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The Price of a Missed Opportunity: Defining Financial Inertia: A prototype analysis

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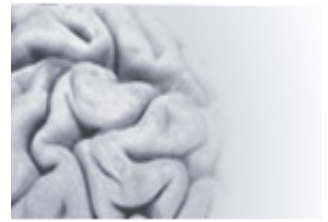
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The Price of a Missed Opportunity: Defining Financial Inertia

A prototype analysis

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Abstract

Inertia as a concept in the natural sciences has been used since Newtonian times. However, the social science literature still struggles in defining inertia and its many variations. In current social science literature, numerous definitions exist that define inertia differently; consequently, not much is known about inertia (Bozzo, 2002). Furthermore, inertia is often confounded with related phenomena, such as procrastination and status-quo bias (Cui et al., 2020). This ultimately hinders the effective study of inertia, as the quality of a theory or research is only as good as the quality of the definition that is used for the studied phenomenon (Rozin, 2009).

The current study adds to the inertia literature by utilizing a prototype approach in defining “financial inertia”. For the purposes of this study “financial inertia” is viewed as inertia in a financial setting. Compared to classical definitions, a prototype definition is more encompassing and is not hindered by absolutes.

Through a prototype analysis, we asked laymen in the United States of America and United Kingdom about their thoughts, views, and feelings regarding financial decision making. Afterwards, using this data we identified a list of features related to financial decision making (Study 1) and used these features to calculate their centrality in relation to financial inertia (Study 2). Centrality refers to the relatedness of these features to financial inertia and was used to divide the features into central features (more related) and peripheral features (related to a lesser extent).

Using the gathered data, this paper proposes a working definition of financial inertia in the hopes of clarifying inertia literature and aiding the creation of an instrument that measures financial inertia. As we assume that all that applies to “financial inertia” reciprocally

applies to inertia itself, the current findings will contribute to future research on this topic as well.

Keywords: inertia, financial inertia, status-quo bias, procrastination, prototype analysis

Introduction

People are often faced with important decisions in their daily lives. More often than not we have to make decisions that affect our future — from studying for an exam or going to the doctor, to important financial decisions such as investing or saving money. Yet, frequently people fail to come to a decision (Ellis & Knaus, 1977). When this happens, we speak of inertia. Inertia influences a large span of decisions people make daily; therefore, it has implications for myriad scientific disciplines.

Inertia is a concept that is chiefly discussed in the field of physics. However, Su (2009) notes that various disciplines explain inertia differently and relate it to different behavioural aspects. Namely, medical doctors are familiar with the term “clinical inertia” or “therapeutic inertia” (Okonofua et al., 2016; Phillips et al., 2001). In organizational sciences we encounter “cognitive inertia” (Huff et. al., 1992), and in sociology the term “social inertia” is used (Bourdieu, 1985). Finally, in psychology we encounter multiple different definitions of inertia. We encounter the terms: “Inaction Inertia Effect” (Zeelenberg et. al., 2006), “Consumer Inertia” (Kuo et. al., 2013), “Psychological Inertia” (Walters & Espelage, 2018), “Emotional Inertia” (Luginbuehl & Schoebl, 2015), among others.

As evident, inertia has been researched in various scientific disciplines, in which it is shown to have significant implications (Su, 2009). Consequently, the term inertia has not been used consistently, despite there being extensive research surrounding it. Carter et. al. (2016) argue that the scientific community is to this day uncertain of what inertia specifically represents. The term inertia is used to describe different aspects of “resistance

to change” and it has very often been identified with similar concepts such as status-quo-bias, procrastination, and loyalty (Cui et. al, 2020).

Inertia plays a substantial role in people’s lives. Scientific literature discusses multiple aspects of high importance that inertia influences, for example, financial decisions (Cui, et. al. 2020), potential criminal behavior (Walters et al., 2018), receiving appropriate healthcare (Okonofua et al., 2016) and decision making (Alós-Ferrer et al., 2016). These studies have found that inertia plays a significant role in the listed aspects of a person’s life, which will be further examined in the subsequent chapter. Considering the scientific community’s incongruity concerning the term, a more in-depth understanding of it will be a valuable contribution to many fields. It is held that a solid definition serves as a prerequisite to any inquiry into psychological phenomena (Rozin, 2009). A better understanding of inertia and its influence on these areas will allow scientists and policymakers to improve various aspects of life, such as health, finances, and lead to a better understanding of criminal behavior. The present study will strive to define inertia to shed light on the term. Specifically, using a prototype analysis, we define the personality trait we call “financial inertia”, distinguish it from other types of inertia and identify its main elements. A classical definition is often rigid and assumes an uncompromising stance, in other words all members of its defined category must possess all its features at a time. While a prototypical definition, is unencumbered by rigidity, as it assumes a hierarchical stance and generates central/peripheral features, rather than critical features (Kearns & Fincham, 2014). As financial inertia is, put simply, inertia in a financial setting, we consider that all that applies to financial inertia inherently applies to all types of inertia. Therefore, by defining financial inertia, we will lay the foundations for construction of

instruments that measure it, consequently assisting policymakers in making substantial stride in creating a less inert society.

What is Inertia?

To get a better understanding of the concept of inertia and how it ties in with the personality trait “financial inertia”, inertia must be examined from a multidisciplinary perspective (such as linguistics, psychology, medical sciences, organizational sciences, consumer behavior and marketing studies).

Linguistics

We refer to dictionaries to identify the linguistic interpretation of the term. The Cambridge English Dictionary (CED) defines inertia as “lack of activity or interest” or “unwillingness to make effort to do anything” (Cambridge University Press, n.d.). From this we can conclude that a core element of inertia is lack of activity.

Psychology

We examine several definitions of inertia present in psychological literature, some of which are listed below due to their divergent standpoints on inertia. One of the earliest articles that mentions inertia by Pitz, Downing & Reinhold (1967) investigated subjects who are faced with disconfirming information and found that they fail to reduce their confidence in a decision. Therefore, they repeat the previous decision. They called this phenomenon “the inertia effect”. Meanwhile, Walters et. al. (2018) distinguished a type of inertia called “psychological inertia”, one that describes a type of behavioral continuity, which mediates the effect between past and future criminal behavior. Additionally, Alós-Ferrer et al. (2016) investigated the role inertia has on decision making under threat. They

found that under threat individuals tend to repeat previous choices in financial decision making.

