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Household participation in Financial Markets

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Research Report

Title: Household participation in Financial Markets

by

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Finance and Investments

WITS BUSINESS SCHOOL

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Declaration

I, Thato Mabale declare that the research report titled Household Participation in Financial Markets; is my own, except where otherwise indicated and acknowledged. It is submitted for the degree of Master of Management in Finance and Investment at the University of the Witwatersrand, Johannesburg. This thesis has not, either in whole or in part, been submitted for a degree or diploma to any other universities.



Signature of Candidate

12 April 2024

Date

Abstract

This research investigates the relationship between financial literacy and financial participation among South African households focusing on demographic variables such as age, gender, and education level. The study examines the relationship between financial literacy and financial asset investment using data from the 2019 FinScope Survey. The demographic characteristics of participants, including age, gender, ethnic group, marital status, educational level, household size, and employment status, were examined through statistical analyses (correlation and regression) to determine their influence on financial investment.

The findings revealed that higher financial literacy, measured through understanding and behaviour regarding financial assets, significantly correlates with increased investment levels *($\beta = 0.004$, $p = 0.012$).* Participants with higher numeracy skills also demonstrated greater financial participation *($\beta = 0.005$, $p = 0.022$).* Demographic factors were similarly influential, with older individuals *($\beta = 0.001$, $p = 0.035$)* and male participants *($\beta = 0.001$, $p = 0.049$)* investing a higher mean percentage of their income in financial assets. Moreover, young adults aged 30–44 were found to be the most active investors, while individuals with tertiary education showed the highest mean investment percentage, showing the important role of education in improving financial engagement *($\beta = 0.007$, $p < 0.001$).* This corroborates previous studies which found that participant characteristics affect their financial behaviour and risk tolerance. The study also highlights the influence of household size and composition, with larger households and those with more children investing significantly less due to financial constraints.

Overall, these results underscore that a good understanding of financial concepts such as interest rates and inflation, leads to greater financial engagement and investment growth. An important implication of this study is that targeted interventions to enhance financial literacy mostly among women and less-educated groups, could increase financial market participation. Such efforts would promote diversity in South Africa's financial markets and support economic development for all population groups.

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1. Chapter 1. Introduction

1.1. Introduction

One of the most enduring phenomena in the world of finance is the low level of household participation in financial markets. Individuals face an increasingly complex menu of financial product choices, yet they have only a limited understanding of what factors stimulate participation (Cole & Shastry, 2009). A study by Khan, et al. (2020) identified several barriers to financial market participation, including high participation costs, individual investor preferences, lack of knowledge, limited trust in the market and its agents, the expense of obtaining necessary information, borrowing restrictions, and general unawareness. Cole and Shastry (2009) emphasize the importance of financial market participation for households, noting that it plays a critical role in facilitating asset accumulation and smoothing consumption, which can have significant positive effects on overall welfare. To encourage household participation in financial markets, households have the option of diverting some of their savings by investing in financial markets. Prinsloo (2000) defines saving by the household sector as "that part of current income, after the payment of direct taxes, that is not consumed or transferred as part of household current consumption." It is calculated as the difference between income and consumption (Joubert & Merwe, 2021). However, over the years it has been noted that South Africa has a deteriorating and poor savings culture, and this was also observed in the SASAS 2020/21 survey, in Figure 1.1.

