

## Breaking the Neoclassical Mold: behavioral economics insights into labor supply

## Desafiando el modelo neoclásico: perspectivas de la economía conductual en el mercado laboral

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### ABSTRACT

The global labor market has experienced significant transformations due to technological advancements, globalization, and evolving socio-economic dynamics. Despite predictions from neoclassical economics, anomalies such as wage rigidity, involuntary unemployment, and underemployment persist. This article aims to critically analyze the neoclassical model's assumptions of rationality, perfect information, and utility maximization, contrasting them with insights from behavioral economics. A review of studies addressing labor market issues from a behavioral economics perspective was conducted using key terms such as "behavioral economics," "labor supply," and "neoclassical economics." The results indicate that behavioral factors, including bounded rationality, cognitive biases such as risk aversion, and social preferences, significantly influence labor supply decisions. These factors provide a more realistic interpretation of economic behavior, addressing anomalies that neoclassical theories fail to explain. In conclusion, behavioral economics offers a robust framework for understanding labor market dynamics, particularly in wage dynamics, where cognitive biases impact decision-making. This approach challenges traditional economic models and underscores the importance of incorporating psychological factors into labor market policies.

### RESUMEN

El mercado laboral mundial ha experimentado transformaciones importantes debido a los avances tecnológicos, la globalización y la evolución de la dinámica socioeconómica. A pesar de las predicciones de la economía neoclásica, persisten anomalías como la rigidez salarial, el desempleo involuntario y el subempleo. En ese sentido, el presente artículo tiene por objetivo realizar un análisis crítico de los supuestos de racionalidad, información perfecta y maximización de la utilidad del modelo neoclásico, y contrastarlos con las ideas de la economía del comportamiento. Se llevó a cabo una revisión de los estudios que abordan las cuestiones del mercado laboral desde la perspectiva de la economía del comportamiento, utilizando términos clave como "economía del comportamiento", "oferta de trabajo", "economía neoclásica". Los resultados muestran que los factores conductuales, incluida la racionalidad limitada, los sesgos cognitivos como la aversión al riesgo y las preferencias sociales, influyen significativamente en las decisiones de oferta de trabajo. Estos factores proporcionan una interpretación más realista del comportamiento económico, abordando anomalías que las teorías neoclásicas no logran explicar. En conclusión, la economía conductual ofrece un marco sólido para entender la dinámica del mercado laboral, en particular en la dinámica salarial, donde los sesgos cognitivos influyen en la toma de decisiones. Este enfoque desafía los modelos económicos tradicionales y subraya la importancia de incorporar factores psicológicos a las políticas del mercado laboral.

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#### Palabras clave:

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| Economía neoclásica |  
| Racionalidad limitada |  
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## INTRODUCTION

To address a wide range of economic and social issues, one must have a deep understanding of and analyze the labor market that encompasses various topics such as labor costs, unemployment, hours worked, and labor force participation. Throughout history, the neoclassical approach has been prominent in labor economic theory due to its foundation on rationality and optimality in both labor and goods markets. This method assumes that individuals choose their jobs strategically to maximize their subjective expected utility (Hanlon *et al.*, 2022; Lecouteux, 2023; Rodríguez-Sanz & Rubio, 2023).

In neoclassical analysis, it is assumed that workers optimize their welfare and profits through rational decision-making regarding various aspects such as task selection, effort allocation, and job seeking. However, it's important to acknowledge that human behavior in the real world is intricate and can be influenced by cognitive biases and behavioral factors. This oversimplified perspective may not always capture the complexity of actual decision processes and outcomes.

The field of behavioral economics has emerged as an interdisciplinary approach that challenges the neoclassical view by questioning the assumptions of consistency and rationality in decision-making. It acknowledges that individuals often exhibit behaviors driven by emotional and cognitive biases, rather than purely rational choices (Grayot, 2020; Ptaschunder, 2020; Abreu *et al.*, 2023). This perspective has found effective applications in various sectors such as business, goods, and finance, giving rise to disciplines like behavioral finance and behavioral public policy.

