

## **Investment risk propensity among Generation Z - temperament and interest factors**

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### **ABSTRACT**

**Objective:** The study aims to explore the impact of temperament and interest in investment topics on the propensity to take financial risks among Generation Z, and it also seeks to identify which investment assets this generation is most interested in and what factors influence their investment decisions.

**Material and methods:** A survey was conducted using a research survey, aimed at students aged 19 to 28 from various fields of study. Respondents self-assessed their temperament based on four types (sanguine, choleric, melancholic, and phlegmatic) and their level of interest in investment topics. Chi-square tests were used to analyse the relationship between temperament, investment interest, and risk-taking propensity.

**Findings:** The results show that sanguine and choleric individuals are more inclined to take financial risks than melancholic and phlegmatic individuals. Furthermore, respondents with a higher interest in investment topics demonstrated a greater willingness to engage in risky investment decisions. Deposits, collectables, real estate and cryptocurrencies were the most preferred investment options.

**Research limitations:** The study is limited by its sample size and focus on a specific age group (19-28), primarily students, which may affect the generalizability of the results. Future research could explore a more diverse population.

**Research implications:** The findings provide information on risk-taking behaviour and investment preferences among Generation Z, with potential implications for financial education and investment market strategies.

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## INTRODUCTION

The study aims to analyse the factors that influence the investment decision-making process among Generation Z. It also identifies their preferences regarding investment instruments. The objective is to examine how factors such as temperament and interest in the subject of investment influence the willingness to take risks in financial decisions. Another detailed goal was to determine whether young people invest and, if so, in what assets they most commonly invest.

The topic of risk propensity has been an area of research in economic psychology or behavioural economics for years. Today, the easy access to information and its ubiquity contribute to the growing popularity of investing, even among younger people. Numerous factors affect the propensity to risk, including external conditions, psychological mechanisms, internal beliefs, emotions, and material resources. Knowledge of risk-taking tendencies and investment preferences of the younger generation can be valuable to educators and professionals.

The article is structured with a literature review presenting theories on temperament and investment behaviour, followed by a methodology section describing the pilot study design. The results and discussion section analyses how temperament and investment interest influence risk-taking in Generation Z, and the conclusion summarises findings, implications, and future research directions—all clearly outlining what each part covers.

## LITERATURE REVIEW

The analysis of financial and investment decisions made by individuals has long been a subject of research and discussion in behavioural economics (Czerwonka & Rzeszutek, 2011). One of the first concepts that distinguished between the two types of perception limitations in decision making defined humans as entities with "bounded rationality" (Sulik-Górecka & Strojek-Filus, 2015). When making decisions under uncertainty, people often exhibit various inaccuracies. One assumption of prospect theory is the thesis that "it is not the absolute level of wealth, but the changes in wealth (gains vs. losses) that carry perceived value" (Tversky & Kahneman, 2015; Zielińska & Ostrowska, 2013). In their individual financial decisions, investors demonstrate what is known as risk aversion, where

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people worry more about losses than they rejoice in gains, even though both have the same value (Czerwotka & Rzeszutek, 2011).

The propensity to take risks depends on several factors, such as subjectively assessed probability of winning, subjectively estimated possible benefits and their utility, and how the decision problem is framed. Research shows that a significant portion of the general population is prone to risk. One of the factors that differentiates investors in terms of risk is gender. Women tend to have a lower propensity to take risky decisions than men. However, most of the determinants that influence risk perception are more individual in nature, including character traits, temperament, lived experiences, susceptibility to environmental influence, and the ability to control emotions (Pawlonka, 2021).

Another factor influencing decision making are emotions. Research findings indicate that under the influence of positive emotions, the time spent analysing certain options is shortened. People may overlook certain available information, fail to verify it, or simply ignore it. When decision makers experience negative emotions, they are more prone to cognitive errors and perceive risk as greater. Another reason for risk-taking or risk aversion is the individual's level of desire to make a judgment based on the available information, even if it is incomplete or misunderstood. This mechanism is defined as the need for cognitive closure, which is a type of resistance to ambiguity and uncertainty (Adamczyk, 2018).

