ANALYSING HOW DIFFERENT GENERATIONS APPROACH FINANCIAL DECISION-MAKING THROUGH BEHAVIORAL BIASES

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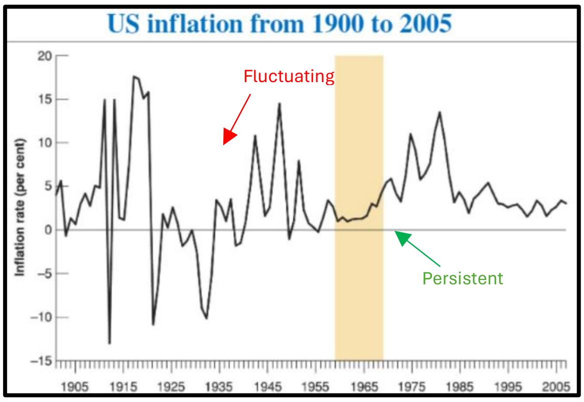
INTRODUCTION

Understanding the different approaches to financial decisions through behavioral biases for different generations is a complex, yet important area of study. This research paper delves into the several behavioral biases exhibited by various generations, including Gen X, Gen Y, Gen Z, and Boomers, in the realms of financial management.

Given that different generations will have their own experiences and beliefs that shape their financial behaviors, they are each affected by different biases and make different saving or spending decisions. Generational biases come from the idea that groups of people born around the same time interval have unique values, attitudes and experiences that will shape their behaviors, including those towards investing.

As mentioned, different generations will exhibit distinct behaviors and attitudes toward financial decision-making influenced by various factors and experiences. To start with, Baby Boomers are mainly shaped by a past of fluctuations, creating a conservative environment, hence their tendency to be risk averse. A recent study (1) showed how risk aversion decreases with age up until a point, whereafter it increases. Moving to Gen X they are still emphasizing long-term financial planning as they prefer security, and they have high education and disposable income (2). Millennials have largely benefited from technological advancements in the finance sectors and their investments are driven by social responsibility. Further, they are subject to many behavioral biases such as fear of missing out (FOMO), overconfidence, and herding. Lastly, Gen Z, characterized by financial independence and digital proficiency, leverage online platforms and availability to more financial literacy. Nonetheless, they are affected by the herding bias, overconfidence, and illusion of control. (3)



Analyzing such trends and behaviors from different generations, this research paper aims to explore the underlying behavioral biases that influence financial decision-making on a generational basis. This study is essential especially for policymakers to understand that generations have different spending and investing patterns, hence policies must be tailored to this information.

THEORETICAL EXPLANATION

In general, decision-making is influenced by various psychological aspects of human nature. The traditional assumption of rationality has been challenged by behavioral finance, which uses cognitive biases, emotions, and social influences to explain such phenomena. Prospect Theory, introduced by Kahneman and Tversky, questioned conventional theories such as the Expected Utility, which assumes that individuals always make optimal decisions given perfect information. (4) People being reasonable and deliberately following the axioms of the theory was defined as too big of an assumption. As Meir Statman put it, “People in standard finance are rational. People in behavioral finance are normal”. Prospect Theory comprises two phases defined as the phase of editing (framing) followed by the phase of evaluation. The editing phase involves the analysis of potential options, often incorporating simplification and the use of mental shortcuts to facilitate decision-making. In the evaluation phase, the highest value among the adjusted prospects is selected. Agents' openness to different financial possibilities depends not only on the level of uncertainty, and risk, which is fairly objective, but also on source and asymmetry between gains and losses. As gains and losses are valued differently, contrary to the previous beliefs, decisions are primarily based on perceivable gains rather than perceivable losses. Consequently, the carriers of the value are changes in wealth or welfare, rather than final outcomes. The value function is often concave for gains and convex for losses, with a greater degree of steepness observed for the latter. In loss situations, diminishing sensitivity causes individuals to prefer risk, a tendency that aligns with the fundamental principles of perception and judgment. (5)

This milestone in the field of behavioral finance spurred research into heuristics and cognitive biases, redirecting attention to the human element in decision-making processes. Heuristics, serving as shortcuts for navigating complex problems, often lead to systematic deviations known as cognitive biases. When discussing financial decision-making, anchoring, hindsight, overconfidence, fear of missing out (FOMO), herding and confirmation bias emerge as particularly influential factors guiding the path to financial conclusions. (6)

Firstly, the anchoring effect describes how people's judgment can be influenced by information encountered before making a decision. This bias occurs in various contexts, ranging from everyday scenarios to financial choices, affecting aspects like credit card repayments, interest rates for borrowers, mergers and acquisitions pricing, contribution rates to retirement accounts, and so on. For instance, by introducing savings rates that are either higher or make alternative investments more noteworthy, the willingness to participate in the retirement account can be completely altered.