The objective of this study is to analyze how behavioral economics influences the decision-making process of individuals in the labor market. This research challenges the traditional perspective of neoclassical economics, which assumes that human behavior is completely rational. Instead, it adopts a behavioral economics approach that emphasizes the influence of emotional and cognitive biases on decision-making. Through a review of existing literature, this study examines the concept of "bounded rationality" and its impact on labor supply decisions. By presenting a more realistic understanding of economic actors, it provides a contrasting viewpoint to the neoclassical theories. The findings of this research have implications in various fields, including finance and public policy, as they enhance our comprehension of how individuals behave in the labor market.

This paper examines the labor market through the lens of behavioral economics, particularly focusing on labor supply. The impact of behavioral ideas and cognitive biases on decisions regarding labor supply is explored, highlighting differences from neoclassical approach predictions. A comprehensive analysis of relevant literature pertaining to labor is conducted, emphasizing the contributions made by behavioral economists and adapting their methodologies into this field alongside labor economists.

The first section of this paper examines the underlying assumption of rationality in neoclassical labor supply analysis and its foundations. It then discusses the cognitive and behavioral biases associated with decision-making in labor through the lens of behavioral economics. Additionally, it compares the approaches of behavioral and neoclassical economics within the context of the labor market. Finally, an insightful perspective on understanding labor decisions is provided by analyzing groundbreaking studies that apply concepts from behavioral economics to the field.

## I. METHODOLOGY AND DATA

### *Methodology*

The methodology of this paper encompasses a comprehensive review of existing literature on behavioral and labor economics. Its primary objective is to gain a thorough understanding of how the application of behavioral economics in the labor market both contradicts and enhances the conventional neoclassical approach.

As part of the methodology, a comprehensive bibliographic search was conducted. This involved exploring various scholarly databases and libraries, including Web of Science and Scopus. The search aimed to encompass a wide range of relevant studies and articles without any specific restriction on publication years. To ensure thoroughness, specific search terms like "labor e-conomics," "behavioral economics," "labor supply," "rationality," "cognitive biases," and "bounded rationality" were utilized.

After identifying relevant articles, a systematic review was conducted to extract the key findings, methods, and empirical data presented in those studies. To consolidate the main concepts and arguments found in the literature, we meticulously organized and examined the collected data.

### *Data*

Chosen articles provided valuable data to support the claims and arguments within the paper. By integrating research results from various studies, our aim was to present a comprehensive summary of how behavioral economics influences labor supply decisions, challenges neoclassical economics principles, and underscores the significance of cognitive biases and bounded rationality in determining outcomes within the labor market.

## II. EMPIRICAL FINDINGS

In the complex realm of the labor market, businesses and employees engage in frequent interaction, often driven by conflicting interests. Companies strive to optimize their profits through decisions like hiring or firing personnel, whereas workers seek to enhance their well-being by determining hours worked, level of effort exerted, and skills acquired. Each individual harbors unique motivations: employees aspire for utmost welfare while businesses endeavor to maximize profits by catering to customer demands. The equilibrium point emerges in a free-market economy when labor supply intersects with demand, a juncture where the supply curve for labor inclines upwards indicative of greater willingness among individuals to work as wages rise (Erokhin *et al.*, 2023).

To understand this equilibrium, one must grasp the neoclassical analysis of labor supply. From this perspective, individuals value their time more in terms of potential earnings from work rather than leisure time. The concept of the "substitution effect" suggests that higher wages motivate people to sacrifice free time for increased income. However, there's also the "income effect," which implies that some individuals prioritize leisure time when their income rises (Pan, 2023). This phenomenon is perceived as favorable. Both these effects can contribute to a "backward labor supply curve," where an excessive increase in wages leads to a decline in labor supply.

