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ILLIQUIDITY TRAP: OVER-INDEBTED SUBJECTS AND THEIR COGNITIVE CONSEQUENCES

Trampa de iliquidez: Los sujetos sobreendeudados y sus consecuencias cognitivas

Armadilha de iliquidez: Sujeitos superendividados e suas consequências cognitivas

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ABSTRACT

This research aims to show the cognitive constraints experienced by resulting from financial concerns and problems. A case study was conducted involving eight individuals living in different Colombian cities, who got into debt and faced an insolvency process. The results obtained are consistent with the theoretical-empirical framework proposed by Mullainathan and Shafir (2013), regarding the cognitive strain experienced by individuals with feeling of scarcity. This work contributes to the existing empirical literature and represents a first step toward the existence of a debt illiquidity trap that drives debtors to perpetuate their critical financial situation.

Keywords: over-indebtedness, scarcity, scarcity trap, attention, judgment and decision-making.

RESUMEN

La presente investigación pretende demostrar la existencia de un agotamiento de la función cognitiva de los deudores producto de un acaparamiento de su atención respecto de las preocupaciones y problemas financieros. Con ese fin, se entrevistaron ocho personas residentes en tres ciudades colombianas que padecieron un escenario de endeudamiento problemático y se sometieron al trámite de insolvencia. Los resultados obtenidos resultan consistentes con la propuesta teórica-empírica de Mullainathan y Shafir (2013) acerca del desgaste cognitivo de las personas con sensación de escasez. Este documento contribuye al trabajo empírico desarrollado por la literatura hasta la fecha y representa un primer paso hacia la existencia de una trampa de iliquidez por deuda que lleva a los deudores a perpetuar su situación financiera crítica.

Palabras clave: sobreendeudamiento, escasez, trampa de escasez, atención, juicio y toma de decisiones.

RESUMO

Esta pesquisa visa demonstrar a existência de um esgotamento da função cognitiva dos devedores como resultado de uma concentração de sua atenção em preocupações e problemas financeiros. Para tanto, o caso de oito pessoas residentes em três cidades colombianas que sofreram um cenário de endividamento problemático e passaram por um processo de insolvência foi estudado por meio de entrevistas. Os resultados obtidos são consistentes com a proposta teórico-empírica de Mullainathan e Shafir (2013) sobre o desgaste cognitivo de pessoas com sensação de escassez. This work contributes to the existing empirical literature and represents a first step toward the existence of a debt illiquidity trap that drives debtors to perpetuate their critical financial situation.

Palavras-chave: superendividamento, escassez, armadilha de escassez, atenção, julgamento e tomada de decisões.

INTRODUCTION

Debt is a phenomenon that metaphorically can be identified as a two-edged sword (Cecchetti et al., 2011). When used appropriately and in moderation, it can improve one's well-being. Nonetheless, when used recklessly, it can lead to disastrous outcomes. The inability to pay taxes, rent, and children's school fees continuously, can make the debtor feel defeated. To cite an instance, Ross and Squires (2011) demonstrated that individuals on the verge of losing their homes due to some debt tend to attribute the situation to a personal failure. Empirical evidence has shown a strong relationship between financial difficulty and depression (Bridges & Disney, 2010; Drentea & Reynolds, 2012; Fitch et al., 2011), suicidal thoughts and behavior (Meltzer et al., 2011; Sweet et al., 2013), physical health detriment (Chou et al., 2016), and mental health deterioration (Matthews & Gallo, 2011; Sweet et al., 2013).

We find it rather captivating how individuals with problematic indebtedness (meaning they are unable to pay their debts regardless of the amount) make decisions. Often adopting inappropriate behaviors perpetuating their critical situation, such as refinancing loans at higher interest rates, decreasing work performance, or even acquiring new debts to liquidate existing ones.

As specified by Bernthal et al. (2005, p. 139), certain debtors, when not owning cash to pay pending debts, tend to engage in shuffling practices. This conveys requesting additional credit to cover an installment postponing problem confrontation to the future (with higher interest rates). Others opt for debt refinancing or consolidation, short-term alternatives allowing them to maintain an excessive financial burden and their consumption levels (Sparkes et al., 2018, p. 216). These alternatives can push individuals into revolving debt consumers, as they enter a cycle of spending (using credit), then refinancing it and repeatedly spending indefinitely, gradually increasing their total debt amount (Walker et al., 2014, p. 5).

According to several authors, creditors' behavior may influence the decision-making of debtors. Banks and other financial institutions consistently do not inform their clients about possible critical signs of debt exhaustion and accumulation, which might enable them to modify their financial behavior (Griffiths, 2008, p. 187). Moreover, these entities are responsible for creating and marketing financial products encouraging consumption even when debtors lack the means to pay for their overdue debts (Packman, 2014). Deregulation in the credit market in modern societies can lead to the approval of loans for financial users who fairly cannot afford to pay (Kus, 2015). An aspect that is especially relevant when families are in vulnerable situations, generating unstable spending from the financing schemes, leading debtors into worse situations (Badue & Ribeiro, 2018).