Another important aspect is the hindsight bias which plays a significant role in decision-making processes, particularly for CEOs, financial advisors, politicians, and diplomats. This bias complicates the evaluation of the decisions since the outcome itself, being defined as good or bad, moves the attention from the quality of the decision. This leads agents to foster either risk aversion or excessive risk-taking. If turned into a successful endeavor, the latter creates a false notion of great ability to anticipate future performance. Connecting this finding with the limitation of the human mind to construct past beliefs fosters overconfidence in evaluating and predicting the future. People typically attribute their successes to their own abilities but blame failures on external factors, known as overconfidence bias.

Individuals tend to be highly observant of their environment, which in turn, guides their actions in financial markets. When an agent begins to mimic the prevalent behavior of the market, this phenomenon is defined as herding. Decisions are then made using publicly available information, rather than private insights, which sometimes leads to irrational choices due to the fear of missing out on an opportunity. Herd behavior is often driven by FOMO, which prevalence can cause the formation of bubbles around the market. Moreover, people often tend to disregard any new information that conflicts with their existing beliefs. Blindness to the obvious data that contradicts our values prevents cognitive dissonance, an uncomfortable position that people try to avoid. This selective perception, known as confirmation bias, can lead to underestimating contradictory evidence, significantly altering final conclusions.

Prospect Theory, anchoring, hindsight bias, and other behavioral biases help in explaining the complexities underlying financial outcomes. These insights foster further analysis into the relationships between human behavior and financial outcomes, laying the foundation for understanding trends among different generations.

APPLICATION TO BEHAVIORAL FINANCE

Our financial decisions are significantly impacted by various biases, with certain generations exhibiting a higher propensity for specific biases than others. Research suggests that this inclination may stem from the economic conditions prevalent during their formative years and the varying accessibility of financial information. The historical context in which each generation matured, coupled with evolving means of accessing financial knowledge, likely contributes to the development and prevalence of these biases.

Baby boomers, having grown up during periods of economic stability and prosperity in many Western countries, might have been anchored to certain financial principles learned during their formative years. Scholars refer to this phenomenon as “anchoring”. Some of the most widespread principles are the conservative approach (more relevance is given to preserve the initial capital, rather than trying to obtain higher returns) and inflation protection (when choosing financial products they tend to put considerable emphasis on protecting their savings from inflation). The “anchoring” bias leads them to stick to their initial strategies and resist modifying them, even in the face of changing economic conditions. (7)

Generation X, experiencing rapid advancements in information technology and witnessing significant global events like economic recessions, might be more influenced by recent financial news and events. Research showed that this generation is more susceptible to the “recency” bias, their decision-making is characterized by adapting to the most recent information, leading to greater variability in their choices compared to Baby boomers.

Table 1 Summary Characteristics of Generation X and Generation Y

Generation X	Generation Y
Self Reliant	Technologically Savy
Willing to learn New Things	Impatient
Skeptical	Casual
Result oriented	Less Outcome Focused
Long Term Perspective	Short Term Perspective
Broad Framework	Narrow Framework
Brand loyal	Trend Conscious
Like Stable Careers	Job Hoppers
Cautios	Experimenting

Sources: (Yusoff & Kian, 2013)(Yusoff & Kian, 2013)(Acar, 2014).

Millennials and Generation Z, growing up in an era of unprecedented access to information through the Internet and social media, may exhibit higher levels of overconfidence due to their perceived expertise in financial matters. Overconfidence bias occurs when individuals overestimate their abilities and knowledge, leading them to take greater risks. This overconfidence can lead to a higher willingness to take risks, potentially resulting in suboptimal financial decisions.

FOMO exacerbates the overconfidence bias by driving individuals to seize every opportunity, even if it carries significant risks.
Millennials are often characterized by a fear of missing out on investment opportunities or trends, leading them to make impulsive decisions without fully considering the potential consequences. (8)

The "herding" bias is an important aspect to consider in the context of social influence on financial decision-making among different generations, especially for the Millennials and Generation Z. Herding bias refers to the tendency of individuals to follow the crowd or mimic the actions of others, even if it may not be rational or based on independent analysis. In the realm of finance, herding behavior can lead to the convergence of investment decisions among a large group of individuals, regardless of their own analysis or judgment. Social media and online platforms amplify herding behavior by providing real-time access to the actions and opinions of others, creating a sense of urgency to conform to prevailing trends. Millennials and Generation Z, being digital natives and heavily engaged in social media, are particularly susceptible to herding behavior as they are constantly exposed to the investment decisions and opinions of their peers. This bias can result in the propagation of market bubbles and crashes, as well as the overvaluation or undervaluation of certain assets based solely on the momentum of herd behavior rather than fundamental factors.