Apart from conventional economic models, the significance of psychological and cognitive aspects cannot be overlooked. Individual differences and cognitive biases challenge the idea of "homo economicus" as a completely rational calculator. Behavioral economics research and concepts presented by Simon (1955), such as "bounded rationality" and "satisficing behavior," suggest that decision-making involves limited information and processing power, indicating a more nuanced perception of rationality than previously believed.

In the field of economics, a clear distinction exists between happiness and satisfaction, each holding unique significance. Despite their occasional intermingling, these terms bear separate meanings in work environments. While contentment may revolve around tangible aspects such as income, happiness tends to rely more on intangible factors like self-worth and self-efficacy (Yu *et al.*, 2020). In this context, the term "profit" encompasses a comprehensive state of well-being that takes into consideration an individual's emotional and psychological attributes beyond merely their financial status.

The neoclassical model, which asserts that rationality trumps emotions and cognitive factors in decision making, faces challenges from psychological and emotional perspectives (Becchio, 2019). Contrary to its assumptions, these factors heavily impact individuals' work preferences and their willingness to prioritize professional obligations above other aspects of life. Behavioral economics, drawing on interdisciplinary research, provides a more comprehensive understanding of how people make decisions within and beyond the workplace.

The work of Kahneman and Tversky has drawn a great deal of attention to the field of cognitive biases in psychological and economic research (Arnott & Gao, 2019). To explain the systematic mistakes that occur when people make decisions in the face of uncertainty, they put forth a cognitive theory. This viewpoint splits human cognition into two systems, according to Kahneman (2011): System 1, which is quicker and more intuitive, and System 2, which is slower and more analytical. In contrast to the rational agent model of economic theory, which is comparable to System 2 in terms of logical ability, people use both cognitive systems and are prone to biases and judgment errors.

According to Ebrahimigharehbaghi *et al.* (2022), status quo bias, loss aversion, and risk aversion, are common cognitive shortcuts and biases that influence decision-making. These mental processes operate through fast retrieval and memory systems, making them particularly pertinent in the job market. In a study by Doerrenberg *et al.* (2023) on the impact of loss aversion on labor supply, they found that this bias plays a role in explaining why wage increases don't always lead to increased work effort, contrary to what the neoclassical economic model suggests. Individuals tend to prioritize preventing losses even when it contradicts achieving optimal economic outcomes in uncertain situations.

Prejudices do not exist in isolation but rather interact with other factors such as age and socioeconomic status. In his study, Germain (2023), explored how behavioral biases like the status quo effect shape job-seeking decisions. The researchers found that both an individual's age and initial circumstances influence their perception of a "fair wage." Specifically, older individuals transitioning from the workforce to welfare tend to claim higher benefits and exhibit a stronger inclination towards maintaining the status quo compared to younger counterparts.

Two relevant biases in the labor context are the money illusion and the selfish bias. According to Kahneman *et al.* (1991), individuals often think in nominal terms rather than real terms, which contradicts economic rationality. This phenomenon is referred to as the "monetary illusion." Interestingly, their experiment demonstrated that while both nominal wage cuts and non-inflationary nominal increases result in similar real losses, people perceived nominal wage cuts as more unfair. Additionally, fairness perceptions within the labor market are influenced by selfish bias. Messick and Sentis (1979), discovered that individuals tend to overestimate their own abilities and achievements, leading them to demand higher compensation for themselves compared to what they consider reasonable for others.

### III. ASCENDANCE OF BEHAVIORAL ECONOMICS OVER NEOCLASSICAL THEORY

For a considerable duration, neoclassical economics has served as the foundation of economic studies. However, it is worth noting that neoclassical economics bases its framework on physics and mathematics rather than psychology. This preference for exact sciences over psychological aspects has faced criticism. Neoclassical models often depict individuals as uniform, self-interested agents who exhibit consistent and rational behavior (Tzotzes & Milonakis, 2021). In contrast, behavioral economics theories recognize the influence of various social and psychological factors on people's decision-making processes (Jing *et al.*, 2022). Through advancements in experimental economics and cognitive psychology, conventional wisdom has been challenged by revealing that individuals do not always act solely in their own material interests.