Medical Sciences

Two different studies investigated the role of inertia in medical sciences. Okonofua et al. (2016) investigated the role inertia plays on the prescription of medicine in patients with hypertension. They found that in 86.9% of cases where patients' blood pressure significantly increased from one medical check-up to another, their medication dosage was not appropriately adjusted by their doctor. This study concluded that the medical dosage oversight was caused by doctor's inertia. Additionally, in another study it was found that inertia in the medical sector greatly affects patient's health, as patients are not treated effectively, and costs of treatment go up (Phillips et al., 2001). Therefore, we can observe that inertia has a central effect on the medical sector, as it is a crucial sector in society, this behavior influences and potentially endangers many lives.

Organizational Sciences

Inertia was also identified as a factor affecting organizations' functioning. It was found that managers often fail to reevaluate a situation and stick to their previous decisions when faced with organizational change (Huff et al., 1992). They called this occurrence "cognitive inertia".

Consumer Behavior and Marketing Studies

Inertia is also present in consumer behavior and marketing studies, where it has been deemed "consumer inertia" (Cui et al., 2020). Solomon (2015) describes inertia as habitual decision making, in other words, a process of low involvement, where consumers make decisions out of habit due to the lack of motivation to consider alternatives. He

illustrates this as buying the same product over and over without any consideration for alternatives. Solomon attributes consumer inertia to past consumption experience. Kuo et al. (2019), another study that shares a similar view, states that consumers who score highly on inertia will be less likely to alter their purchase behavior even though better alternatives are present. Hence, they are more likely to repeatedly purchase the same product, rather than consider alternatives. This study attributes inertia to reduced consumption time and familiarity, with the goal to reduce the uncertainty of the perceived risk when purchasing new products. Therefore, people end up with a potentially worse product, even though a far superior one is within reach.

A study that builds upon the concept of consumer inertia and perhaps discusses it more thoroughly is Cui et al. (2020). They state that there are multiple types of consumer inertia. The first type of consumer inertia involves consumers who lack energy, effort and are generally too lazy to consider alternatives. While the second type of consumer inertia is defined as “the tendency of consumers to continue buying the same product or service that they have purchased previously unless other factors break it” (Cui et al., 2020). These other factors can range from being attributed to the product itself, for example its price or quality. They can also be attributed to the competition, for example word-of-mouth or attractiveness of their products. Finally, they can be personal factors, such as location and income. The second type of consumer inertia is positively affected by the number of repeated purchases the consumers make. Thus, the more the customers purchase the product, the more inert they become. One of the main differences between the two types of consumer inertia proposed by Cui et al. (2020) is that the first one is considered a “behavior”, while the second one is considered a “tendency”. The distinction that this study

has made is a vital one as the definitions describe different causal effects, which in turn would require different approaches in tackling inertia. In the current study, we consider financial inertia a tendency; therefore, our view on financial inertia is in line with the second definition proposed by Cui et al. (2020).

In theory, forms of inertia share great similarities (Alós-Ferrer et al., 2016). In practice, however, their disparate definitions cause them to be used vastly differently. For instance, consumer inertia refers to the tendency for consumers to refrain or delay making a purchase, even when that might benefit them (Su, 2009). This definition closely resembles the factual meaning of inertia (Cui et al., 2020). However, inertia's denotations and their applications diverge significantly.

Inertia and related constructs

To understand the relationship of inertia with similar constructs we first clarify how it was conceptualized thus far. All definitions stated previously describe the same concept – inertia. However, it appears that these definitions equate inertia to resistance to change. Often, in the literature, these aspects have been linked to certain phenomena, the most prominent of which are status-quo bias, procrastination, and loyalty (Cui et al., 2020; Alós-Ferrer et al., 2016; White & Yanamandram, 2004). As a result, inertia is often identified (and confounded) with these terms (Cui et al., 2020).

Status-quo bias is described as a rational decision, cognitive misperception or psychological commitment of people to repeat a previous decision or avoid action, thereby sticking with the previously made decision (Samuelson and Zeckhauser 1988; Hartman et al. 1990). In other words, status-quo bias is the tendency to gravitate towards not taking

any action or preserving ones current or previous decisions. In essence, this resembles the behavior exhibited by inert individuals, as they stay in the status-quo (Ye, 2005). Additionally, Gal (2006) defined inertia as the “propensity to remain in the status-quo”. As inertia characterises a passivity towards switching (i.e., inactivity), it inadvertently leads to persistence of the status quo (Henderson et al., 2020). While status-quo bias and inertia are separate concepts, the behavior exhibited makes it difficult to differentiate between the two. Consequentially, their definitions often overlap. Furthermore, status-quo bias has a notable impact on consumers financial decision making, this is to say that it was found that status-quo framing could predict consumers choice of products (Samuelson & Zeckhauser, 1988)

Steel (2007) defines procrastination as the purposeful and irrational delay of an action, despite being aware of the consequences of doing so. Procrastination is a concept that has become a common reference in popular media. It has been present in the psychological literature since ancient Greek times. Certain studies note that procrastination is extremely widespread and that one in five adults are considered as chronic procrastinators (Harriott and Ferrari, 1996). Procrastination is rarely portrayed in a positive light. Procrastination is also present in financial decision making (Brown & Previtro, 2014). It has often been indicated as the cause of bad financial planning. For example, in one of his lectures in 1991 economist Akerlof, speculated that procrastination is one of the leading causes that people often do not have enough saved up for retirement (Akerlof, 1991). Namely, Brown & Previtro (2014) showed that procrastinators are less likely to participate in retirement plans, tend to pick the default investment options and are less likely to cash in on their investments. They speculate that retirement and similar financial

decisions often falter to the allure of immediate temptations, as long-term decisions involve current actions for not-immediate benefits.

Consumer loyalty can be considered both from a cognitive and a behavioral aspect (Wu, 2011). The behavioral aspect of consumer loyalty is described as the repeated purchasing of the same product or service. The cognitive aspect is having a positive attitude towards the same product. Colgate and Lang (2001) state that inertia and loyalty are related phenomenon. They both are seen as switching barriers, i.e., influence consumers to with a service organization, albeit they have considered switching. However, Colgate and Lang (2001) consider inertia a byproduct of loyalty. Dick and Basu (1994) defined loyalty as the repeat purchase of a product, without any positive attitude towards that product. This definition is extremely similar to the definition of inertia given by Solomon (2015). Namely, both definitions explain two different phenomena as the repeated purchasing of a product without giving much thought. Further, in an article Pitcher (1988) mentions that customers who are inert are very often confounded with loyal customers even though they do not show any elements of loyalty. Thus, we can observe that inertia and loyalty are often interlinked and seemingly use similar processes or are a byproduct of each other.

