can create excessive fluctuations, which is undesirable from the point of view of economic recovery, which will therefore take longer. In other words, "animal spirits" can further increase growth above sustainable levels during good times, but can also contribute to a sharp decline in bad times. It is important to note that such cyclical extremes also carry a high price. In the expansion phase, if driven by irrational euphoria, scarce resources can be allocated to projects of dubious viability, leading to overvalued asset values, which ultimately leads to the accumulation of financial risk. When the euphoria disappears, a period of correction follows, often resulting in bankruptcies, financial instability and social consequences such as rising unemployment.

Before the global financial crisis of 2008, most central banks pursued policies based on the assumption of market rationality. The primary objective of monetary policy was to maintain price stability through low inflation, while encouraging moderate economic growth. It was believed that if inflation and fundamental macroeconomic indicators were under control, there would be no concerns about the sustainability of financial stability. In this traditional framework, financial bubbles and above-average fluctuations in real estate markets were not considered a major issue, because the dominant view at the time was that the market was fundamentally efficient, and that real estate prices were in fact a reflection of supply and demand. The thinking went further that if a bubble were to form, it would be better to let the market itself correct the level that was above average, i.e. overvalued, rather than for the central bank to burst the bubble and try to restore balance to the market. A frequently cited argument was that bubbles are difficult to identify in real time. This approach was based on the paradigm of rational expectations and efficient markets, where it was assumed that market participants have sufficient information and that their collective action will lead to market equilibrium. However, the financial and then economic crisis of 2008 showed that this was not the case. Moreover, the bursting of the bubble that had been ignored until then caused a very serious crisis that required extraordinary state interventions by monetary authorities. It was precisely because of this case that many central banks decided to

reconsider their traditional position and acknowledge the fact that psychological factors and irrational market behavior are an element of financial stability.

Following the experience of the financial crisis, the role of central banks has gradually expanded, with the aim of being able to actively monitor and respond in a timely manner to future financial imbalances in the market, which can be attributed to "animal spirits". One of the key steps in this direction is the development of policies that will lead to the resilience of the financial system. Resilience measures can be a set of regulatory and supervisory instruments aimed at curbing the emergence of risks, excessive collective borrowing or unrealistic growth in real estate prices. For example, many central banks have introduced countercyclical capital buffers for banks, where they are required to increase capital reserves during periods of credit expansion and economic euphoria. In this way, excessive lending to the population and the economy is slowed down, creating a safety mechanism that can be used if a certain crisis situation arises. Similarly, other tools have been introduced to limit the loan-to-collateral ratio of housing loans, as well as stricter supervision of risky financial instruments. In this way, the central banks try to cool down the overheated segments of the market that are affected by irrational euphoria.

It is important to note that central bank monetary policy itself can also play a role in addressing "animal spirits". Although, as mentioned earlier, it is highly controversial to use interest rates to directly cool a bubble in the financial market, central banks can now consider the broader picture of financial conditions more carefully when making decisions on the level of interest rates. In cases where there is obvious overheating in the market where, for example, we can cite stocks or real estate that are skyrocketing without a real economic basis, the central bank can signal its concern to the public and gradually tighten monetary conditions to prevent further spread of imbalances. The main instrument that can help the central bank in this situation is communication. It is then, through carefully chosen statements and warnings, that the central bank can influence market expectations and act as a certain form of "verbal intervention", as was the case in the 1990s, when the Fed warned of possible "irrational exuberance" of investors, trying to signal to the market the need for caution.

On the other side of the cycle, when negative "animal spirits" prevail in the market and when markets fall into irrational fear, central banks then play a key role in the process of containing panic. Central banks have several options and ways to suppress irrational fear, but primarily these involve measures such as providing greater liquidity to the financial sector as a lender of last resort, then lowering interest rates, as well as implementing measures such as quantitative easing. In this way, the central bank can restore a certain level of lost confidence and prevent pessimism from escalating to the level that ultimately causes a financial collapse. For example, during a crisis, central banks can often quickly reduce interest rates and thus provide additional liquidity, which usually helps to stop the spiral of panic selling. In this way, the central bank can act counter-cyclically, thus suppressing the extremes that occur during the cycle, which are again caused by human psychology.

Due to their unique position in the decision-making process and the instruments at their disposal, central banks are the most suitable institutions to carry out this type of intervention. It is important to emphasize that they are able to monitor and have access to macroeconomic data, which allows them to detect various risks in a timely manner, which includes indicators such as rapid credit growth, excessive indebtedness of a certain sector or unusually high asset price-to-income ratios. Also, as independent institutions, they can make unpopular moves for long-term stability, because in times of crisis it is the central bank that can increase liquidity and act on the level of stability, but also prevent fear from completely paralyzing the financial system. This dual approach is very important because on the one hand, by curbing euphoria in good times and providing protection mechanisms in bad times, monetary authorities seek to mitigate the consequences of such cycles that arise from human emotional reactions.