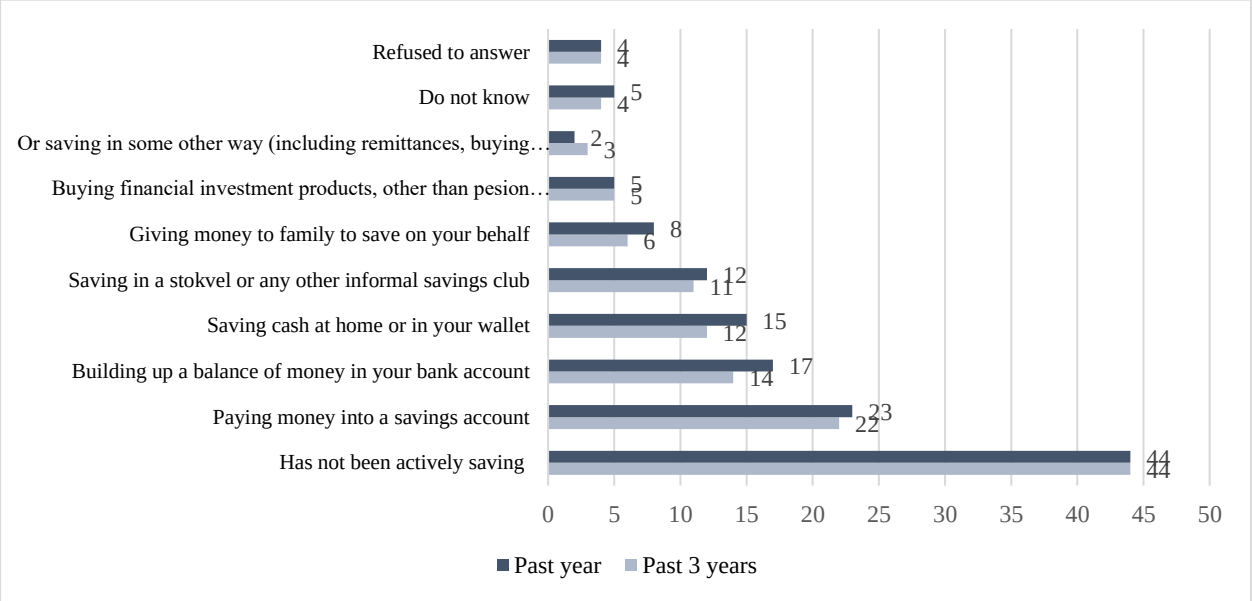


Figure 1.1: Self-reported savings behaviour in the past 12 months (2020) and 3 years (2013, 2015, 2017)

Source: South African Social Attitudes Survey (SASAS), 2020

In Figure 1.2 between 1975 and 1984, Prinsloo (2000) looked at the trend between fixed assets and financial assets and found that households were increasing their share in fixed assets by taking their funds and channelling them into fixed assets This means that households were increasing their participation in financial markets. However, it must be noted that this is not necessarily an accurate reflection applicable to the entire population of South Africa because there were restrictions in terms of participation during that period and majority of the household population at the time, was not equipped with the right resources and skills to participate.

Fixed assets and financial assets of households as a proportion of total assets is illustrated in Figure 1.2. The persistent increase in living expenses resulting from inflation, as depicted in Figure 1.2, might have influenced households to allocate a larger portion of their funds towards risk-averse institutions and financial assets rather than higher-risk investments and fixed assets. This shift led to an increase in the allocation of savings toward financial assets starting in 1987. Prinsloo (2000) observed that during the 1990s, a significant portion of private households' savings up to 77% was directed toward financial assets, compared to 60% in the 1970s and 65% in the 1980s.