This passive position from the creditor modifies when the client becomes a defaulting debtor. Credit providers begin to pressure them through inappropriate phone calls or multiple letters and emails underlying them of their payment obligations. According to data obtained by Poster (2013, p. 216), collection offices exploit debtors' legal incomprehension to humiliate them, instill fear due to their non-compliance, and thus coerce them into repayment. These practices ultimately aim to wage a mental war against the debtor to safeguard payment and

competitiveness in the credit market (Edwards, 2003; Walker et al., 2014, p. 58). Commonly, this dominant and at times abusive position from creditors over debtors dates back to ancient times. Guilt generation in debtors has historically been used as a tool by creditors to force them to pay (Graeber, 2014).

In Colombia, in accordance with the data collected from the DANE and the Bank of the Republic, a progressive increase in the number of restructured loans has become evident (Muñoz and Muñoz Barrera, 2015). According to the study conducted by Vivas Saavedra (2019), entities in the Colombian financial system actively contribute to family incomes. This implies that a broad range of these incomes is allocated to cover repayments and services for various credit products. In fact, according to the Information System for Conciliation, Arbitration, and Amicable Settlement (SICAAC), there has been a gradual growth in the number of individuals applying for insolvency. In 2016, there were only 423 requests for insolvency by non-commercial natural persons nationwide. By 2019, this figure had risen to 2,394.

Beyond this demographic information kept in some national databases (such as SICAAC), and certain studies aiming to identify factors that contribute to indebtedness (Iregui-Bohórquez et al., 2018; Pacheco & Yaruro, 2017; Clavijo Ramírez, 2016; Gutiérrez Rueda et al., 2011), this research did not find any studies attempting to analyze how the decisions from debtors may favor or hinder their exit from financial crisis. In such cases, it appears that individuals with an inability to pay often adopt short-sighted behaviors that perpetuate or worsen their financial deficit.

Mullainathan and Shafir (2013) propose that the feeling of scarcity (regardless of the resource it alludes to or the cause that motivates it) captures individuals' minds and leads them to make misguided decisions that perpetuate their critical situation (Mani et al., 2013; Shah et al., 2012, 2015, 2018). Broadly speaking, the concept of scarcity employed in economic theory is ubiquitous, meaning it manifests in each of the existing resources, such as money and food. Conversely, the feeling of scarcity is having less of something perceived as necessary (Mullainathan & Shafir, 2013, p. 8). Evidently, this latter concept is not entirely detached from physical limitations, but its constitution depends on the individual's subjective perception. For instance, consider the daily time constraint. A person may have a schedule in their agenda that allows them to have a leisurely lunch and engage in some conversations with their colleagues. Now, picture a completely different day: that same person has to finalize a report or submit the final document of their research. Despite having the same amount of working hours, only in this latter scenario, they are aware of their scarcity (the feeling of scarcity)

For Mullainathan and Shafir (2013), individuals who experience scarcity of a resource, by focusing on contemplating alternatives to sort out their situation, undergo cognitive depletion. This makes them more impulsive, leading to a lack of self-control, causing them renouncing to planned goals, forget established commitments, struggle with solving work or everyday problems, reduce their innovative capacity, and hinder their ability to rest during nighttime hours and sleep. Therefore, when making decisions, they tend to adopt myopic behaviors whose implications will worsen the scarcity situation in the future. In other words, scarcity perpetuates itself, creating a kind of trap.

This study aims to evaluate, from a phenomenological perspective, whether the behavior of debtors with an inability to pay in Colombia can be elucidated based on the arguments manifested by Mullainathan and Shafir (2013). To attain this purpose, a flexible qualitative methodological design through case study was employed. Interviews were conducted with individuals who had experienced prolonged difficulties in repaying their debts and had resorted to the insolvency law. While it can be foreseen that the level of family indebtedness in Colombia has gradually increased toward problematic scenarios, there are not enough studies or databases to fully understand this phenomenon, leading to the choice of the methodological approach, which also allows for direct engagement with debtors' experiences and decisions.

SCARCITY AND ITS CONSEQUENCES IN DECISION-MAKING

The theoretical proposition of Mullainathan and Shafir

Mullainathan and Shafir (2013) suggest that the feeling of scarcity captures individuals' minds and leads them to make misguided decisions that perpetuate scarcity. The capture of the mind occurs through an unconscious process within the brain. The opening move involves a call for attention. Scarcity motivates the recognition of problems related to it as urgent and significant. When one has a stable income, managing different expenses is relatively straightforward. However, when money is scarce, expenditure becomes a persistent rush and genuinely involves the individual in finding a solution. Namely, owning less provokes greater attention (Shah et al., 2012, p. 682).

The increased focus on scarcity concerns briefly leads to a productive consequence. Shah et al. (2012) demonstrated that an artificially created scarcity situation resulted in better performance by participants. Through a game similar to *Angry Birds* featuring ten levels, players were randomly given two different sets of resources: one rich (150 shots, 15 per level) and one meager (30 shots, 3 per level). Those with fewer shots achieved higher scores per shot than the rich group. Unfortunately, the specific allocation of attention is not solely associated with positive effects. When people put significant effort into mental activity, their concentration tends to make them blind to what is happening all around them (Kahneman, 2013, pp. 38-39). Naturally, cognitive function seems to be ruled by a general law of efficiency: the law of least effort. As it depends on a limited resource (bodily energy), any mental effort is a cost that must be optimized (to maintain energy). Thus, attention is primarily directed toward activities considered essential.