In summary, as shown significant disparity exists in social science literature regarding the meaning of inertia and how it manifests itself. Consequentially, an unambiguous definition of the term inertia is lacking. For example, we can observe the following definitions, which represent two largely different views on inertia. On one hand, inertia is the tendency to preserve the status quo, unless forced to change by a psychological motive (Gal, 2006). On the other hand, according to Alós-Ferrer et al. (2016), “inertia describes individuals’ reluctance to reduce their confidence in a decision following

disconfirming information”. While the concept of inertia and the phenomena illustrated above related to resistance to change may appear to often overlap, the terms and their definitions should not be used interchangeably as it has been done thus far. In the present study, we aim to fill in this gap in the literature by aiding formulation of a comprehensive definition of inertia that is measurable, adaptable, and relevant to multiple disciplines. We will accomplish this by focusing on a particular dimension of inertia we deem “financial inertia”. Even though financial inertia is a type of inertia; it is the stance of this paper that the discovered underlying processes within financial inertia will benefit the defining of inertia on a broader spectrum.

People who subscribe to financial services (e.g., banks, pensions, healthcare providers) often fail to switch to alternative services even when it would be advantageous to do so (Huang & Yu, 1999). When one remains with his or her current service despite superior alternatives, one speaks of financial inertia. To clarify, financial inertia is the presence of inertia when people are faced with financial decisions. Therefore, financial inertia does not bear a unique meaning; the only difference between the terms financial inertia and inertia is the former’s application to the financial market and services. Hence, we assume that what applies to inertia reciprocally applies to financial inertia as well. To achieve our goals, we conducted a prototype analysis.

What is a Prototype Analysis and How Will it Help Explain Inertia?

When scientific literature cannot agree on a common definition of a construct, prototype analysis has been shown to be effective. As discussed previously, inertia plays a vital role in everyday experience and decisions; hence, we can assume that the average

person would be familiar with experiencing inertia. With this assumption in mind, a prototype analysis will prove useful to deepen our understanding of inertia.

To illustrate the concept of a prototype analysis, Shaver et al. (1987) and several other studies (*see* Luo et al., 2020; Seuntjens et al., 2015) used a very rudimentary example of a “chair”. They state that defining even a simple concept, such as a chair is sometimes difficult. Therefore, we can assume that defining more complex concepts such as psychological phenomena will be faced with more issues. Defining psychological constructs by setting absolute boundaries is sometimes impossible. In science, having a solid definition is the foundation to be able to effectively research a construct (Rozin, 2009).

Compared to providing a definition that is constricted by absolute boundaries, a prototype analysis provides a set of features that are connected to the construct itself. Features of the construct identified by the prototype analysis are not necessarily omnipresent. By eliminating absolute boundaries, a prototype analysis provides a clearer definition that is able to distinguish between that construct and other similar ones, by not weighing it down with permanence. Alluding to the previous example of the chair, an absolute definition fails to properly describe it and encompass all of its characteristics. For much more complex phenomena, such as inertia, we need to investigate all elements that are important in relation to the phenomenon itself. Therefore, we perform a prototype analysis.

With a prototype analysis the general population is asked to describe characteristics they believe relate to the phenomenon that is being investigated. Subsequently these characteristics are coded and transformed into features. This step is performed by

individual coders that firstly generate a code tree, after which independent coders code the characteristics or exemplars into their respective category. Afterwards, in another study a second group of participants is asked to rate which features are most closely related to the investigated construct. As a result, a list of features that are related to inertia is constructed, which will assist in the creation of a prototypical definition.

Thus far, prototype analysis has been successfully utilised in defining many ambiguous concepts, for example “greed” (Seuntjes et al., 2014), “hope” (Luo et al. 2020), “forgiveness” (Kearns & Fincham, 2004), “commitment” (Fehr, 1984), and “modesty” (Gregg et al. 2008). In the current study, we applied a prototype analysis to define the term “inertia”. A prototype analysis of inertia will help us better understand and conceptualize the thoughts, behaviour and emotions that are part of the prototypical construct.

Rozin (2009) argued that formal definitions of phenomena are a key component in social science advancement. Therefore, formal definitions ideally precede hypothesis testing, and to serve as basis for theories to build upon. By conclusively defining inertia, we will pave the way for the construction of instruments that measure it. Furthermore, as previously discussed, inertia has implications in many aspects of our daily lives; as a result, this strong foundation will bring about changes that will allow professionals to resolve the negative consequences of inertia.

Study 1

The aim of Study 1 is to generate features of financial inertia. To avoid indirectly influencing our participants by providing a definition of “financial inertia”, we chose to examine “financial decision making” — a closely linked, but broader term. This assured that participants’ responses are genuine and not affected by our study. We gathered a list

of features that are connected to “financial decision making” by asking participants about their experiences in financial domains. Afterwards, we converted these features to match behavioral measures of financial inertia and constructed a final list of features of financial inertia.

Method

Participants

The sample consisted of 300 participants (55% female, 43% male and 2% other) from the United States ($N_{us} = 150$) and United Kingdom ($N_{uk} = 150$). Participants were compensated with \$1.89 or £1.52 for approximately 15-20 minutes of their time. All participants were between the ages of 18-68 and were prescreened on English as their mother tongue. Participants were recruited via Prolific.

Procedure and materials

Participants began the study by clicking on a link that took them to a Qualtrics questionnaire. The first page of the questionnaire was an introduction to the study and the informed consent form (see Appendix E). A small introduction to a financial domain (pension, healthcare, banking, utility, and services) preceded the questions. Next, participants were randomly assigned to 2 out of the 4 financial domains. Participants were asked to list their thoughts, beliefs, emotions, feelings, behavior, and motivation in regard to decisions they make when considering a specific financial domain. They were told to spend 1 minute on each open-ended question. To avoid the possibility of priming questions concerning demographic data (age, sex, income, country and whether they have adjusted

their banking services, pension, utilities, or healthcare plan in the past 12 months) were posed last. Finally, the participants were debriefed following standard debriefing procedure (see Appendix C)

Results and Discussion

The questionnaire collected a total of 15,669 entries, from 300 participants. Following the standard procedure used by Hepper et al. (2012), 8 coders individually sorted these entries into categories. This procedure firstly grouped entries by identicality, then by semantical meaning, followed by meaning-related and common meaning. After completing the individual process, coders compared decision trees and created a single agreed upon code tree with 112 categories. From 15669 entries, 173 were categorized as noise and were removed from further analysis.