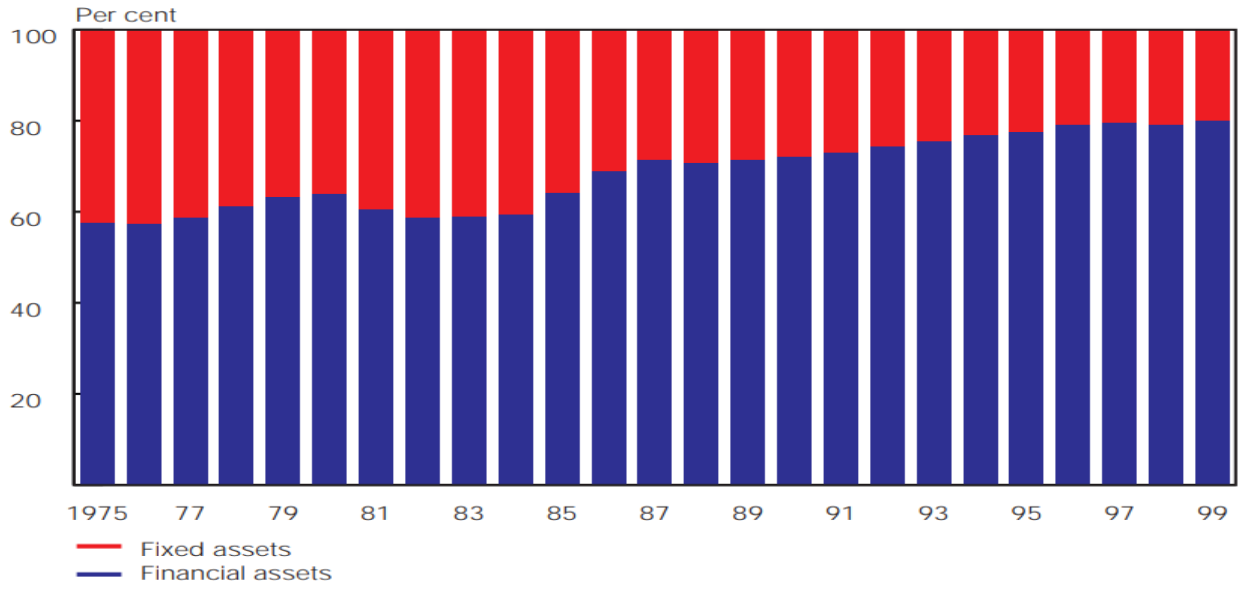


Figure 1.2: Self-reported savings behaviour in the South African economy
Source: South African Reserve Bank – Occasional Paper No.14, November 2000

Prinsloo (2000) noted that between 1990 and 1999, the total savings rate averaged only 16.3% of the gross domestic product (GDP), as shown in Figure 1.2. Additionally, data from the South African Reserve Bank's first quarterly report shows that household gross savings as a percentage of GDP decreased to 2.2% in the

fourth quarter of 2022, down from 2.3% in the third quarter. Similarly, the annual household savings rate declined from 2.8% in 2021 to 2.4% in 2022, highlighting a continued downward trend in household savings.

Table 1.1: SARB Q1 Bulletin for the year 2023

Gross saving as a proportion of GDP (percentage based on annualized and seasonally adjusted data)										
	2021					2022				
Areas	Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year
Corporate	18.2	13.9	15.9	15.2	15.8	17	10.3	16.3	13	14.1
General government	-4.3	0.4	-1.7	-2.6	-2.1	-3.1	0.7	-2.7	-2.3	-1.9
Household	2.8	2.6	2.9	2.7	2.8	2.5	2.3	2.3	2.2	2.4
Total	16.7	16.8	17.1	15.3	16.5	16.4	13.3	15.9	13	14.6

Source: SARB Quarterly Bulletin, March 2023

1.2. Research Purpose

This study aims to examine how household involvement in South African financial markets and financial literacy are related. Through the analysis of financial literacy, which encompasses elements like interest rate, inflation, and numeracy comprehension, the study seeks to understand how household investment in financial assets is impacted by knowledge and behaviour related to financial concepts. The demographic characteristics that affect financial market involvement, such as age, gender, education level, and work position, are also investigated in this study.

1.3. Problem Statement

The research problem is the limited participation of South African households in financial markets, which restricts their potential for wealth accumulation and financial stability. Research shows that families are unable to take advantage of investment opportunities that could improve their financial well-being due to inadequate financial literacy and a lack of knowledge about financial goods (Khan, et al., 2020; Pan, et al., 2020). Financial market participation is further influenced by variables like demographics, financial institution trust, and access to financial advice, creating a complicated web of issues that call for focused actions.

The main problem identified is the gap between market participation and financial literacy, where households lack the knowledge and confidence to successfully use financial products. Inadequate asset accumulation and low financial resilience result from households' inability to diversify their investments and take advantage of economic opportunities due to this knowledge gap (Lusardi & Mitchell, 2014). Furthermore, as shown by numerous demographic studies in the research findings, age, employment status, and level of education are important factors that impact households' financial decisions.