An example linked to this concept is the results from the invisible gorilla experiment conducted by psychologists Chabris and Simons (2011). Participants were asked to watch a short video of a basketball game between two teams and count the number of goals scored by one team while ignoring the other. The task was extremely demanding due to the absence of a scoreboard. In the middle of the video, a female individual dressed as a gorilla walks through

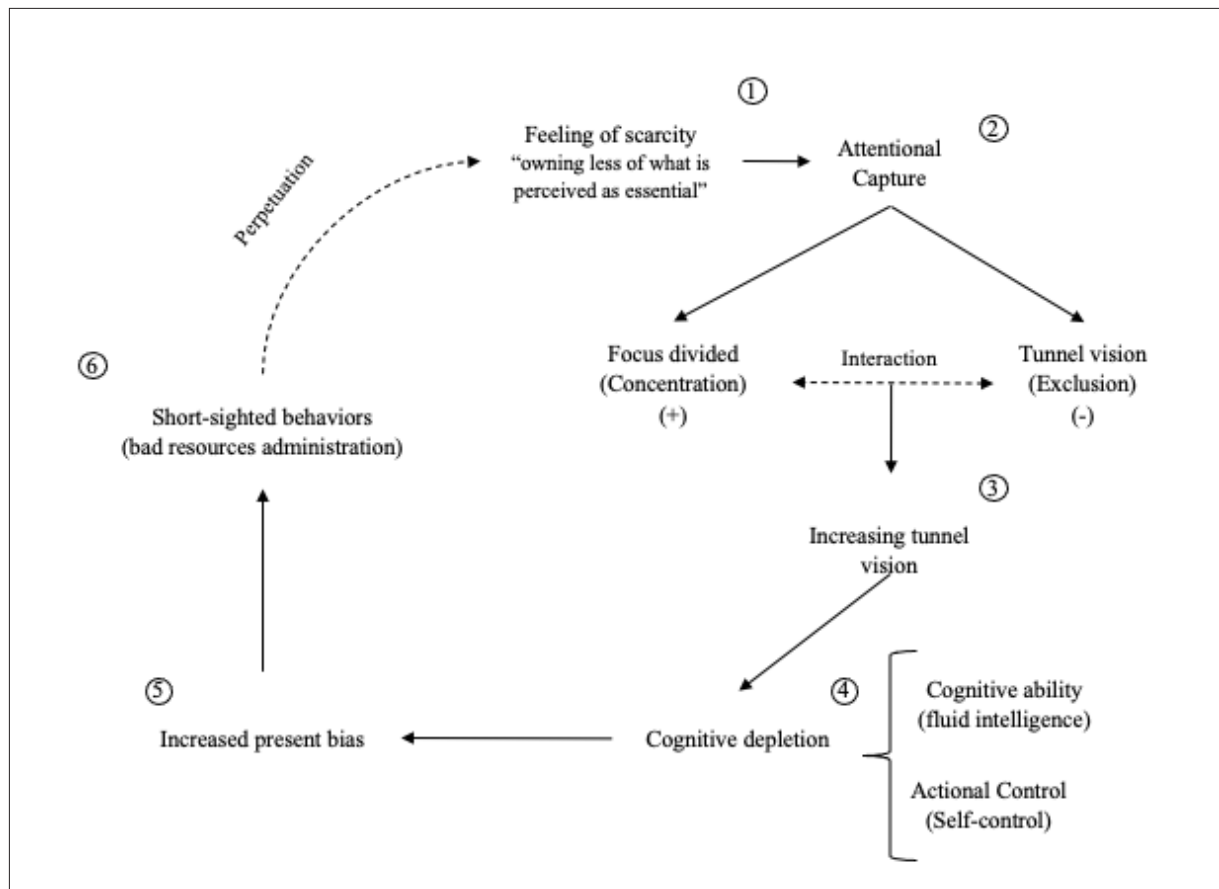
the field beating her chest, and continues her way. Half of the thousands of participants in the experiment failed to see the person dressed as a gorilla walking for nine seconds. The allocation of their attention to the demanding task had made them blind to a stimulus that was perceptible to an unoccupied audience.

According to [Mullainathan and Shafir \(2013, pp. 29-30\)](#), the narrowing in the of view resulting from attention capture can be called "tunnel vision." It seems that individuals experiencing scarcity are inside a tunnel that prevents them from assessing multifarious possibilities. Generally, when a person is rushed due to work or a lack of money, they may forget their child's birthday or a meeting with their company's manager. Someone with little time may decide to postpone an essential medical check-up to the following month, driving distractedly while engaging in a phone conference ([Redelmeier & Tibshirani, 1997](#); [Strayer et al., 2006](#)), or intake more calories than planned ([Boon et al., 2002](#)).

Generally, capturing attention implies the depletion of cognitive function concerning other daily, family, and work-related matters, as well as the pursuit of future goals and plans. This transformation is shocking and profound. In the poverty and sporadic income scenario, [Mani et al. \(2013\)](#) studied a sample of 464 small sugarcane farmers in 54 villages in the districts of Viluppuram and Tiruvannamalai located in India. Since their income depended significantly on harvests, participants had periods of broad financial comfort (post-harvest) and periods of scarcity (pre-harvest). They were subjected to Raven's Progressive Matrices test and a Stroop test during both periods to measure their cognitive performance, fluid intelligence, and self-control. The average number of correct responses and performance on both tests were better during the post-harvest period when their attention was not perturbed by financial concerns.