Observing the influence played by different factors we need to take into account also the importance given to social responsibility. Millennials and Generation Z are more attentive to this thematic, while other generations are not interested in this specific topic when making financial decisions. (9)

A noticeable trend observed over successive decades is the inclination towards higher risk tolerance in financial decision-making. Typically, Baby boomers exhibit a tendency towards risk aversion, while subsequent generations, particularly Millennials and Gen Z, display a greater willingness to embrace risk. This shift can likely be attributed to the economic advancements made towards the end of the twentieth century. Additionally, the proliferation of information channels has led individuals to perceive themselves as more knowledgeable, emboldening them to take on riskier financial ventures.

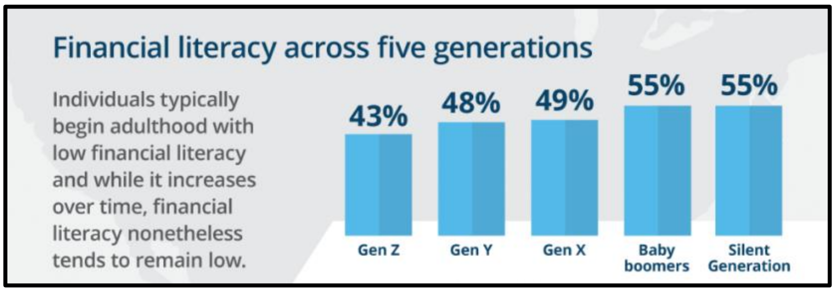
CONTRADICTIONS AND ALTERNATIVE EXPLANATIONS

Whilst this paper delves into examining the unique behavioral patterns displayed by various generations, there are a lot more factors than just age and behavioral biases that affect financial decision making. To begin with, financial literacy is one of the main factors behind patterns and behaviors towards financial decision-making. The more knowledgeable people are about risks, returns and availability of information, the more likely they are to invest in different financial markets and institutions.

Strong knowledge about financial principles, risks, returns and decision-making abilities empowers individuals to consider their options and make well informed decisions in terms of financial management and investment strategies. This spans the wide range of determining when and how much to save or spend, investing in securities or market, own financial assets and preparing for retirement. (10)

Notably, a paper (11) conducted a study upon the relation between financial literacy and investment decisions in Saudi Arabia and found that there was not only a positive relationship, but a very significant one. Interestingly enough, the paper also recognized how overconfidence also positively affected different investment decisions.

To understand the difference in financial literacy, the TIAA Institute conducted research (12) upon financial knowledge in five different generations (Gen Z, Y,X, Baby Boomers, and Silent Generation) in America. They discovered that financial literacy is generally low for all generations, showing particularly low levels for Gen Z's even though they are the ones to have been offered access to most educational courses. The study also reveals that education plays an essential role, with people who have attended college having higher knowledge about finance.



Within this knowledge, there is a lot more information known about saving and borrowing across all generations, while insurance knowledge is very low in Gen Z and Y. Therefore, it is clear that the different generations, and their corresponding education levels, have largely different financial literacy which will impact their spending and investing patterns.

Moreover, technology and its evolving nature play a huge role in the economy and people's financial behaviors. Given its developing and changing nature, it has affected different generations in different manners. Gen Z are most proficient in the digital world and is leveraging technology more in the stock market, for e-commerce, and use of apps for banking and electronic transactions. Technology does not only change the patterns of our spending, such as more impulsive purchases thanks to online shopping, but technology also provides tools to overcome biases and promotes emotional detachment from financial decision-making. (13). Experts claim that having mobile apps that allow users to track their finances and budgets can help them overcome overconfidence on limited information or aversion to losses. This was also proved when some Yale professors created a savings app introducing social pressure to make users face consequences if they do not meet their financial goals. Such an approach targets the bias of loss aversion which relates to people's sentiment of being more averse to losses than motivated by gains.

Therefore, it becomes evident that numerous additional factors play a role in financial decision-making across different generations on top of behavioral biases. Additionally, age might not serve as the primary determining factor in investment choices, but rather the economic environment and level of technological development. Given that this topic is not as researched as many others, additional studies with empirical evidence would help understand this complex relation better.

ADDITIONAL EXAMPLES

Data shows that we're now living longer. While that is a great thing, it also implies that now Millennials and Gen Zers need to save more for retirement. A survey in 2023 showed that more than half of Gen Z (56%) and millennials (51%) admitted they are losing sleep over their finances, compared to just 37% of Gen X and 20% of baby boomers.