Finally, two independent labelers assigned each of the 15,496 entries to the 112 categories. There were a few alterations that were made by the two labelers to the categories established before. Due to the trend of participants mentioning current and future needs influencing their financial decision making, a new category was created deemed “Current/Future Needs”. Furthermore, the category “Inaction” and “Status quo” were merged into one, due to the difficulty in distinguishing between the two. The categories “Intelligent” and “Analytical decision making” were also merged into one, due to their similarity. Following the same logic as before, the category “Need help” was merged with “Getting information and help from others” and the category “General worry” was collapsed into “General anxiety”. Following this, 109 categories were left in which the 15,496 entries were coded into. Furthermore, certain exemplars were split into two distinct

categories if they featured multiple related meanings (e.g., exemplar “I have no pension, just overwhelming anxiety when I think about retirement” was split into “I have no pension” and “just overwhelming anxiety when I think about retirement”).

Following the coding of the two independent labelers, the interrater agreement was calculated. The interrater agreement between the two labelers was $\kappa = .95$. Using the classification proposed by Landis and Koch (1977) this falls within the category of “*Almost Perfect*”. The high interrater agreement is further evidence of the strength of these features, because coders had no trouble categorizing them in their respective categories.

Henceforth, we will be analyzing the data of Study 1 through the prism of financial inertia. As financial inertia is inertia in a financial setting, it involves financial decision making. To get better insight into the data, we calculated the frequencies of each of the 109 features and the percent of participants that mentioned that feature. To understand the importance of these features to financial decision making, we must look at the frequency of a certain feature being mentioned: a higher frequency indicates that the feature is likely to be more important to financial decision making.

To better understand the data, we look at how many times a feature was mentioned by the participants, having in mind that one feature can be mentioned multiple times by the same participant. Additionally, information considering the percentage of participants that mentioned each feature was calculated for each participant individually. From Appendix A we can observe that the feature “General Anxiety” was the most mentioned feature of financial decision making, it was mentioned a total of 1,108 times and by 87.7% of the participants. This indicates that when making financial decisions people feel worried or anxious. Consequently, this feeling might lead to participants doing nothing or remaining

inert. This is consistent with Selye (1976) finding that when people feel anxious, they might exhibit passivity and do nothing as a form of adaptation. Other features that are often mentioned are Cost/Prices (695 times, by 75.3% of the participants) and Time and Effort (247 and 37.7% of the participants). Switching costs are defined as the costs incurred when switching to a different service, these costs can be in the form of time, money, or effort. It was found that these costs act as a barrier that prevents people from switching services, if they are perceived as too high (Grønhaug and Gilly, 1991). Furthermore, it was found that negative monetary consequences are of high importance when making financial decisions, such as switching (Colgate & Lang, 2001).

Finally, it is important to note that no feature was mentioned by all the participants, however, the features “General anxiety”, “Cost/Prices”, “Saving money” and “Getting information and help from others” were mentioned by the majority ($\geq 52.7\%$) of participants. This indicates that most participants relate these concepts to financial decision making. Some features were seemingly important for decision making yet mentioned sparsely by participants. For instance, from an evolutionary perspective, decisions are often based on whether they lead to a better and safer future. Surprisingly, the feature “Safety and security for the future” was mentioned only 3% of the times.

Study 2

Study 2 aims to gather the centrality ratings of the features gathered in Study 1. Centrality indicates the relatedness of a feature to inertia; therefore, a higher centrality score indicates that the feature is more crucial to inertia. Centrality refers to the rating of participants on how representative of inertia they think a feature is. This means that features

that are more central to inertia should be key to identifying its processes, ultimately leading up to its defining. Furthermore, using the centrality scores we divide the features into central and peripheral ones.

Method

Participants

All participants were recruited from Prolific. The sample consisted of 300 participants of which 53% were female, 45% were male and 2% other. Participants were compensated with \$3.23 or £2.40 for approximately 23 minutes of their time. All participants were between the age of 18-68 and were prescreened on English as their mother tongue.

Procedure and materials

The aim of Study 1 was to produce prototypical features connected to financial inertia. We performed this by generating features that are important to financial decision making, as firstly we needed to understand people's financial decisions. Utilizing the self-reported behavioral questions question of whether participants switched services in the past 12 months we adjusted these features to fit financial inertia.

Namely, we identified 109 features of financial decision-making (and not of inertia). These features were adjusted to better fit inertia for the purpose of Study 2. We did this by firstly reducing the features gathered in Study 1. Specifically, we asked participants whether they adjusted or looked into their banking services, pension, utilities, or healthcare plan in the past 12 months. We used this information to classify participants as active (participants who have changed or looked into) or inactive (participants who have

not done so). Features that were less likely to be related to inertia, were eliminated. Furthermore, features that were mentioned by at least 100 unique participants were kept, as they seem to be highly relevant to financial decision-making. This reduction resulted in the elimination of exactly 57 features from Study 1, which left a total of 50. However, several features were supplemented based on high prominence in the inertia literature (e.g., decision-avoidance, intention-behaviour gap, no trigger, and choice deferral). Furthermore, certain features were reversed in polarity and both polarities were added to the list of features (e.g., ‘exploring options’ was reversed to ‘not exploring options’ because the latter associates better with inactive/inert behavior). Finally, this process resulted in a list of 120 features of financial inertia.

Similar to Study 1, participants began the study by clicking on a link that took them to a Qualtrics questionnaire. The first page of the questionnaire was an introduction to the study and the informed consent form (see Appendix F). After, they agreed to participate in the study they were presented with an introduction to financial inertia and our study. In order to clarify what we meant by financial inertia, participants, were presented with six stories that portrayed behavior stemming from financial inertia (see Appendix B). Afterwards, they were asked to rate on a seven-point Likert scale (ranging from ‘1 = Not at all’ to ‘7 = Very Much’) how often do they recognize this behavior in themselves or others?