It should not be assumed that cognitive depletion in a scarcity situation is limited only o the consequence of an emotional state, such as stress or distress ([Mullainathan & Shafir, 2013, pp. 61-63](#)). Contrariwise, there is evidence that certain emotional states can enhance working memory and executive control ([Hockey, 1997](#); [Vijayraghavan et al., 2007](#)). However, cognitively fatigued individuals tend to make poor decisions and neglect important but non-urgent matters. This is a result of an increased bias toward the present, Otherwise known as hyperbolic discounting, which is a consequence of tunnel vision ([Mullainathan & Shafir, 2013, p. 106](#)). In other words, individuals further overvalue the immediate benefits of their choices at the expense of future rewards or costs.

The situation of scarcity motivates the execution of juggling the urgent or imminent challenge ([Mullainathan & Shafir, 2013, pp. 116-119](#)). Individuals switch from one urgent task to another indefinitely. The solutions chosen in the present are likely to bring greater problems in the future since their usefulness is overestimated. For example, consuming cheaper food may favor immediate financial scarcity at the expense of the future expenses that malnutrition or obesity may carry. Ultimately, mismanagement of resources results in behavior that perpetuates scarcity. A scarcity trap is created, aggravated by the individual's inability to plan and resist impulses. All of the above can be summarized in Figure 1.

Figure 1. Theoretical-Empirical proposal by Mullainathan and Shafir (2013)

Notice. The list contained in the graph is only illustrative and its purpose is none other than to facilitate the reader's review.

Source. Author's own

Hyperbolic Discounting

The inquiry into how individuals behave when making intertemporal decisions has been widely debated in economic theory since its inception. According to Smith (1997), human behavior could be explained by a constant conflict between passions (rooted in the present and truly captivating us) and virtuous long-term projection. Unlike passions, the latter generally favors the health, wealth, and happiness of the individual.

Jevons (2013), on the other hand, recognized the uppermost role of immediate gratification. In fact, he assumed that the immediate utility derived from consumption is the only factor considered in decision-making. An individual will only delay immediate benefits if they believe that future benefits will be greater. This assessment is referred to as anticipated utility. Therefore, the pleasure of eating an ice cream in the next few minutes will only be postponed if it is believed that tomorrow (possibly when the weather is hotter)

will be more pleasurable. Jevons acknowledged that the tendency to prefer immediate gratification over delayed gratification decreases over time. In other words, our timelessness choices are inconsistent or hyperbolic.

In this context, [Böhm-Bawerk \(1998\)](#) and [Pigou \(1920\)](#) introduced a factor that explains the systematic tendency of individuals to underestimate future benefits: our inability to imagine, abstract, or predict eventual desires. It is extremely challenging for us to determine precisely how much pleasure we will derive from eating the ice cream tomorrow or a year from now. Even, there may be desires or pleasures that we cannot foresee, that our mindset fails to capture. [Pigou \(1920, p. 25\)](#) called this the individual's defective telescopic vision.

Interestingly enough, the tendency to prefer immediate benefits was demonstrated in one of the most popular experiments in the history of psychology. Psychologists [Mischel and Ebbesen \(1970\)](#) subjected a group of around four-year-old children to a cruel dilemma: an obvious intertemporal choice. Participants were allowed to choose between a single treat, which they could have immediately, and a larger reward (two or three treats) if they waited for 15 minutes. The conditions were challenging. The child had to sit and wait inside a room with a table containing the treat. There were no distracting objects (such as toys or books). Even the researcher left the room after explaining the activity to the participant and only returned when the child had either eaten the treat, showed signs of distress, or reached the time limit. The children were espied through a one-way mirror. As [Kahneman \(2013, pp. 68-69\)](#) notes, the behavior of the participants during the waiting period often amused onlookers. Nearly half of the children could not wait and chose immediate temptation and pleasure.

Providentially for mathematical formalization –and unfortunately for realistic descriptions– [Samuelson \(1937\)](#) proposed the discounted utility model (DUM). In summary, his premise suggests that individuals value present consumption more than future consumption, as recognized in the literature until that point. To precisely identify the most likely behavior of individuals, without delving into discussions about their psychological motivators, their behavior was recapitulated into a single parameter: the discount rate. This is why the DUM was accepted by economists and became a valid normative standard describing the behavior of individuals ([Frederick et al., 2002, p. 356](#)). This was despite the fact that [Samuelson himself \(1937, p. 159\)](#) acknowledged its descriptive incompatibility and the arbitrariness of its assumptions.

The problem with DUM, in addition to its oversimplification, is that it presumes that individuals have a consistent discount rate. That is, it is either constant or varies in a determinable way, allowing individuals to project their decisions over a long period of time (perhaps their entire life) and maintain them as days pass. Expressed differently, it eliminates the underestimation of future pleasure or even its unpredictability. Nonetheless, empirical research has shown the existence of a widespread tendency to underestimate future benefits and to not clearly discern the best choices in temporal frames other than the present ([Ericson & Laibson, 2019](#); [Frederick et al., 2002](#)). This human tendency, which reiterates the ideas of the old economists (such as Smith, Jevons, Böhm-Bawerk, and Pigou), is called present bias or hyperbolic discounting.