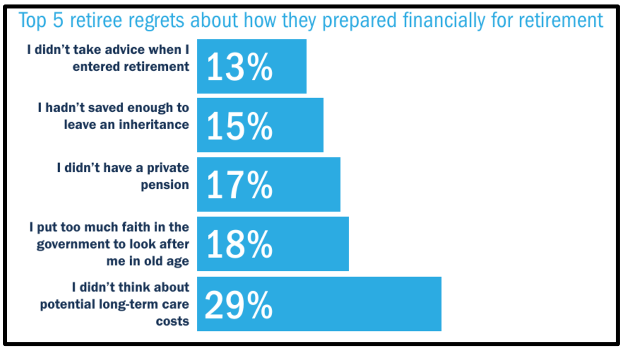
In the U.S., household wealth used to be distributed rather evenly across different age groups (14). However, the U.S. Federal Reserve shows that over the last 30 years, older generations have been amassing wealth at a significantly greater rate than their younger counterparts. Gen X went from 0.4% of household wealth in 1989 to above 5% just as the youngest Gen Xers turned 18. Millennials crossed the 5% threshold just as the youngest millennials turned 25: That is 7 whole years behind schedule. Moreover, in 1989, Baby Boomers and Generation X under 40 accounted for 13% of household wealth, compared to just 5.9% for Millennials and Generation Z under 40 in 2020.

Generation	Wealth (2019)	Population (2019)	Wealth/Person
Silent Generation & Older	$18.8 Trillion	23.0 Million	$817,391
Baby Boomers	$59.4 Trillion	71.2 Million	$834,270
Generation X	$28.6 Trillion	65.0 Million	$440,000
Millennials	$5.0 Trillion	72.6 Million	$68,871

A study led by an author from the University of Cambridge had some interesting revelations (15). By the time they turned 35, about 17% of Baby Boomers had progressed from college into high-paying professional careers like law and medicine, compared with only 7.3% of Millennials who did the same. Millennials were more likely to be engaged in other professional roles, like social work, teaching, retail, waiting, and caregiving. It was also found that wealth inequality is much more severe among Millennials than it was for Boomers. While 62% of Boomers owned homes by the time they turned 35, only 49% of Millennials did. About 8.7% of Boomers had negative net worth, compared with 14% of Boomers.

A research paper by Columbia Threadneedle Investments in the UK (16) gives valuable insights into the generational differences in attitudes towards finances.

- ⇨ Our parents tend to be the single biggest influence on our financial decisions, irrespective of our generation (**Authority Bias**)



⇨ Too many people are relying on an inheritance that might never arrive (**overconfidence, optimism bias**)

⇨ Millennials are typically more focused on short-term financial goals, with a bias towards instant gratification (**present bias**), through possessions and experiences.

However, even retirees tend to be victims of overconfidence and present bias.

Generation-wise facts based on studies:

⇒ **Baby Boomers:** They seem to be the most risk-averse: and stick to traditional investments.
⇒ **Gen X:** A study conducted by T. Rowe Price observed that 60% of Gen X and millennials look for a financial advisor, expecting quick and accurate information that mitigates risk to a significant extent.
⇒ **Millennials:** Conscience-stricken generation: focus on ESG investing.
⇒ **Gen Z:** Least likely to hire a financial advisor.

CONCLUSION

Our analysis of the behavior exhibited by different generations during financial decision-making has revealed the intricate and relatively ambiguous nature of this field, characterized by some generic trends, which might also be affected by exogenous factors that are subject to geography, culture, politics etcetera. The objective of this paper was to examine the topic from the lens of behavioral science to explain the underlying causes of the trends we discovered.

We observe that older generations, such as the Baby Boomers, tend to be more risk-averse due to the precarious socio-economic and political environment they grew up in , thereby explaining their conservative investment strategies. Meanwhile, Gen X prioritizes security and long-term financial planning, therefore responding actively to recent events due to their exposure to rapid technological and economic changes. Millennials and Gen Z, equipped with digital proficiency and an arsenal of information, are often susceptible to overconfidence, FOMO, and herding behaviors. This access to technology can sometimes lead to impulsive decisions influenced by social media and peer behaviors. Financial literacy varies significantly across generations, with older generations generally possessing more conservative financial knowledge, while younger generations, despite their access to information, often lack depth in their financial understanding, fueled by the above-mentioned overconfidence bias.

While generational financial behaviors are influenced by a blend of behavioral biases, technological access, and economic conditions, there remains a complex interplay of additional factors such as cultural influences and individual life experiences. This rich tapestry of influences makes the field of financial decision-making both intricate and fascinating, requiring a nuanced approach to both research and policymaking.

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