Behavioral economics considers a wide range of motivations, such as justice, along with the understanding that human cognitive capacities are limited. This shifts the perception of economic agents from purely profit-driven calculators to complex individuals guided by diverse values (Hartmann *et al.*, 2021). Moreover, empirical research has expanded economic models beyond selfishness by incorporating preferences aligned with notions of justice (Tang *et al.*, 2023; Engel, 2022). One area of discussion sparked by this paradigm shift is the utility function in conventional economic models. It explores how social preferences and behavioral diversity impact markets and economic decision-making.

Empirical research in the labor market has recently challenged the neoclassical notion that job preferences are fixed and solely driven by income maximization. Studies have revealed that factors such as salary, career advancement, and job satisfaction play a significant role in employment decisions. This contradicts neoclassical theories and is evident in studies conducted by Jewell & Kazakis (2021) on European doctorate holders, which explores their labor supply choices.

The field of labor studies is experiencing a shift towards the integration of behavioral economics theories and experimental methods. This shift allows for more nuanced and realistic insights. One example of this change is the consideration of concepts like loss aversion, alternative economic returns, and varying effort levels per hour. Researchers such as Angulo-Guerrero *et al.* (2023) implemented these complex frameworks into their studies. Their work demonstrates how reference-dependent preference-based models can offer valuable perspectives in understanding labor dynamics through experimentation and behavioral theories.

Neoclassical economics, with its sound and mathematically rigorous framework, falls short in capturing the full intricacies of human behavior in economic decision-making due to its limited focus on self-interest and rationality. In contrast, behavioral economics offers a more accurate and nuanced perspective by incorporating psychology and recognizing human heterogeneity. Integrating these methodologies into economic analysis not only enhances our comprehension of economic phenomena but also opens doors for more efficient research and policymaking.

### IV. BEHAVIORAL LABOR ECONOMICS

Behavioral labor economics combines principles from labor economics, behavioral science, psychology, and neuroscience to examine phenomena in the labor market. According to Ivanenko (2021), behavioral economics has influenced labor economics in several keyways. Firstly, researchers are increasingly using behavioral economic predictions and methods in influential academic journals. Secondly, it has enhanced micro-analyses of the labor market by emphasizing individual decision-making and human interaction. Lastly, it has introduced experimental techniques to labor studies, exploring topics like motivational theories and social preferences.

The incorporation of behavioral economics into labor economics has led to a wide range of comprehensive applications. By studying and analyzing human decision-making, behavioral economics has seamlessly integrated with labor economics. This integration allows for a closer examination of individual behaviors and decision-making in the labor market, offering valuable insights into fairness, labor supply, and wage determination (Ireland, 2023). Scholars can enhance their understanding of labor market dynamics by exploring the intricate nuances of how people respond to incentives, make employment-related decisions, and interact within the microcosm of the labor market through embracing the concepts and methods of behavioral economics (Vaaramo *et al.*, 2023).

Furthermore, behavioral economics offers fresh perspectives to support unemployed and underprivileged individuals in their education and training, which provides recommendations for streamlining employment, job, and work tools (Berger *et al.*, 2022; Sato *et al.*, 2022). Moreover, it enhances our understanding of wage determination and rigidity, influencing both the micro and macro levels. Research conducted in this field reveals that labor phenomena like wage rigidity and involuntary unemployment are significantly impacted by key principles such as reciprocity, equity, loss aversion, and reference dependence.

Behavioral economics can be applied to labor because labor studies typically focus on individual behavior. The behavioral approach easily integrates into these studies since they lend themselves well to the analysis of microdata and how individuals and businesses respond to incentives. According to Breuer *et al.* (2023), incorporating behavioral analysis into labor economics enhances our understanding of issues like joblessness and the psychology of work. In other words, this approach not only provides a more comprehensive explanation for persisting unemployment or specific work-related behaviors but also sheds light on psychological factors at play.