In the second part of this study, participants were presented with the categories or features from Study 1 in random order, each accompanied by three exemplars of that feature, after which participants were asked to indicate how related each feature was to financial inertia on a nine-point Likert scale (ranging from ‘1 = Not at all related’ to ‘9 =

Extremely related'). Similarly, to our previous study demographic data (such as gender, age, country and income) was collected at the end. Finally, the participants were debriefed following standard debriefing procedure (see Appendix D).

Results and Discussion

Firstly, we calculated mean centrality ratings and standard deviations of the features. Centrality ratings indicate the relatedness of each feature to financial inertia. Then, we computed the intra-class correlation (ICC) to analyze the reliability of the ratings given by the participants for each feature. We transposed the dataset, treating the features as cases and the subjects as variables. The intra-class correlation indicated that the participants agreed highly on the centrality ratings ($ICC = .97, < .001, 95\% CI [.96, .98]$). Furthermore, to test the internal consistency of the ratings we calculated the Cronbach Alpha ($\alpha = .95$). Field (2018) reports that a value of $\alpha = .9$ and above indicates an excellent internal consistency. Substantially lower values indicate an unreliable scale. Consequently, we conclude that our ratings are extremely reliable.

Utilizing the mean centrality ratings of each feature we divided them into central and peripheral features. To do so, 30 features with the highest centrality score were considered as central features, while from the remaining 90 we randomly picked 30 and assigned them as peripheral. This resulted in 30 central features and 30 peripheral features. From Table 1 we can observe that participants found certain features to be more prototypical/ central to inertia than others, in other words they are more central, therefore more related to inertia. This supports the notion that inertia is a phenomenon that is prototypically organized. In the ensuing text, in accordance with the calculated centrality

scores and previous literature (Cui et al., 2020; Alós-Ferrer et al., 2016) we will be analyzing the following central features: “Procrastination”, “Inaction/status quo”, “Cost/Prices”, “Decision Avoidance”, “Choice Deferral” and “Overwhelmed”.

Table 1

Central Features of Financial Inertia, Their Centrality Scores and Standard Deviation

Feature	M	SD
Procrastination	7.85	1.82
decision avoidance	7.73	1.77
Intention-behavior gap	7.53	1.88
Overwhelmed	7.36	1.84
Inaction/status quo	7.36	1.81
Not concerned with current financial situation	7.25	1.99
Reactive and unproductive	7.18	1.87
Having no time	7.11	1.97
Lazy & tired	7.09	2.15
Not in control and irresponsible	7.08	2.01
Costs/prices (reversed)	7.07	2.05
Not exploring options	7.05	1.20
No considerations about saving money	7.05	2.17
Disorganized decision-making	7.04	2.02
No consideration future financial needs	7.04	1.99
Not understanding	6.95	2.09
Not doing research	6.95	1.99
Not concerned with value for money	6.95	2.09
no trigger	6.94	2.11
choice deferral	6.93	2.12
Time & effort	6.92	1.92
Anxious/worried about changes	6.85	2.03

Feature	M	SD
No desire to understand	6.85	2.09
Uninterested & unmotivated	6.83	2.29
No general considerations about the future	6.82	2.10
Not getting it over with	6.79	2.23
Not compare. consider and discuss options	6.77	2.07
Unmotivated	6.76	2.30
Not concerned with financial safety and security	6.74	2.18
No goals and achievements	6.68	2.13
apathy	6.68	2.36

Note: For both central and peripheral features of financial inertia, see Appendix B.

In accordance with previous literature (Brown & Previtro, 2014), a central feature of inertia is Procrastination ($M = 7.85$, $SD = 1.82$). As aforementioned, procrastination involves an irrational delay of a certain action even though people are aware of its negative consequences, parallelly we can assume that inertia involves a similar process. Therefore, procrastination is often confounded with inertia in the literature.

Inaction/status quo ($M = 1.81$, $SD = 1.81$) is another central feature of inertia. As mentioned previously, the behavior exhibited by inert individuals and individuals that decide to pick the status-quo is extremely similar.

Cost/Prices ($M = 7.07$, $SD = 2.05$) was also important to people when they consider their financial decisions. However, for inertia it was considered more important in a polarized (negative) perspective, for example, not considering cost/prices and not calculating the costs of switching.

Moreover, Decision Avoidance ($M = 7.33$, $SD = 1.77$), is also a central feature of inertia. It was found that when people must choose between more alternatives, if simply

adding or emphasizing a no-choice option, the probability of people picking that option increases (Schrift & Parker, 2014).

Another central feature of inertia is choice deferral, namely it was found that when consumers had to decide on short notice choice deferral is less likely to occur, compared to when there is no time pressure involved (Dhar & Nowlis, 1999).

“Overwhelmed” ($M = 7.36$, $SD = 1.84$) was yet another central feature of inertia. This is in line with previous literature which states that individuals have an uneasy and unhealthy way with dealing with financial decision, therefore they don’t manage their personal finances in an effective way (Shapiro & Burchell, 2012). Furthermore, it was found that positive feelings improve individual decision making, while negative feelings hinder them (Rolls, 2014). Therefore, we can assume staying inert is a symptom of these negative feelings.

Additionally, other central features of financial inertia include “Intention-behavior gap” ($M = 7.53$, $SD = 1.88$), and “Having no time” ($M = 7.11$, $SD = 1.97$). While the least central features include “Enthusiastic & excited” ($M = 3.87$, $SD = 2.47$) and “Happiness & satisfaction” ($M = 4.18$, $SD = 2.42$).

Important to note is that the top features that were mentioned when financial decision making was concerned (e.g., General Anxiety’, ‘Saving Money’, and ‘Getting information and help from others’) are not central features of financial inertia. This indicates that, although these features are important when people experience financial decisions, they are not as important when inertia is considered. This finding is inconsistent with the literature, as was discussed previously.

In summary, we identified 120 features of inertia and divided them into central and peripheral features. This division provides insight into the importance of these features to the concept of inertia.