Environmental, cultural, economic, and social conditions have a significant impact on risk perception. Among these, culture, in particular, has a profound influence on decision-making, affecting thought processes subconsciously across various life spheres (Majewska-Bielecka, 2012).

According to the theory, behavioural factors are all psychological influences that may affect the decisions made by individuals. A significant determinant of any human decision-making process is individual characteristics, particularly temperament. Temperament can be understood as the type of nervous system combined with an associated physiological mechanism. Among the personality models in behavioural finance, one can distinguish: Myers-Briggs Personality Model, Eysenck's Three-Factor Theory, Keirsey Temperament Model, Five-Factor Model of Personality, HEXACO Six-Factor Model of Personality or Metatheoretic Model of Motivation and Personality (Rao & Lakkol, 2022).

One of the most well-known temperament theories was initially defined by the ancient physician Hippocrates and later developed into a theory of

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temperaments by Galen (Strelau, 1996). According to this concept, the four primary temperaments include sanguine, choleric, phlegmatic, and melancholic (Lopez Beltran, 2007; Zdonek, 2023).

A sanguine person is optimistic, energetic, cheerful, and unconcerned with matters of little significance. They don't dwell on emotions for long—feelings like sadness or apathy quickly give way to a cheerful mood. They are sensitive and open to the surrounding world, expressing their emotions strongly and openly. However, their enthusiasm and emotions can sometimes lead to superficial actions, difficulties with concentration, or avoidance of potential difficulties.

A choleric person is decisive and dynamic, prone to aggression and anger. They easily experience strong emotions. Cholerics do not fear obstacles on their way to achieving goals; in contrast, they adopt strategies to overcome them. Their determination allows them to achieve goals effectively. They are often impatient, stubborn, and tend to assume leadership roles.

A phlegmatic person is satisfied with their situation, emotionally stable, and is difficult to upset or hurt due to their emotional distance from the surrounding reality. Phlegmatics prefer to be passive rather than active and value peace. They accept all circumstances and dislike changing conditions and new situations. They react to the external environment in a calm, unexpressive way, and their patience and calmness give them better resilience to stress.

A melancholic person may tend toward nostalgia and sadness, often viewing their situation pessimistically. They highly value peace and are characterised by high sensitivity and deep emotional experience. Although they feel emotions strongly, they may not express them outwardly, which can sometimes be misleading to those around them. Melancholics are introspective and reflective, interpreting potential failures as personal and internalising them.

Generation Z consists of individuals born between 1996 and 2015. This generation has been characterised by exposure to technology from a young age, growing up partially in the real world and partially in the virtual world. The internet environment is completely natural to them. Most Generation Z have been raised in material prosperity but also in an unstable socio-economic environment, facing political tensions, migration crises, the COVID-19 pandemic, wars, and issues related to climate change. Their main source of knowledge and education is the internet, where they can easily find information and use it to develop their professional skills through online courses and training. Unfortunately, there has been a noticeable decline in some

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communication skills within this group, as seen during job interviews. A characteristic trait of Generation Z is their relatively low loyalty to employers, as they prioritise their personal goals. They prefer to focus on personal development, pursue passions, and live a private life. Financial considerations are a significant factor in choosing a job (Armata, 2023).

In recent years, Generation Z has become a frequently researched group in the context of the labour market, both as future leaders and employees, to better understand their attitudes and career commitment (Yilmaz Kisactutan & Karatepe, 2024; Frunzaru & Cismaru, 2021). Economic research on Generation Z focuses on several threads. First, researchers are trying to identify behavioural patterns in investment markets among young people, who tend to make quick decisions and prefer rapid consumption. Studies conducted in India suggest that Generation Z, compared to Generations X and Y, shows a greater propensity for more risky investment options. There are no significant differences in financial/investment competencies between Generations X, Y, and Z, but Generation Z demonstrated the best knowledge in the study. An interesting conclusion from the research is the correlation between financial knowledge and a greater willingness to take risks, which was similar across all age groups. Regarding investment preferences, Generation Z prefers investment funds, Generation X prefers real estate and bank deposits, while Generation Y prefers gold. The availability of technology plays an important role (Thomas et al., 2024).