Associated sub-problems include the varying impact of financial advice on market participation, where advice from financial institutions positively affects participation for some groups, while other households remain hesitant due to a lack of trust or clarity regarding financial risks and returns (Misra, et al., 2021; Nguyen & Nguyen, 2020). Furthermore, households with low levels of digital literacy find it more difficult to obtain and comprehend financial goods due to the additional complexity brought about by the financial technology industry's explosive growth.

This study is to investigate the association between household investment in financial assets in South Africa and financial literacy considering the defined research challenge. It additionally examines contributing factors that affect financial market involvement, such as demographics. To enable greater economic inclusion and stability, the research aims to produce insights that could guide policies for improving financial literacy and encouraging broader household engagement in financial markets.

1.4. Research Objectives

- To analyse the relationship between financial literacy and household investment in financial assets in South Africa.
- To identify and evaluate the demographic factors (e.g., age, gender, educational level, employment status) influencing household participation in financial markets.
- To assess the impact of financial literacy components, including understanding of inflation, interest rates, and numeracy, on financial market participation.
- To recommend increasing financial market participation through targeted financial literacy programs.

Main Research Question

What is the relationship between financial literacy and participation in financial markets among South African households?

Sub Research Questions

- To what extent does financial literacy influence household investment in financial assets?
- What are the factors influencing household participation in the financial markets?
- What is the effect of financial literacy on household understanding of investment concepts of interest rates, inflation, and risk management?
- What strategies can be implemented to improve financial literacy and increase household participation in financial markets?

1.5. Significance of this Study

Low household participation in South African financial markets is a significant challenge that hampers wealth accumulation, financial stability, and economic growth. Several factors contribute to this limited participation including deteriorating household savings, trust issues, financial literacy, technology, and the ability to understand financial advice (Pan et al., 2020). These barriers vary in impact, but they collectively restrict households from engaging with financial markets meaningfully. The aims to identify the factors that make households reluctant to take part focusing on the critical roles of financial literacy, employment status, and overall knowledge of financial concepts like interest rates, inflation, and risk management. By understanding these factors, the research will shed light on why households often refrain from investing, even when they have the potential to do so.

The significance of this study extends beyond individual households, impacting policymakers and the government as well. Enhancing financial literacy and overcoming barriers to market participation can foster financial inclusion, enabling households to build sustainable wealth. For policymakers, the findings could inform the development of targeted educational initiatives and financial policies encouraging broader market participation. This would support South Africa's economic growth by creating a more financially empowered population. As more households participate in financial markets it will contribute to the overall stability of the financial system, increasing the country's financial market development, and driving long-term economic growth.

1.6. Scope of the Research

This research specifically focuses on South African households to investigate the relationship between financial literacy and financial asset investment levels and to investigate factors influencing household participation. The findings will indicate what needs to be adopted and implemented to encourage household participation.

1.7. Research Outline

This research study is outlined as follows; chapter one brings in the detailed introduction and background of the study, followed by identified problems, which findings from this paper will contribute to some of their solutions. The research problems, motivation, objectives, and significance of this study are also tabled in this section. Chapter two detailed an overview of financial markets and factors that influence participation in financial markets. In chapter three, a detailed description of the research methodology used and the data gathering method used are provided. Chapter four is a presentation and interpretation of the results looking at the demographic characteristics of participants, the relationship between investment in financial assets and level of financial literacy, and lastly factors that influence household participation in financial markets. In chapter five a conclusion of this study is provided together with some recommendations.