Although the role of central banks in the process of curbing "animal spirits" may seem necessary, it is also necessary to point out the challenges associated with such types of interventions. First of all, the key challenge remains the difficulty of identifying the emergence of bubbles in the financial market or curbing the emergence of irrational euphoria. The central bank, like other market actors, has only limited information at its disposal, and on this basis they can act in conditions of uncertainty. When a bubble bursts in the market, it can be easily recognized, but it is a great challenge to recognize a bubble when it is emerging, because at

such moments there are different opinions about the justification of a sudden increase in prices in the market. Therefore, there is a real risk that the central bank reacts to false signals and unnecessarily slows down growth. Second, the tools for curbing irrational behavior are not entirely perfect and can also have unintended consequences. For example, if stricter capital requirements are introduced for banks, they may redirect their own risky activities from the regulated sector to the poorly supervised "shadow banking" sector. Also, raising interest rates to cool the market, if it is overheated, affects the entire economy, so that it also affects healthy segments, where intervention was not needed at all, which makes it difficult to use such measures precisely. Third, excessive reliance on central banks can lead to problems of moral hazard. If market participants believe that the central bank will always come to the rescue when things go wrong, they may be inclined to take even greater risks, counting on salvation in the event of failure, especially if this is the result of irrational behavior and euphoria. Paradoxically, such behavior can increase the likelihood of extreme scenarios that policies seek to prevent. Therefore, it is very important for monetary authorities to carefully communicate their intentions and in a way that they intervene decisively when it is really necessary, but do not create the expectation that they will cushion every loss of the private sector. In addition, it is important to emphasize that central banks must not act independently, but their activities should be coordinated with the existing economic policy framework and the actions of other actors, such as fiscal policy instruments.

A critical review of this topic has shown that emotions at the macroeconomic level, as well as expectations, can cause deviations from the current equilibrium. As a result, there may be overvalued or undervalued asset values, unsustainable levels of economic expansion driven by market euphoria, but also deep crises. It is precisely these situations, which are driven by irrational euphoria or excessive fear, that can lead to serious damage to economies around the world. Therefore, ignoring collective irrationality is no longer a viable option for economic policymakers. After painful lessons from the past, central banks have positioned themselves as key actors in an effort to mitigate the negative effects of "animal spirits", but not to actively manage them. They now monitor indicators of potential market bubbles more comprehensively, and have developed tools with which they can influence market behavior. By taking preventive action in times of euphoria and decisive intervention in times of panic,

central banks can reduce the length and duration of cycles and preserve the stability of the financial system, and thus the economic system. Of course, this approach carries certain risks and requires constant improvement. Ultimately, the contribution of this critical review is reflected in the synthesis of the existing theoretical perspective and practical implications, given that today "animal spirits" is an indispensable part of economic reality. Irrationality will always be present in the market, but central banks should, in accordance with their powers, act rationally and make rational decisions and, when necessary, mitigate the negative consequences of irrationality, through communication and decisive measures at the right time.

8. Conclusion

The behavioral view has enriched the understanding of monetary policy by emphasizing that expectations and emotions are key mediators between central bank decisions and actual economic outcomes. The question "*Should central banks manage animal spirits, and to what extent?*" boils down to examining what tools monetary authorities have to influence the collective psychology of the economy, and whether such influence is even desirable.

On the one hand, if central banks were to ignore the effects of animal spirits, the level of instability could increase. Therefore, central banks are expected to be aware of the mood in the market and, if necessary, act at certain critical moments to prevent economic crises caused by panic. In this way, central banks can anchor expectations through transparent communication and thus keep the economy on course. Also, by integrating behavioral methods into macroeconomic and thus monetary models, they can identify various risks earlier and, if necessary, take precautionary measures. In this regard, the management of animal spirits has become a de facto integral part of modern central banking, regardless of whether it is about managing inflation expectations or preventing irrational pessimism during a recession.

On the other hand, there is a clear limit to how far central banks can and should go. They cannot and should not change the basic psychological laws of human behavior or take responsibility for all aspects of the economic cycle. If central banks were expected to

constantly push the stock market up whenever it goes down or to “cheer up” every pessimistic consumer, that would be both unrealistic and dangerous. Central banks are not omnipotent, although they can raise or lower interest rates, buy or sell certain assets, and communicate their optimism or concern but ultimately, real economic factors and the animal spirits of the public retain their autonomy. However, it should always be remembered that there are limits to the extent to which central banks can provide liquidity, influence financial conditions in the market, and try to shape expectations.

Based on the critical review, the conclusion is that central banks should take animal spirits into account in policymaking, but very cautiously, which in practice will mean that they should monitor confidence indicators as a form of early signals, then use communication, but not seek to influence every movement in the market. Behavioral elements should be a supplement, not a replacement for traditional analysis. For example, in normal policymaking, one should still be guided by the goals of managing inflation, unemployment, etc., but additionally seek to influence expectations and assess whether those expectations are reasonable. If markets become irrationally euphoric, the central bank can warn and tighten conditions, but even if they are unreasonably pessimistic, it can provide certainty with liquidity and strong signals of support. However, in both cases, this should be done in a limited way, based on evidence and models that support such action, and that deviations are indeed present.

Behavioral monetary policy remains a balancing act between the two roles of the central bank: the technical one, the guardian of the value of money, and the role of managing confidence and narratives. Ideally, a balance should be struck where these roles complement each other by maintaining a stable currency level, but also by implementing consistent policies that will maintain public confidence. Therefore, the best approach is to use all available information, including expectations, surveys, market sentiment, measured through optimism and pessimism, so that it can intervene when there is a clear risk that there may be negative consequences for the economy, while maintaining a focus on long-term goals.

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