General Discussion

The main aims of this study were to acquire a deeper understanding of financial inertia, discover its underlying mechanisms and form a working definition by eliciting the opinions of laymen. For that purpose, we conducted two studies from a prototype analysis, and the results from the studies revealed 120 features of inertia. The studies were conducted because there was incoherent information on what inertia is and it is often mixed up with similar concepts (Carter et. al., 2016; Cui et. al, 2009). Therefore, our aim was to clear up the ambiguity surrounding this concept. The information we collected for financial inertia and its underlying mechanisms gives an opportunity to develop a consensual working definition of inertia – something that is lacking in current literature.

We see that some features correspond to the inertia literature, albeit not with the same rate of occurrence; for example, Procrastination (Brown & Previtro, 2014), “decision avoidance” (Schrift & Parker, 2014), “overwhelmed” (Shapiro & Burchell, 2012), “inaction/status quo” (Samuelson and Zeckhauser 1988; Hartman et al. 1990). Some do not correspond to the literature; such as, “reactive and unproductive”, “having no time”, “not in control and irresponsible”. Therefore, for the purpose of creating a working definition of financial inertia we will be utilizing the features that were most frequently encountered in the literature (e.g., “Procrastination”, “Inaction/ status-quo” and “Overwhelmed”).

On one hand, from the prototype analysis we gathered that “Procrastination” is a core element of “inertia”, which might be attributed to similar mechanisms involved in both processes, as they both involve delaying, or putting of something crucial. However, procrastination is a purposeful and intentional decision, where people are aware of the negative consequences of an action. On the other hand, an additional core feature of inertia that was encountered in our prototype analysis as well as and in previous literature is “status-quo”. Status-quo implies a process whereby people simply stick to their previously made decision.

Furthermore, “overwhelmed” was found to be a central feature of inertia as well. This feature indicates that inert individuals who are making a decision, feel overwhelmed therefore do not make one. It includes exemplars such as “I think about how I will feel looking at plan details - will it be overwhelming?” and “Overwhelmed by information and technical terms”.

Thus, the findings from the current studies can be used for the development of a working definition of financial inertia. We define financial inertia as a process of avoiding action; thereby, sticking with a previously made decision, besides being aware of the negative consequences of not taking any action, due to feeling overwhelmed by the decision itself.

One element of the working definition is that (1) avoiding action is core to inertia itself; therefore, even the dictionary definitions of inertia define inertia as a process of no-action. The second element of this definition is (2) being aware of the negative consequences of being inert. This element is similar to that of procrastination, where procrastinators, and in this case inert individuals, are knowingly aware of the negative

consequences of their decision to take no action. The third and final element is (3) feeling overwhelmed. This element is important as it was found that financial decisions are hard for people, and thus evoke such a feeling.

This study represents the beginning of developing a definition for the term financial inertia, and future research examining the same term and its properties is needed in order to reach a final definition. By creating a working definition of financial inertia, we set the scene for the creation of an instrument that can measure it. Such an instrument has an impact in multiple key areas, such as marketing, personal finances and policy making. In marketing, it will help financial institutions (e.g., banks, insurance firms, telecommunication companies) assist people in effectively upgrading their services and, therefore, increase their profits. Furthermore, by gaining a deeper understanding of inertia using this instrument, policymakers will have the opportunity to construct effective policies combating financial inertia, resulting in saving people more money. This is also beneficial because the ability to manage personal finances effectively and make sound financial decision is crucial to personal success (Jorgensen, 2007).

The same principles that apply for financial inertia inherently apply for inertia. Therefore, apart from affecting individual financial security, the current study has wider implications. This definition puts us a step closer to effective intervention in the fields of medicine, criminal rehabilitation, and organizational psychology, amongst others.

Limitations

This study provides insight into inertia, its underlying processes and proposes a working definition of inertia, however, there are certain limitations that need to be noted. First, our sample consisted only of participants that are native to the United States of America and United Kingdom, with English as their first language. Prototypes of inertia might differ spanning different cultures and countries. Furthermore, citizens of these countries on average have better financial situations compared to the rest of the world, therefore, staying inert might be less of a consequence on their overall financial situation and more common. Therefore, the current results are only applicable to these countries. Furthermore, the fact that in Study 1 we asked participants about their experiences with financial decision making and not financial inertia, while in Study 2 we elicited their responses about financial inertia can be seen as an additional shortcoming of the study. This is a possible reason for the results of Study 2, where most features that were important to financial decision making were peripheral features of financial inertia and had low centrality scores.

Finally, the restrictions and measures that took place due to the COVID-19 pandemic, we administered the study online. For that reason, we were not in control of the participants' environment, only instructions they may or may not have followed. For instance, during the testing, it is possible they experienced distractions such as phone ringing or notification sounds, music, noise, etc. It is also possible participants did not take the study seriously as they would in the presence of a researcher, which accounts for the large amount of "Noise" (1793 entries, written by 92.7%) coded in Study 1.

Conclusion

Since inertia is a big part of our lives, it is of crucial importance that its underlying mechanisms are fully understood by scientists. Inertia is problematic as it prevents individuals, organizations, and a broader scope society from achieving their full potential. Therefore, a deeper understanding of inertia will allow policymakers, scientists, and managers to approach inertia more aptly.

It is crucial to have a working definition of inertia, as the foundation to any scientific work needs a suitable and clear definition before it can be effectively studied in the future. The current study contributed to this effort by providing a list of features that are closely related to financial inertia. Namely, the study uncovered that the core features of financial inertia are procrastination, feeling overwhelmed, and lack of action. These features, in turn, constituted the working definition of financial inertia that this study proposed.

As financial inertia is a type of inertia, we assume that these central features also apply to the broader scope of inertia. Therefore, by applying the current study's findings to inertia in general, multiple branches will reap the benefits.