2. Chapter 2. Literature Review

2.1. Introduction

This chapter provides an overview of financial markets, provides theories of financial markets and the participation thereof, and integrates existing literature. This chapter consists of three sections, the first section provides an overview of financial markets, the second section provides an overview of the theories of financial market and the participation thereof, and the last section outlines various factors that influence household participation, such as financial literacy and households' behaviour to income, savings, and investments is explored together with other aspects such as trust, financial advice, and social interactions. To address the research problem of this study this chapter provides a better understanding of household behaviour in terms of their financial decision-making and factors influencing their participation. It was found that participation in financial markets goes beyond levels of schooling and those with high levels of schooling did not always score high in financial knowledge.

2.2. Overview of Financial Markets

Wyk et al. (2015) describe financial markets as systems of institutional structures, mechanisms, and conventions that facilitate the issuance and trading of financial instruments. Rather than being a physical location, financial markets are a global network of millions of participants connected through extensive telecommunications systems that enable buyers and sellers to interact and determine the pricing of financial instruments.

Participants in financial markets are made up of the following:

- Borrowers: Issuers of securities
- Lenders: Buyers of securities
- Financial Institutions: Issuers and borrowers of securities
- Brokers: Act as conduits between lenders and borrowers in return for a commission

The financial markets industry in our country has developed quite significantly to compete with international markets (Elliott & Gutierrez, 2022). In South African financial markets, most securities are held by large financial institutions such as pension funds, mutual funds, insurance companies and banks. These financial institutions stand between the security issuer (the firm) and the ultimate owner of the security (the individual investor). For this reason, these financial institutions are referred to as financial intermediaries (Bodie, Kane, & Marcus, 2021).

Financial institutions play an important role in our society and the economy at large and they have a diverse range of product solutions for saving and investing to meet the rapidly changing demands of households and all participants in the financial markets industry. Financial institutions provide sophisticated mechanisms for households to manage their money on a day-to-day basis[1]. Financial markets and intermediaries move money from lenders to borrowers, Ven and Fano (2017), as illustrated in Figure 2.1. Financial markets operate within a financial system, which includes all financial intermediaries and financial markets, as well as their relationships regarding the flow of funds to and from households, governments, businesses, and foreigners. The primary function of the financial system is to channel funds from surplus sectors to deficit sectors (Haan, Schoenmaker, & Wierts, 2020).

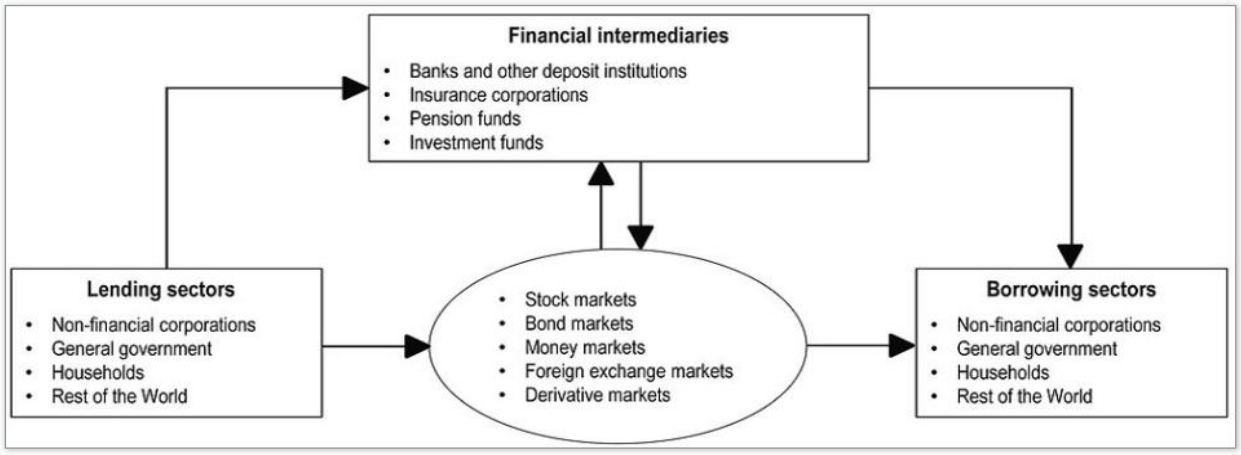


Figure 2.1: Illustration of relationships in financial markets
Source: OECD (2017), Understanding Financial Accounts, OECD Publishing, Paris[2]