METHODOLOGY

The proposed methodology is qualitative and for its implementation employed a case study technique. This decision was made because qualitative methodology allows for in-depth exploration of the motivations and context behind the decisions made by debtors facing lengthened inability to pay. Eight interviews were conducted with individuals living in the Colombian cities of Cali, Bogotá, and Barranquilla.

To identify individuals who had experienced problematic debt, contact was made with some individuals who had faced the insolvency process between 2016 and 2019. This ensured that the participants had confronted serious difficulties in repaying their debts and had consequently made decisions to seek solutions. The regulatory requirement to file for insolvency is a lasting default in payment of the majority of outstanding obligations. The years 2020 to 2022 were not considered to avoid potential biases introduced by the COVID-19 pandemic.

Convenience sampling was the technique used to select participants (Flick, 2007, pp. 50-51; Patton, 2002), based on stratified purposive sampling (socioeconomic status and gender) (Miles & Huberman, 1994, p. 28). Two legal offices in the city of Cali, specializing in representing insolvent individuals throughout Colombia, were approached in order to obtain contact information for potential participants. These offices made initial contact with these individuals to obtain their authorization for the release of their contact information to the researchers. The selected individuals had the demographic characteristics detailed in Table 1.

Table 1. Demographic Characteristics of the Participants

	Participant							
	1	2	3	4	5	6	7	8
Age	49 years old	49 years old	51 years old	54 years old	57 years old	60 years old	59 years old	54 years old
Gender	Female	Male	Male	Female	Male	Male	Male	Male
Socioeconomic status	4	5	4	5	4	3	6	3
Residency	Cali	Cali	Bogotá	Cali	Barranquilla	Cali	Bogotá	Cali
Education Level	Undergraduate	Posgraduate	Specialist Degree	Undergraduate	Specialist Degree	Technical degree	Undergraduate	Specialist Degree
Number of children	2	1	2	2	2	2	2	1

Source: Author's own

Since the aim was to explore the experiences of individuals regarding their financial situation in the past, interviews were a suitable method for data collection. As Kvale (2011) highlights, "The interview attempts to understand the world from the subject's point of view and reveal the

meaning of their experiences" (p. 19). With the own informed consent signed, these interviews were conducted between April and August 2021, using the Zoom as a platform due to the restrictions imposed by the COVID-19 pandemic. The constant comparison method (Creswell, 2013; Valles, 1999), also known as theoretical saturation, was used to determine the sample size. Interviews were conducted with new individuals until sufficient information was obtained to support the theoretical pillars and no additional significant data was provided.

The interviews made were transcribed, analyzed, and processed using the Atlas ti software. Categories and codes were created based on the reviewed literature for the analysis of the results obtained. "The theoretical framework defines the set of categories beforehand, which contain the units of information" (Mejía Navarrete, 2011, p. 54). This implies that, for the assembly of categories, the theoretical framework of reference must be reviewed in detail, which narrows the fields of analysis according to the literature that informs the research. While this method is commonly used in quantitative studies to define variables, functions, and indicators, it can also be employed in qualitative methodologies (Torres Carrillo, 1998, p. 74). For this research, two sets of groups or families of codes were defined, one related to the trap that occurs due to the feeling of scarcity, and another associated to problematic debt and its consequences (Table 2).

Table 2. Theoretical Categorization for Interview Analysis

1 st Category		
Codes	Subcode	Theoretical Support
Slack waste		Mullainathan y Shafir (2013) Shah et al. (2012)
Feeling of scarcity		
Attentional capture	Focus divided tunnel vision	
Cognitive depletion		Mullainathan y Shafir (2013) Kahneman (2013) Shah et al. (2012, 2015, 2018) Mani et al. (2013)
hyperbolic discounting		Mullainathan y Shafir (2013) Ericson y Laibson (2019) Frederick et al. (2002)
short-sighted behaviors (bad decisions)		Mullainathan y Shafir (2013) Shah et al. (2012, 2015, 2018) Mani et al. (2013)

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Table 2. Theoretical Categorization for Interview Analysis