The results of studies clearly show that Generation Z varies significantly depending on cultural and educational conditions, making a local analysis necessary. In recent years, there has been a significant increase in the participation of Millennials and Generation Z in the investment market. According to pilot studies conducted in Poland, Generation Z tends to invest mainly in real estate, stocks and cryptocurrencies, as well as alternative forms of investment such as clothing, art, and collectables. The least popular investment instruments were derivatives and cars (Waszczeniuk, 2021).

Real estate is considered a stable form of capital allocation, often becoming the primary component of investment portfolios. The cryptocurrency market is also popular, regarded as futuristic, and with substantial development potential. At the same time, Generation Z is not afraid to invest in cryptocurrencies, unlike older people, for whom cryptocurrencies may still be seen as a new and untested way of allocating capital.

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A completely nontraditional investment area involves fashion, primarily clothing and footwear. The current trend in streetwear is especially popular among Generation Z. Many brands have quickly gained popularity, and their products are created in this style. According to research, around 30% of the respondents have invested in clothing. This alternative investment market, due to the lack of knowledge and understanding of the subject of the older generation, has been dominated by Generation Z. Regarding the risk awareness associated with investing, the study showed that most participants were aware of the risks. However, many individuals in this generation are still relatively young, and a large portion of the group does not engage in investment activities due to a lack of knowledge or financial assets.

## **RESEARCH METHODOLOGY**

The main goal of this research was to determine the impact of selected factors (temperament and interest in investment topics) on the willingness to take risks in investment decisions among Generation Z. Furthermore, the study investigated which investment assets are of interest to young people. The hypothesis assumed that individuals with a sanguine or choleric temperament would be more willing to take risks than those with a melancholic or phlegmatic temperament. It was also assumed that Generation Z people who are more interested in investing would be more inclined to take risks.

The study of temperament's influence on economics and investment behaviour employs various methods, including self-report methods (Fisher Temperament Inventory (FTI), the Adult Temperament Questionnaire (ATQ), and the NEO Five-Factor Inventory (NEO-FFI), as well as experimental approaches (Martino et al., 2023). In addition to specialised psychological questionnaires, standard survey questions based on respondents' subjective assessments are also used (Effendi, 2023). Although self-report methods can be susceptible to distortions due to respondent bias or limited self-awareness, they remain quick and easy to manage.

The survey used Hippocrates' classification of temperaments, expanded by Galen, which distinguishes four primary types of temperament:

- Sanguine – sociable, energetic;
  - Choleric – impulsive, decisive;
  - Melancholic – introspective, sensitive;
  - Phlegmatic – emotionally balanced, detached.
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The respondents self-assessed their temperament type based on the short descriptions provided in the survey. For the purpose of analysing the survey results, the four temperaments were grouped into two categories: sanguine and choleric (group 1) and melancholic and phlegmatic (group 2).

To identify people interested in investing topics, the survey directly asked if the respondent was interested in investing. At the same time, respondents self-assessed their level of investment engagement, answering control questions regarding whether they educate themselves in the field and whether they follow financial market trends. Based on the data obtained, the respondents were divided into two groups: interested (group 3) and not interested (group 4). A chi-square independence test was then conducted separately for groups differing in temperament and investment interest.