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Appendix A

Table 2

Features of Financial Decision Making, Exemplars, Frequencies and Percent of Participants

Feature category	Exemplars Written by Participants	Frequency	% of participants
General anxiety	Worry, anxiety	1108	87.7
Costs/prices	The cost of the plan	695	75.3
Saving money	Want to save money	421	52.0
Getting information & help from others	Consulting friends	407	52.7
General anger/frustration	Upset, annoyed	366	45.7
Uninterested & unmotivated	Cannot be bothered	303	46.3
Wanting the best/better options	Getting a better deal	294	
Considering current satisfaction	Am I happy with my current company?	251	43.0
Time & effort	Hassle of changing	247	37.7
Curious and interested	Curious to find out more about this topic	244	39.7
General happiness & satisfaction	Sense of happiness	240	37.3
Motivated	Determined to make a change	229	37.7
Considering necessity	Do I really need it	225	39.7
Inaction/status quo	Do nothing	219	37.3
Benefits and rewards	Do I get a present for switching?	213	36.0
Satisfied with current situation	Comfortable with what I have	203	26.7
Quality of customer treatment	They treat me with respect	199	31.3
Environmentally conscious	Green energy	190	21.0

Feature category	Exemplars Written by Participants	Frequency	% of participants
Procrastination	Avoidant	189	28.0
Doing research	Researching my options	188	34.3
Uncertainty/Indecisive	Unsure, hesitant	187	36.3
Not understanding	I don't understand jargon	183	35.3
Ease & convenience	Ease of use	187	36.7
Need for safety & security	Financial security	182	30.7
Careful & considered	Cautious, careful	180	32.3
Compare, consider and discuss options	Looking for alternatives	177	36.0
Optimistic & hopeful	Positive, optimistic	176	31.0
Overwhelmed	Overwhelmed by the amount of options	165	31.0
Analytical/intelligent	Analytical, resourceful	163	27.7
Quality of services	Speed of service	162	34.3
General money	My finances	161	31.3
Confusion	Confused about all the options	159	29.0
Gaining money	I'm going to have more money	161	34.3
Wanting best for loved ones	I want to care for my future self and family	154	27.7
Level of coverage	Have good doctors	153	23.0
Gather information online	Visit the bank website	154	27.7
General health	My health	152	25.3
Exploring options	I want to look at my options	148	34.3
Motivated by others	Friends, my mother	143	22.3
Financial market	Stock market status	138	27.7
Confident	Confident in making decision	136	29.0
General future	Thinking about the future	129	29.7
Desire to understand	Wanting to understand my situation	128	31.0

Feature category	Exemplars Written by Participants	Frequency	% of participants
General sadness & depression	Pessimistic, depressed	127	24.0
Not in control/not able to	I cannot adjust	123	14.7
In control and responsible	I want to control my money	119	24.7
Distrust in company	I feel I am taken advantaged of	111	21.0
Wanting good/better future	trying to better my future	110	23.0
Value for money	Am I paying too much?	109	24.3
Calm & unconcerned	Not worrying much	110	21.3
Proactive & productive	Being the most efficient	95	20.7
Current financial situation	Budget, savings	109	23.3
Not having a healthcare plan/pension/bank/utilities	I don't have a pension	109	10.0
Lazy & tired	Drained, exhausted	91	18.3
Anxious/worried about changes	Anxious about making a change	95	22.0
Online options and technology	Do they have a mobile app?	89	20.3
Affordability	Can I afford it	88	19.7
Unnecessary/pointless	I dont see the need for pension	87	13.3
Having (not) enough money	Will I have enough money	86	20.3
Enthusiastic & excited	Energetic	87	20.3
Planning for future	planning for my old age	83	21.0
Unhappy & dissatisfaction	Looking at my finances and being unsatisfied	82	20.3
Worth it	Is it worth it?	81	18.3
Future financial needs	Making sure I save for the future	75	17.0
Accessibility	Ease of access	81	17.0
Time/age for retirement	Getting older	73	16.7
Change in needs	Change of circumstances	72	13.0

Feature category	Exemplars Written by Participants	Frequency	% of participants
Weigh pros and cons	I look to the pro's and con's	70	16.0
Ashamed & insecure	Guilty that I haven't done it sooner	69	16.3
Trustworthy company	Is the service trustworthy and reliable?	66	15.7
Anxious/worried about money	Fearful of costs	65	15.7
Location of services	Close proximity to company	66	14.0
Reviews	reading online reviews	66	15.3
Usage of utilities	I think about my usage of electricity	63	10.7
Looking at the ethics	Does my bank align with my values?	61	11.3
Availability	An ATM that is always available	60	13.3
Reputation of the company	A banking service with a good reputation	58	13.7
Is it the right thing/decision	Whether it is the right thing to do to adjust it	56	14.0
Taking risks into account	The risk of adjustment	53	11.7
Motivated by health concerns	Motivated by direct health concerns	51	12.3
Job situation	Job security	49	10.3
Having no time	I don't have time to think about it	45	11.0
Unhappy with current situation	I'm not happy with my current bank	44	10.0
Relieved	A weight lifted	40	9.3
Investments	Think of investments	39	8.0
Expenses	Think of spending habits	38	9.0
Considering amount to invest	How much money I put in	37	9.7
Anxious/worried about future	Anxious about unsure future	36	9.0
Goals & achievements	Financial goals	35	7.0
Desire for healthy life	I want to feel fit and healthy	34	7.3
Improving life	The thought of a better quality of life	31	8.3

Feature category	Exemplars Written by Participants	Frequency	% of participants
Proud	Wanting to feel proud I've planned for the future	30	8.3
Waste of time	I have better thing to do with my time	29	8.3
Anger/frustration against the general system	Anger at the political climate	27	6.3
Advertisements	Good advertisement	26	7.3
Plans should be for everyone	healthcare should be free	25	3.0
Anger/frustration about money	Anger that is so expensive	23	8.0
Current/future needs	I am motivated by my needs	25	7.7
Getting it over with	In a hurry to do it	25	5.3
Lucky & grateful	Thankful I have it	25	7.3
Pressure	Pressured by parents	21	3.7
No options	There are no options in my area	19	3.3
Engagement and community	What are their community commitments	18	3.7
Anger/frustration about changes	I feel upset that I have to change	15	3.7
Social anxiety	Avoiding phone calls	14	3.7
Anxious/worried about health	Fears about death and disease	13	3.0
Safety & security for future	Being secure for the future.	5	3.0
Noise	I think hot sauce is good on bananas sweet and savory	1793	92,7
Not applicable	None	90	8.0
Total		15856	