Concludes

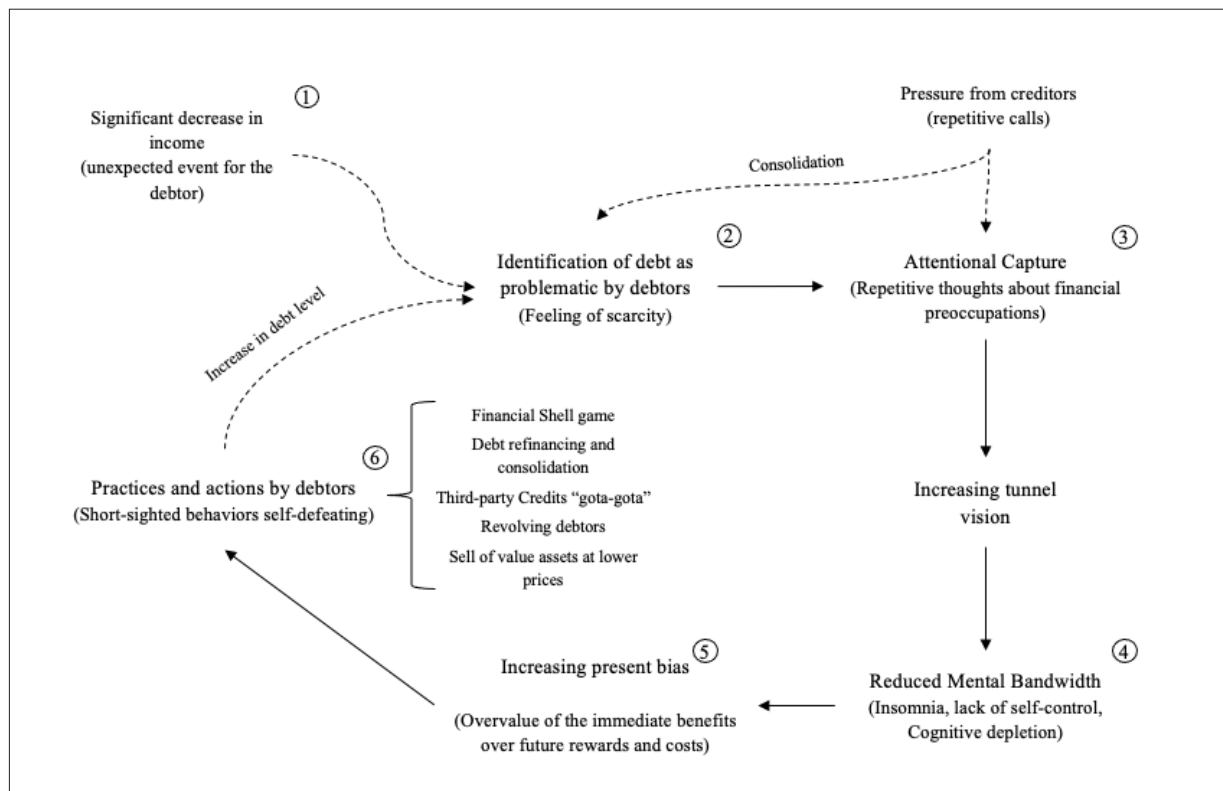
2 nd Category		
Codes	Subcode	Theoretical Support
Psychological Effects	Depression	Drentea y Reynolds (2012) Bridges y Disney (2010) Fitch et al. (2011).
	Insomnia	Mullainathan y Shafir (2013)
	Suicidal inclination	Sweet et al. (2013) Meltzer et al. (2011)
	Physical health detriment	Chou et al. (2016)
	Irritability or lack of control	Mullainathan y Shafir (2013)
Common practices	Financial shell game	Berenthal et al. (2005)
	Revolving debtor	Walker et al. (2014) Packman (2014)
	Debt refinancing and consolidation	Sparkes et al. (2018)
Pressure from creditors		Poster (2013) Walker et al. (2014) Edwards (2003)

Source. Author's own

RESULTS AND DISCUSSION

The results from the fieldwork allow us to identify a four-stage process in the interviewees that leads them into a liquidity trap that captures their attention. The first symptom is the emergence of a feeling of scarcity driven by increasing debts and external pressure, causing them to focus their mental activity on possible solutions to their financial crisis. In this state, the present bias or hyperbolic discounting of the debtors consequently increased, bringing with it the negative effects of the scarcity theory proposed by Mullainathan and Shafir (2013). Ultimately, this preoccupation leads them to make decisions that result in a debt liquidity trap. The synthesis of these findings is presented in Figure 2.

Figure 2. The debt liquidity trap



Notice. The list contained in the graph is only illustrative and its purpose is none other than to facilitate the reader's review.

Source. Author's own

Excessive debt consolidates a sense of scarcity in debtors

Participants had acquired various financial obligations in their daily lives (such as credit cards, mortgages, financial leases, educational loans to defray their children's expenses and personal loans, among others), which gradually accumulated until the participants eventually realized their problematic situation (persistent inability to pay). In the main, participants identified their level of debt as problematic (and, in turn, felt scarcity) when, due to some unforeseen event (such as the company's unjustified layoffs or the completion of a significant contract), they experienced a significant reduction in their income, affecting their financial balance. "My wife and I started feeling the pressure of the debts almost immediately when the company closed down, and we lost our jobs" (Participant 6, 2021).

Indeed, as [Mullainathan and Shafir \(2013\)](#) point out, it is not necessary to have a shortage of a resource to identify it as problematic. It is necessary for the individual to perceive its insufficiency in their context to identify it as problematic. In this case, the preoccupation of the participants occurred when, due to the reduction in their income, the high levels of debt became substantially unbearable for them to cover their needs satisfactorily. In any case, there

is already literature that has identified how the gradual loss of families' purchasing power and the deregulation of the credit market motivates the accumulation of debt (Kus, 2015).

Exactly when I lost my job, the problem began to take shape. Soon after, the difficulties became apparent. Our children were still underage, and when you don't have regular income, you start paying attention to the bills you must pay (...) All of that worried me. (Participant 3, 2021)

According to Mullainathan and Shafrir (2013), one of the main causes of scarcity is the lack of planning during times of affluence. This occurs when there is room within the budget that is not assigned for a specific activity. This abundance creates a disproportionate perception of resources that motivates careless or reckless behavior. Ittersum et al. (2010) demonstrated that high-income consumers are highly likely not to track their expenses because they do not feel it is necessary. The opposite happens when the budget is limited and known (Pennings et al., 2005). Mismanagement of abundance can result in the gradual materialization of scarcity, as consumers become less cautious (Kus, 2015). All participants identified that their financial crisis began just after a period of great abundance and/or stability when they could afford certain luxuries. These were not necessarily extravagant or truly significant expenses, but they did reduce their financial margin. "I could have saved to have a reserve to face difficult times, and I never did" (Participant 5, 2021). After a while, the feeling of scarcity solidified in their perception.