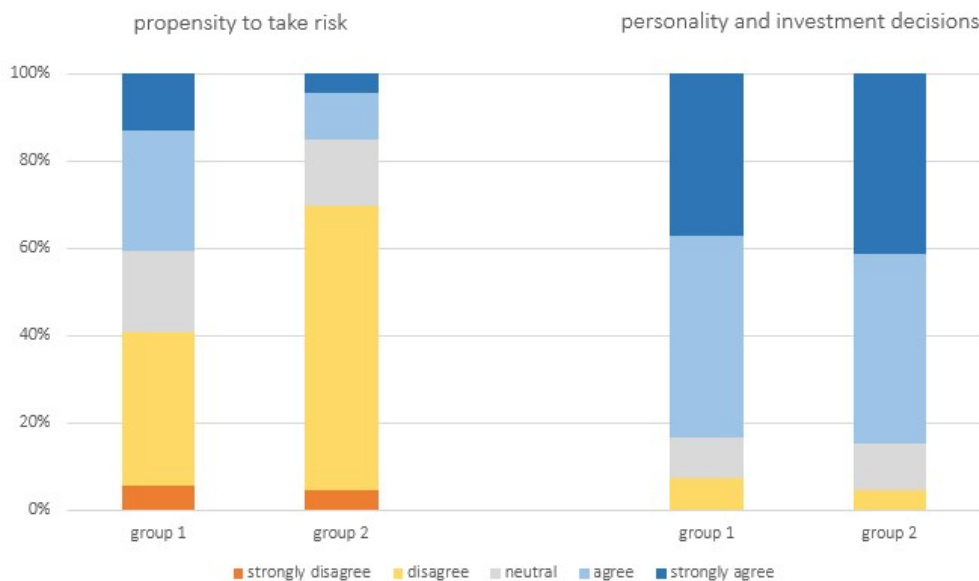
The pilot study was conducted through a survey created in Google Forms and distributed on social media (using the snowball method). Generation Z includes individuals born between 1996 and 2015, but for this study, the sample was narrowed to people aged 19-28, primarily students. The research group included people studying financial and economic disciplines, as well as those in other fields such as artistic, technical, medical, and humanities disciplines. Among the 100 respondents, 65 identified as female, 34 as male, and one person selected "other/prefer not to say."

## **RESULTS & DISCUSSION**

The first hypothesis investigated the relationship between temperament and risk-taking propensity. Each type of temperament type is characterised by different traits, which undoubtedly influence how people perceive reality, including financial decision-making. It was hypothesised that sanguine and choleric individuals (54% of respondents) would be more impulsive, which would translate into a higher propensity to take risks, while melancholic and phlegmatic individuals (46% of respondents) would be more risk-averse.

The survey included several questions related to risk-taking in financial decisions. A comparative analysis was conducted for each question, focusing on the two groups: sanguine and choleric (group 1), and melancholic and phlegmatic (group 2). Figure 1. presents the responses to a question about risk propensity in financial decisions and whether respondents believe that their personality traits influence their decision-making. The responses were categorized according to temperament types: group 1 (sanguine and choleric) and group 2 (melancholic and phlegmatic).

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**Figure 1. Percentage of respondents with a propensity to investment risk and who believe that personality traits influence investment decisions, by temperament type (group 1 and group 2)**

Source: own analysis

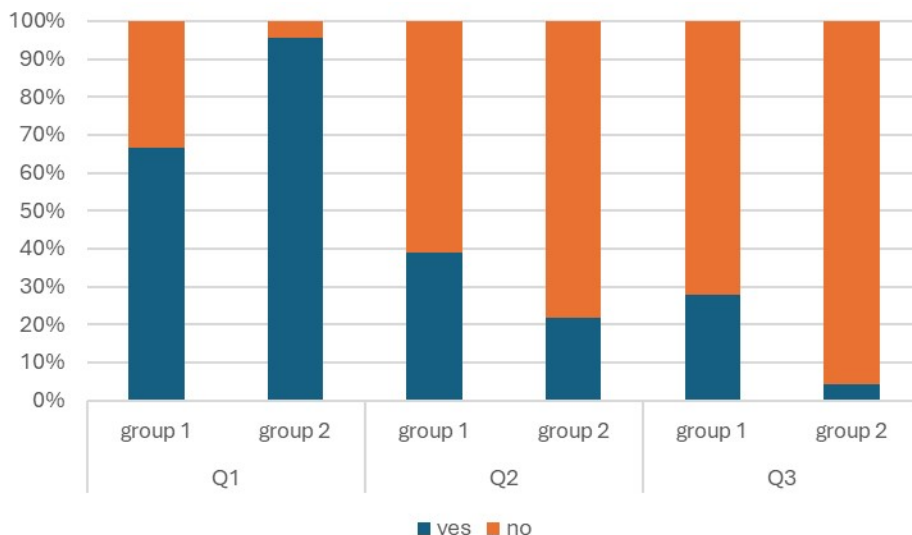
The analysis of the responses indicated that the sanguine and choleric individuals were more inclined to take financial risks. Differences were particularly noticeable in the following response options:

- "Disagree": The majority of votes for this option came from group 2.
- "Agree": The majority of votes for this option came from group 1 (sanguine and choleric).
- "Strongly agree": Most of the respondents who chose this option were from group 1.