2.2.1 Types of financial markets

Financial markets have traditionally been separated into two categories: money markets and capital markets. Money market instruments are short-term, highly marketable, liquid, low-risk debt securities. Many of these securities trade in large values that are out of reach for individual investors. Small investors, on the other hand, can easily access money market funds. In contrast, capital markets are markets for the raising and trading of securities of a long-term nature, and the securities are riskier (Bodie, Kane, & Marcus, 2021).

Foreign exchange markets are the world's largest financial markets. It is the marketplace where one country's currency is exchanged for another's. Because the foreign exchange market operates over the counter, there is no single location where traders can congregate. Instead, market participants are concentrated in the world's major commercial and investment banks. They communicate through computer

[1] https://www.fsca.co.za/Documents/FSCA%20Financial%20Sector%20Outlook%20Study%202022.pdf
[2] https://read.oecd-ilibrary.org/economics/understanding-financial-accounts_9789264281288-en#page66

terminals, telephones, and other telecommunications devices (Firer et al., 2012). And lastly, the derivative market is where financial instruments are traded based on the values of underlying securities and other variables. Such variables include an index, reference rates, and cash market underlying instruments such as equity, money, bonds, or commodities (Goodseed et al., 2015).

Figure 2.2 was taken from a publication by the Organization for Economic Cooperation and Development (OECD), it illustrates the different types of financial markets. Most households participate in financial markets through the money market. Individual investors who want to profit from the money market can do so by opening a money market bank account or investing in a money market mutual fund. A money market mutual fund is a professionally managed fund that purchases money market securities on behalf of individual investors (Blanchard, 2021).

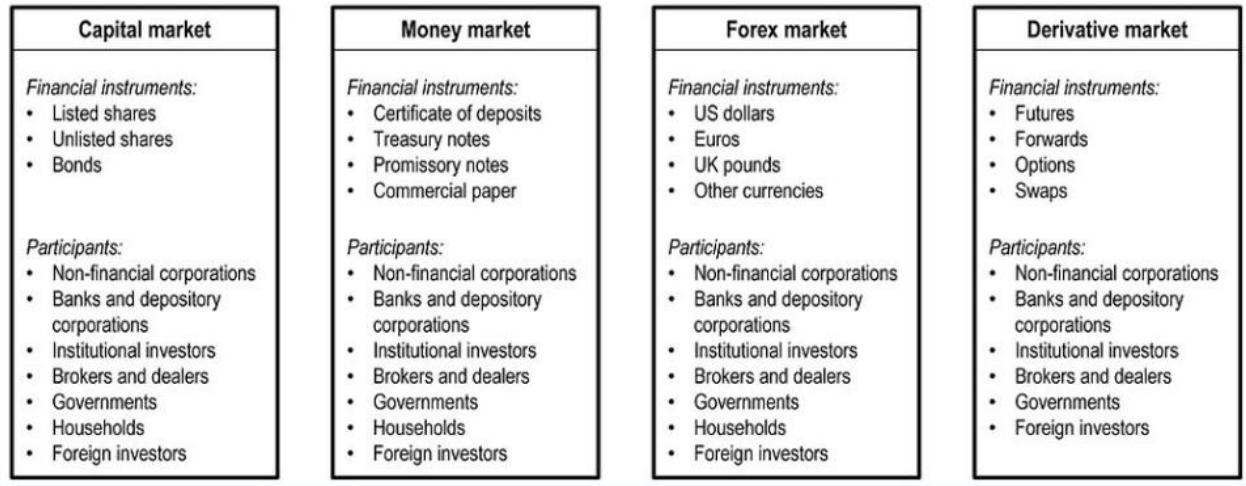


Figure 2.2: Types of financial markets
Source: OECD (2017), Understanding Financial Accounts, OECD Publishing, Paris[3].