Technological advancements, particularly in data acquisition, collection, and usability, greatly impact the labor market and behavioral economics. The availability of big data enables more empirical analyses of labor markets (Evgrafova *et al.*, 2023). However, due to its scattered nature and heterogeneity, it also presents methodological challenges. Apenbrink (2023), emphasizes the importance of incorporating behavioral models in this context as they provide insights into the institutional, psychological, and sociological factors influencing labor decision-making.

## CONCLUSIONS

In the realm of labor economics, there has been a noticeable departure from the conventional neoclassical viewpoint, with a greater emphasis placed on the role of psychological and cognitive factors in the decision-making process. Instead of adhering to the traditional notion that individuals are purely rational beings, this new perspective recognizes the substantial impact that unique characteristics, cognitive biases, and emotional factors have on labor market behavior. Pioneering concepts such as satisficing behavior and bounded rationality, which have emerged within the framework of behavioral economics, shed light on the inherent limitations associated with human information processing and decision-making capabilities.

In the field of behavioral economics, there is a strong emphasis on understanding how cognitive biases and emotional reactions influence an individual's behavior within the job market. When faced with uncertainty, cognitive biases can lead to consistent mistakes in decision-making. This challenges the traditional rational agent model put forth by economic theory, which assumes consistent rational behavior. However, we must consider the existence of two cognitive systems: System 1, which is quick and intuitive, and System 2, which is deliberate and analytical. This dual-system perspective reveals the reality that people are prone to cognitive biases and judgment errors, undermining the assumption of consistent rational behavior in the neoclassical economic model.

In labor market, cognitive biases such as risk aversion, loss aversion, and status quo bias greatly influence decision-making. These biases often prioritize avoiding losses over achieving optimal economic outcomes. These biases are particularly important to consider in the realm of wage dynamics, where traditional economic models may not fully consider the psychological factors that impact individual labor supply decisions. Consequently, the labor market becomes a complex environment where cognitive biases significantly affect decision-making, leading to specific patterns and outcomes in terms of labor supply.

Behavioral economics provides a comprehensive and multifaceted viewpoint for explaining labor market phenomena that goes beyond the limitations of the conventional neoclassical model. Behavioral economics integrates psychological and sociological elements to acknowledge the complexity of human incentives and decision-making. This radical departure not only challenges the traditional understanding of economic agents as purely rational actors motivated only by profit maximization, but it also enhances studies of the labor market by including factors like equity, social preferences, and cognitive limitations.

The integration of behavioral economics in labor studies represents a substantial advancement in comprehending labor market dynamics more thoroughly and astutely. Behavioral labor economics provides a valuable structure for elucidating the various intricate aspects that impact human behavior in response to incentives, shape decisions related to employment, and govern interactions within the labor market. This framework is established through the examination of individual decision-making processes and the incorporation of experimental methods. An indispensable element in comprehending the intricate mechanisms driving labor supply trends, wage determination, and broader employment dynamics is the adoption of an interdisciplinary approach.

Undertaking a more comprehensive examination of how cultural and societal influences impact labor market behaviors is a valuable direction for further exploration within the realm of behavioral economics. Such research would shed light on how different cultural contexts shape individuals' perceptions of risks and rewards in the labor market, and how these perceptions subsequently influence their economic choices. By incorporating cross-cultural analysis, future studies on labor market dynamics can be more inclusive and globally focused, revealing distinct patterns of behavior and decision-making across diverse socioeconomic and cultural backgrounds. This approach would significantly contribute to the existing knowledge base in behavioral economics within labor markets, providing valuable insights for both researchers and decision-makers alike.

The results of this study could guide labor market regulation and human resources policies and practices. More efficient hiring, training, and retention strategies can result from an understanding of how cognitive biases and affective factors affect employee decision-making. Employers can, for instance, create job ads and incentive programs that emphasize work-life balance or job security to better suit the behavioral tendencies of prospective hires. These insights can also be used by legislators to develop labor laws and social safety nets that more accurately reflect the needs and behaviors of the workforce, which will ultimately result in a labor market that is fairer and more efficient.

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