In summary, based on the responses to this question, we can draw a general conclusion that sanguine and choleric individuals are more inclined to take risks in financial decisions compared to melancholic and phlegmatic individuals. The study used several control questions, asking respondents from both group 1 and group 2 whether they preferred low-risk investments, even if that meant lower potential returns (Question 1). Additionally, both groups were asked whether they had ever made a risky investment decision (Question 2) and whether they preferred less secure investments to potentially achieve higher



returns (Question 3). The results for group 1 (sanguine and choleric) and group 2 (melancholic and phlegmatic) are presented in Figure 2.



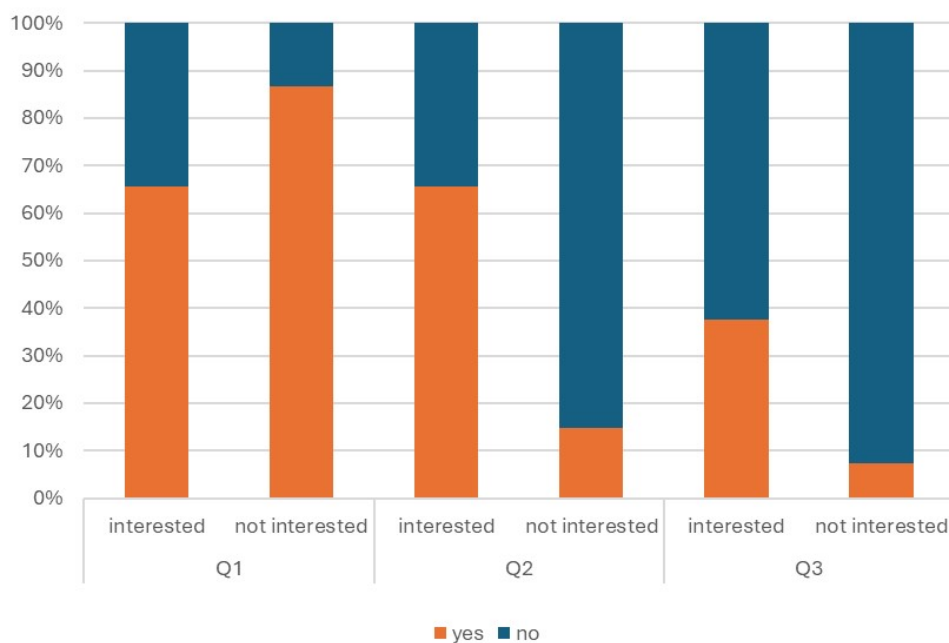
**Figure 2. Responses to the control questions on risk propensity in relation to investment decisions, by temperaments**

Source: own analysis

Most of the melancholic and phlegmatic respondents answered affirmatively to Question 1, indicating that they prefer low-risk investments even if it means lower returns. Differences in responses to Questions 1 and Question 3 between groups 1 and 2 were statistically significant ( $\chi^2 = 11.29$ , p-value = 0.000078 and  $\chi^2 = 8.08$ , p-value = 0.0045, respectively). However, there were no statistically significant differences between the groups in their responses to Question 2 ( $\chi^2 = 2.66$ , p-value = 0.103).

In summary, the analysis of the responses to the five questions related to risk propensity suggests that people with a sanguine or choleric temperament were more likely to take risks than those with a melancholic or phlegmatic temperament. The differences between groups are subtle.