Debts capture attention

Any financial matter involves the specific allocation of the debtor's attention in an attempt to optimize the use of their resources. The interviewees expressed that debts and financial concerns absorbed a significant part of their thoughts. "You wake up thinking about this situation. You go to bed thinking about it, and you can't sleep because of it. It's a constant presence" (Participant 1, 2021). Regardless of the activity they intended to undertake (such as watching a movie, spending leisure time with their children, or working), pending payment obligations were present in the debtors' minds as an issue to be solved. "Debts completely took over my daily life. You're thinking all the time about possible solutions and about not getting calls from creditors. It consumes your mind" (Participant 8, 2021).

Unlike other scenarios of scarcity, the preoccupation with debts does not arise solely from the debtor's feeling of scarcity. Late payments trigger active behavior by creditors. In particular, collection agencies made multiple phone calls to the interviewees to remind them of their outstanding obligation to pay. "Just when you finally manage to concentrate on something else, you get a call. Calls from collection agencies are relentless. I had to change my phone number for my mental health's sake" (Participant 1, 2021). Some of these calls were made at inconvenient times (as mentioned by Participant 8, who received calls several times at 6:00 a.m. and 10:00 p.m., and Participant 4, who received calls on Sundays and holidays). Typically,

debtors were inquired about their next payment and the possibility of acquiring new credits to cover outstanding installments. "If you have to pay on the 5th of each month, they start calling you on the 28th of the previous month to remind you. But more than reminding, it was to put pressure on you, to keep your debts on your mind" (Participant 6, 2021).

Most participants reported feeling significantly drained during their critical period. In general, their emotional state was impacted by negative feelings such as depression, anxiety, fear, and stress. "I had depression in the first three months. Maybe it wasn't very noticeable, but my wife could tell" (Participant 5, 2021). During the most difficult and prolonged moments of the financial crisis, debtors suffered from insomnia and lack of sleep. Uncertainty about the future kept them awake, and they regularly thought about how to find a definitive solution to their debts. "When I understood the situation, I felt hopeless. I felt terrible. I couldn't sleep. I felt frustrated, angry, irritable, and sad all at once. I didn't talk to my husband. I really felt overwhelmed" (Participant 4, 2021).

A significant indicator of cognitive decline was the reduction in self-control among debtors. Some participants noted that they constantly reacted to various situations in their daily lives with increased irritability. On multiple occasions, the emotional state of the debtors was highly volatile. They could easily shift from a state of calm and tranquility to feeling overwhelmed by absolute sadness. "I was always upset It was difficult for everyone, especially for my children. Sometimes, I felt like blaming them for everything, even though they didn't deserve it" (Participant 4, 2021).

Not being able to pay my debts was putting pressure on me. I would look to the future and wonder how I would resolve the situation for the next month. When I fell into arrears, I spent every night thinking and couldn't sleep. It caused me distress, and everything in my life was affected. I couldn't perform as well at work anymore. I became more irritable, constantly worried, and would explode in response to any situation (Participant 7, 2021).

The decisions and practices of the debtors

The overwhelming focus on debt led participants to make particularly inappropriate decisions. These decisions revealed an increased bias toward the present. Participants tended to overvalue the immediate benefits of their choices at the expense of future rewards or costs. For example, during the early periods when they struggled to pay their debts, debtors engaged in a financial shell game with the available credit limits of certain financial products.

That's how I started, covering one debt with another. This bank would lend me money, and I would use it to pay off another debt. I started this financial gambling until there came a point where I couldn't afford to pay everything I needed to. The debts kept piling up. If a bank lends you \$40 million, after a short time, you owe \$50 million, even if you've made payments (Participant 2, 2021)

These practices involved debtors paying off one pending bill (such as their monthly mortgage or their children's school fees) with money obtained from new loans (credit cards or revolving credit lines). Evidently, the interest accrued each period increased their level of debt, encroached on future income, and reduced the participants' ability to pay.

We had revolving credits and credit cards. We used them to cover the closest bills we had. We used up everything until it all fell apart. At some point, someone asked me why we had ended up in such a dire situation. I answered with tears in my eyes that it was due to mismanagement (Participant 8, 2021).

Some debtors decided to consolidate their portfolio (all their outstanding debts) into loans with higher collateral and higher interest rates. For example, Participant 7, when he reached the final installments of his home leasing credit, made an agreement with his creditor to consolidate his entire debt, capitalize his interest, and extend the loan for several more years. Meaning that he transformed his unsecured debts into loans secured by his property, with larger monthly payments than what he had originally paid to purchase it. This solution freed up the credit limits on his credit cards but also allowed him to keep increasing his financial burden. As described by Walker et al. (2014, p. 5), he became a revolving debtor. On several occasions, debtors were aware of the negative consequences that debt consolidation could have in the future, but they accepted it nonetheless. In fact, Participant 2 referred to the refinancing he had done on his loans as "financial *hara-kiri*."