Appendix B

Table 3

All Centrality Scores and Standard Deviation

Feature	M	SD
Procrastination	7.85	1.82
decision avoidance	7.73	1.77
Intention-behavior gap	7.53	1.88
Overwhelmed	7.36	1.84
Inaction/status quo	7.36	1.81
Not concerned with current financial situation	7.25	1.99
Reactive and unproductive	7.18	1.87
Having no time	7.11	1.97
Lazy & tired	7.09	2.15
Not in control and irresponsible	7.08	2.01
Costs/prices (reversed)	7.07	2.05
Not exploring options	7.05	1.20
No considerations about saving money	7.05	2.17
Disorganized decision-making	7.04	2.02
No consideration future financial needs	7.04	1.99
Not understanding	6.95	2.09
Not doing research	6.95	1.99
Not concerned with value for money	6.95	2.09
no trigger	6.94	2.11
choice deferral	6.93	2.12
Time & effort	6.92	1.92
Anxious/worried about changes	6.85	2.03
No desire to understand	6.85	2.09
Uninterested & unmotivated	6.83	2.29
No general considerations about the future	6.82	2.10
Not getting it over with	6.79	2.23
Not compare. consider and discuss options	6.77	2.07

Feature	M	SD
Unmotivated	6.76	2.30
Not concerned with financial safety and security	6.74	2.18
No goals and achievements	6.68	2.13
apathy	6.68	2.36
I do not weigh pros and cons	6.66	2.11
Uneasy and inconvenient	6.65	2.25
Pessimistic and hopeless	6.65	2.10
Anxious/worried about money	6.64	2.20
Uncertainty or Indesicive	6.64	2.14
No considerations benefits and rewards	6.64	2.16
Confusion	6.62	2.14
Unnecessary/pointless	6.55	2.31
Ignorant	6.54	2.12
Not wanting the best or better options	6.54	2.10
Not concerned with wanting a better future	6.53	2.11
Considering necessity	6.53	2.09
Worth it	6.53	2.05
Unhappy & dissatisfaction	6.51	2.30
Not confident	6.51	2.25
Satisfied with current situation	6.46	2.16
Not getting information and help from others	6.46	2.05
Pressure	6.46	2.05
Waste of time	6.44	2.26
Not considering current satisfaction	6.43	2.09
Pessimistic and disinterested	6.34	2.34
Losing money	6.33	2.17
Careless and inconconsidered	6.23	2.25
Lack of online options and technology	6.22	2.28
Not in control/not able to	6.22	2.46
Lack of accessibility	6.20	2.16

Feature	M	SD
Distraught	6.19	2.29
Anger/frustration about changes	6.17	2.23
No consideration quality of services	6.16	2.21
Happy with current situation	6.15	2.35
General considerations about money	6.14	2.26
Current financial situation	6.12	2.52
General anxiety	6.08	2.31
Not curious and uninterested	6.07	2.21
Having (not) enough money	6.06	2.48
Anger/frustration about money	6.05	2.33
Not motivated by others	6.05	2.33
Anxious/worried about future	6.01	2.29
General sadness & depression	6.01	2.42
No change in needs	6.00	2.27
Ease & convenience	5.96	2.43
Considering current satisfaction	5.94	2.30
Calm & unconcerned	5.93	2.29
Is it the right thing/decision	5.92	2.20
Future financial needs	5.87	2.52
Nervous and concerned	5.87	2.28
Unhappy with current situation	5.78	2.52
Change in needs	5.77	2.38
Accessibility	5.74	2.23
Wanting the best better options	5.68	2.97
Getting it over with	5.68	2.55
Taking risks into account	5.67	2.26
Costs/prices	5.66	2.88
Ashamed & insecure	5.65	2.39
Saving money	5.63	2.93
General anger/frustration	5.62	2.34

Feature	M	SD
Goals & achievements	5.61	2.82
Weigh pros and cons	5.60	2.52
Having enough money	5.58	2.70
Benefits and rewards	5.48	2.64
Doing research	5.47	2.89
In control and responsible	5.46	3.07
Unhappiness and dissatisfaction	5.46	2.36
Compare, consider and discuss options	5.44	2.72
General considerations about the future	5.43	2.62
Exploring options	5.43	2.87
Value for money	5.42	2.85
Need for safety and security	5.40	2.74
Gaining money	5.36	2.91
Current company is dishonest	5.34	2.43
Desire to understand	5.32	2.66
Wanting a good or better future	5.30	2.81
Proactive & productive	5.25	3.05
Analytical decision-making	5.23	2.88
Untrustworthiness company	5.22	2.37
Quality of services	5.21	2.42
Online options and technology	5.20	2.47
Getting information and help from others	5.17	2.64

Appendix C

Debriefing Study 1

We conducted this study, because we are investigating what people think, feel, and do when they consider looking into or consider adjusting settings with regards to their pensions, healthcare, banking, or utility services. We are interested in factors that can identify who is more likely to look into or adjust financial settings. Your participation will help us gain insight in these factors.

Appendix D

Debriefing Study 2

We conducted this study because we are examining how to define “financial inertia”. Your participation will help us gain insight in what words or terms are central to the concept of financial inertia. These words and terms will be used in making a scale that can identify whether people are likely to be financially inert (e.g., not look into or not adjust financial settings).

Appendix E

Informed Consent Form Study 1

We will not collect personal information and we will process your answers anonymously. Your answers will be pooled with the answers of other participants and analyzed for scientific purposes. Participating takes approximately 15-20 minutes. You will receive £1.89 for your participation.

If you have any questions or complaints about this study, please contact Marijke van Putten at Leiden University, The Netherlands, via puttenmvan@fsw.leidenuniv.nl. This contact information will be given again at the end of the study.

If you have questions about privacy and the processing of personal data, you can contact Leiden University's privacy officer via privacy@bb.leidenuniv.nl

By clicking 'continue', you confirm that you read this information, that you understand it and you agree with participating in this research.

Appendix F

Informed Consent Form Study 2

We will not collect personal information and we will process your answers anonymously. Your answers will be pooled with the answers of other participants and analyzed for scientific purposes only. Participating takes approximately 23 minutes. You will receive £2.40 (around \$3.23) for your participation on completion of this study. You can quit the study at any time without providing reasons for quitting. Your data will then not be used and deleted from the data file. If you quit, you will not be paid, since the payment code will be provided on completion of the study.

If you have any questions or complaints about this study, please contact Marijke van Putten at Leiden University, The Netherlands, via puttenmvan@fsw.leidenuniv.nl. This contact information will be given again at the end of the study.

If you have questions about privacy and the processing of personal data, you can contact Leiden University's privacy officer via privacy@bb.leidenuniv.nl

By clicking 'continue', you confirm that you read this information, that you understand it and you agree with participating in this research.