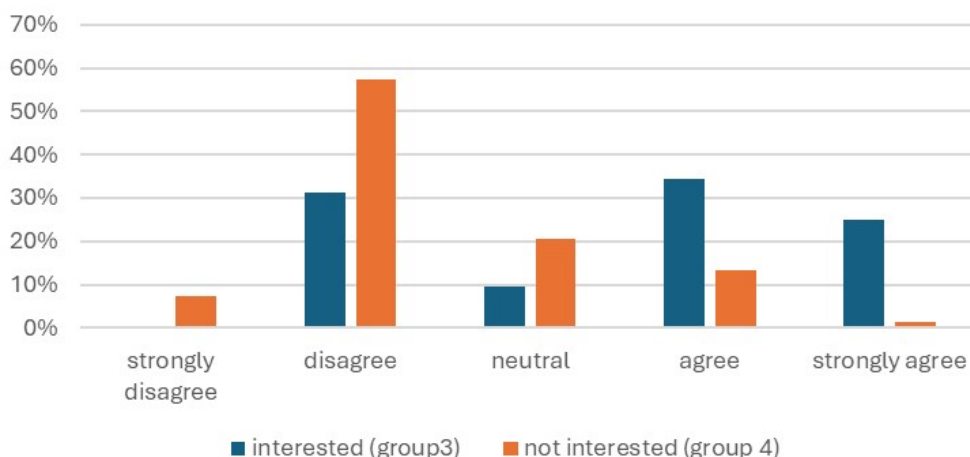
The second part of the study aimed to determine whether people who are more interested in investing are more likely to take risks in their investment decisions. Respondents' interest in investing was assessed based on their self-reported level of engagement and responses to control questions regarding whether they educate themselves in the field of investments and whether they follow financial market trends. The respondents were then divided into two groups: those interested in investing (group 3) and those not interested (group 4). Figure 3 shows the distribution of responses related to risk propensity in financial decisions.



**Figure 3. Percentage of respondents willing to take risk in investment decisions**

Source: own analysis

The graph illustrates that individuals interested in investing were more likely to select the "strongly agree" and "agree" options compared to those not interested in the topic. As with temperament, the differences between the groups were analysed in the control questions. The distribution of responses is shown in Figure 4.



**Figure 4. Responses to the control questions on risk propensity in relation to investment decisions, by interests**

Source: own analysis

Compared with the groups related to temperament, in this case, the relationships are much stronger and more significant. The group interested in investing was more inclined to make risky investment decisions compared to the group not interested in investing. Additionally, a significant majority of the people in group 3 had previously made risky investment decisions compared to group 4 (those who are not interested in the topic of investment). In all three cases, the differences between the responses of groups 3 and 4 were statistically significant. This means that for each question, the distribution of "yes" and "no" answers was not the same between the two groups. The largest difference occurred in Question 2, suggesting that the responses to this question were particularly divergent between the two groups. The chi-square values for Question 1 were 4.83 (p-value = 0.028), for Question 2  $\chi^2 = 24.05$  (p-value =  $9.39 \times 10^{-7}$ ), and for Question 3  $\chi^2 = 11.96$  (p-value = 0.00054).

The final part of the study examined the types of investments preferred by Generation Z. The most frequently chosen investment instruments among the respondents who invested were savings deposits (27%), followed by collectables (15%), real estate (11%), and cryptocurrencies (11%). Clothing (10%), bonds (6%) and stock (9%) ranked next in popularity. The least chosen investment options included works of art, investment funds, and commodities (2%). The respondents selected traditional and alternative forms of investment. In particular, a significant number of respondents selected collectables as an

investment option, which might not typically be considered a common investment vehicle.

## **CONCLUSIONS**

The main objective of the research was to determine the impact of selected factors, such as temperament and interest in investment topics, on the willingness to take risks in investment decisions among students of Generation Z. Furthermore, the preferences regarding financial instruments among the research group were identified. After verifying the hypotheses, it was concluded that sanguine and choleric individuals are more inclined to take risks. Interest in the topic of investing was also positively correlated with a higher propensity to take risks. A much stronger correlation was found in the case of respondents interested in the topic of investment than in the case of temperament type.

Regarding the structure of investment instruments among the research group, the most popular were savings deposits, followed by collectables, real estate, and cryptocurrencies. Young people chose traditional and alternative forms of investment, although there was no significant dominance of one over the other. The research indicated that some of the selected factors significantly influence the willingness to take risks in investment decisions.

Given the pilot nature of the study, the authors acknowledge its limitations, such as the small sample size and the reliance on the self-assessment of the respondents to classify their type of temperament. Since the tendency toward risk in this study is influenced by temperament, future research could incorporate a standardised questionnaire to assess personality traits and temperament, rather than relying on the self-assessment of the respondents.

The analysis of the results may serve as a basis for further research and considerations of educational initiatives that could support young people starting their investment journey.

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