Another strategy employed by the interviewees was to sell their high-value assets (such as real estate or vehicles) at substantially lower prices in order to quickly pay off their outstanding bills. For instance, Participant 3 decided to sell his car for 60% of its market value. Others turned to loans from individuals. These loans, known as "*gota a gota*" (drop by drop) loans, are notorious in Colombia for their high interest rates, ranging from 10% to 40% per month overdue (Miranda, 2016), as well as for the use of force, physical and verbal abuse, and even threats to the life of debtors in case of payment delays, with interest rates that far exceed usury, easily consuming the debtor's periodic income.

I sought extra bank financial support from third parties (...) I was very distrustful of them because of everything you hear about *gota a gota* (...) Those interests were horrible. If they lend you \$10 million at a 10% monthly rate, after a while, you've only paid the interest and haven't paid down the principal (Participant 8, 2021).

Briefly, as Mullainathan and Shafir (2013) point out, excessive indebtedness leads to financial juggling that results in more worries for debtors, partially because they overestimated the positive outcomes of their decisions due to their present bias.

The debt liquidity trap

In light of these findings from this phenomenological research, there exists a kind of trap: the debt liquidity trap. As debtors realized that their indebtedness was problematic, they began to focus their attention on seeking potential solutions. Unfortunately, the depletion of their cognitive resources, caused by constant mental activity, led them to overvalue immediate results and, consequently, neglect future negative consequences. The practices they engaged in contributed to the increase in their debts. Generally, their ability to pay decreased due to the commitment of greater resources in the coming periods.

Most participants acknowledged that their past decisions had been wrong ones. "I tried to solve everything on my own. I did it incorrectly" (Participant 2, 2021). The path chosen in haste and worry did not lead them to a good destination. "You look back, and everything seems wrong. Maybe you can't foresee the negative things that can happen" (Participant 1, 2021). Given their limited perception during the critical situation, individual choices proved unhelpful. This validates the existence of a debt liquidity trap. The debtor's own behavior worsens their scarcity.

Conclusions

Based on the results of this research, it is possible to identify the existence of attentional capture by debtors with an inability to pay, as described by Mullainathan and Shafir (2013) in scenarios of scarcity. Up until now, empirical research that sought to confirm this hypothesis had addressed a specific scenario of scarcity: poverty (transient or structural) (de Bruijn & Antonides, 2022; González-Arango et al., 2022; Mani et al., 2013; Shah et al., 2012, 2015, 2018). This research represents a first approach to understanding the inadequate decisions made by individuals with limited or no resources resulting from having less for debt situations.

The participants' identification of debt as problematic led them to experience a sense of scarcity in relation to their income and liquid assets. This feeling of scarcity due to illiquidity serves as a wake-up call that engages individuals in the search for solutions. Paying outstanding bills and subsistence expenses (for themselves and their families) become tasks that demand their attention. The presence of high levels of debt does not serve as a wake-up call; some subjective event (sometimes unexpected) motivates the debtor, such as a reduction in regular income. It could be assumed that it is precisely from that event that a process of awareness regarding the acquired debts is generated, and the sensation of scarcity arises.

The attentional capture of debtors leads to cognitive exhaustion. Due to methodological limitations, this research did not include specific psychological tests that could determine the state and behavior of cognitive capacity and performing control in participants. Notwithstanding, the phenomenological exhaustion of their cognitive resources was denoted through the participants' narratives. They easily noticed that, as defaulting debtors, a significant part of their mental space was devoted to financial concerns. Some explicitly reduced their self-control capacity when

facing relatively simple situations. Insomnia is evident as an immediate negative consequence, which exhausts debtors as they cannot rest.

Furthermore, the constant pressure from creditors forced their thoughts to be targeted on debts. Participants could attempt to focus their thoughts on other activities (such as their work) but calls from collection agents compelled them to remind them of their debts. This pressure applied by creditors motivates the attentional capture and the cognitive function drain not described by Mullainathan and Shafir (2013). This aspect is particularly relevant because, as described, the creditor's power over the debtor and the use of this power emotionally affects the debtor and exacerbates their financial crisis.

The consequences of this cognitive drain are consistent with Mullainathan and Shafir's (2013) theory of scarcity. Naturally, there was an increase in hyperbolic discounting by debtors. They overestimated the benefits of the solutions they chose to remedy the situation. Participants easily expressed their vexation with the choices they made during the critical situation. Nonetheless, during that time, they viewed them as viable alternatives according to the problem they were facing. The presumed short-term benefits they could obtain were more highly valued than future costs, which generally turned out to be more burdensome with regard to the periodic expenses debtors had to cover. Thus, all assumptions of the literature are supported, suggesting that the depletion of the cognitive function of debtors with an inability to pay can lead them to engage in shortsighted or inadequate behaviors that may cause them to remain or worsen their financial crisis.

This initial qualitative study from the perspective of debtors serves as an indication of the existence of a debt liquidity trap. Therefore, it will be necessary to delve deeper into the results obtained in this study through future research. Some of these could involve the development of experiments that assess the cognitive resources of individuals with problematic debts and compare their choices with those of other individuals (without debt) or with themselves when they have overcome the crisis.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

CONTRIBUTION OF AUTHORS

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