Most households participate in financial markets through the money market. Individual investors who want to profit from the money market can do so by opening a money market bank account or investing in a money market mutual fund. A money market mutual fund is a professionally managed fund that purchases money market securities on behalf of individual investors (Blanchard, 2021). The Money Market is for short-term investments for up to a year. The money markets buy and sell various types of short-term debt securities to meet short-term funding needs. These short-term debt securities are commonly referred to as money market securities (Firer et al., 2012).

[3] https://read.oecd-ilibrary.org/economics/understanding-financial-accounts_9789264281288-en#page66

2.3. Theories on financial market participation

Cuia and Zhang (2020) note that uncertainty is increased in financial markets by unequal information and ethical risks. Therefore, deciding to participate in financial markets is a challenging undertaking for households because there is so much uncertainty about future returns and earnings. In addition, Pan, et al. (2020) note that the decision to engage and the extent of participation are significantly influenced by investors' trust in the overall environment in these situations. Also, households may be financially advised to hold safer assets than risky assets in financial markets because of their volatility and household risk aversion." So, this discourages and contributes to the low participation in financial markets.

Cui and Zhang (2021) argue that wealthier households are more inclined to participate in financial markets because they can more easily manage the fixed costs associated with participation, which are considered a major barrier. These households are more likely to invest due to their greater disposable resources. While household income is not consistently significant in all analyses, this may be because its influence on participation is like that of wealth, with wealth effectively capturing income's impact.

Rising wealth and education levels positively correlate with household participation in the financial markets. If one considers participation as having fixed costs, this makes sense because wealthier households can afford to invest more, so the fixed cost is less of a disincentive. Another view is that education lowers the fixed costs associated with participation by facilitating the process of understanding the risk-reward trade-offs in the market, dealing with the intricacies of opening an account, placing trades, etc. for potential investors. Lastly, it was found that there is a clear correlation between participation and race, with white, non-hispanic households having substantially greater percentages of participants even after adjusting for wealth and education.

A model was developed by Hong et al. (2004), by considering the possibility that stock-market participation is influenced by social interactions. They distinguished two main ways that social interaction could affect participation. Word-of-mouth or observational learning is the first, and conversing with friends who are also stock market participants about the highs and lows of the market can be enjoyable for the latter. This theory allowed for the distinction between two categories of investors: (1) "non-socials" and (2) "socials." Each non-social person has fixed costs associated with participation, but these costs are unaffected by other people's actions. However, when the participation rate of his peers is high, any given social investor finds it more appealing to invest in the market—that is, his fixed costs are lower (Hong, 2022).

A study by Khan et al. (2020), suggests that people should invest in diversified securities in financial markets to maximize returns. Bodie, et al. (2021) describe investment as the act of allocating money or

other resources in anticipation of gaining future benefits. They emphasize that a fundamental principle of investment is the need to forgo something of value in the present with the expectation of receiving returns in the future, justifying the time, money, and risk involved in the process.

Nyakurukwa and Seetharam, (2022) note that while retail investors now find it relatively easier to access financial markets, the increasing complexity of financial products has shifted a greater share of financial risks onto households. This shift places more responsibility on individuals to manage these risks, highlighting the growing importance of financial literacy. Similarly, Pan et al. (2020) point out that various studies emphasize the critical role of financial literacy in determining both the likelihood and the success of market participation. However, they note that individuals in emerging economies encounter different challenges compared to those in developed markets, making it essential to understand the specific factors that influence participation in these regions.

2.4. Factors that influence financial market participation

2.4.1. Financial Literacy

Zahra and Anoraga (2021) emphasise that financial literacy is essential to prevent financial difficulties. Individuals frequently face tradeoffs in situations where one must prioritise one interest over another. These tradeoffs arise due to limited financial resources preventing people from acquiring all the goods they desire. Financial literacy plays a crucial role in various aspects of money management, including budgeting, credit card use, savings, investments, financial planning, and making informed financial decisions.

Therefore, for households to grow their money, increase their assets, and accumulate wealth, household investors must thoroughly understand financial products and financial instruments. They should have a broad understanding of the key aspects of a financial transaction, such as costs, risk, and return. Household investors must build a solid financial foundation of financial knowledge to make well-informed decisions (Nguyen & Nguyen, 2020). Lamichhane (2022) contends that despite a broad understanding of financial literacy, individual investors often lack the financial and economic principles required to make sound financial decisions.

2.4.2. Financial literacy and Household behaviour to income, savings, and investment

Lusardi and Mitchell (2014) state that, according to conventional microeconomic theory, rational and well-informed individuals tend to save during periods of high earnings to support their consumption when their income decreases. Such rational behaviour reflects optimal budget management. However, these models

often assume that individuals can effectively create and implement saving and spending plans, which requires them to perform complex financial calculations and possess expertise in navigating financial markets.

Cui and Zhang (2021) suggest that households with higher levels of education and financial knowledge are better equipped to understand how financial markets operate. These households are more skilled at gathering and analysing information making them more likely to participate and invest in financial assets. For those with advanced financial knowledge trust becomes less significant in influencing market participation, as it primarily benefits individuals with lower levels of financial knowledge. Additionally, participation among poorer households is not linked to trust regardless of their financial knowledge. This underscores the importance of wealth as a key factor for financial market participation. The authors further note that wealthy households with strong financial knowledge are unaffected by trust in their investment decisions, as they possess both the resources and the confidence to invest.

2.4.3 Financial literacy and financial market participation

Financial market participation is a complex process that requires effort in gathering and analysing information. Financial knowledge plays a crucial role in this process, as it is a key factor influencing decisions to participate in financial markets. Nguyen and Nguyen (2020) emphasise that improving financial awareness begins with understanding basic economic and financial concepts, such as inflation, interest rates, and the time value of money. However, Rooij, et al. (2011) found that high levels of formal education do not always equate to high financial knowledge, suggesting that schooling alone is not a reliable indicator of financial literacy.

In the United States, Khan, et al. (2020) conducted a study examining the relationship between financial literacy and financial market participation. Their findings showed a positive correlation, indicating that financially literate individuals are more likely to invest. Additionally, the study found that individuals with higher household income, greater financial asset balances, stable employment, satisfaction with their financial situation, and trust in others are more likely to engage in financial markets.

2.5. Financial market participation through retirement planning

Boado-Penas, et al. (2023) note that individuals participating in financial markets are more likely to engage in retirement planning. As part of this process, they aim to accumulate sufficient wealth before retiring by factoring in their average savings rate and the age at which they plan to retire. In the United Kingdom, a study was done in 2022 by Boado-Penas et al. (2023), to test whether UK individuals with a higher level of financial market participation and, therefore, with a higher propensity for planning retirement were more

likely to delay their retirement age than individuals with lower financial participation. The results indicated a positive relationship between financial market participation and retirement age and the results also indicated that the UK population with high financial participation plan their retirement. The literature found that the most patient households that participate in financial markets holding assets achieve a good level of final earnings."

Using data from the 2018 New Zealand Household Economic Survey (HES), Xu, et al. (2023) explored how direct participation in financial markets affects retirement income. The researchers assessed retirement income using objective measures, such as annuitized net wealth with and without government pensions, and subjective measures, including retirees' overall life satisfaction and satisfaction with their financial situation. From a sample of 2,175 retirees, the findings revealed that direct participation in financial markets had a significant and positive impact on retirement income. Retirees who actively participated experienced a 78% increase in annuitized wealth compared to non-participants. When government pensions were excluded from the calculations, this increase rose to 154%, highlighting how direct financial market participation enhances private savings and plays a substantial role in boosting post-retirement income.

2.6. Trust and Financial Market Participation

Cui and Zhang (2021) examined the role of trust in financial market participation using data from the China Family Panel Studies, a national survey. Their study found that trust is a vital determinant of participation in financial markets. Since financial products are essentially contractual agreements, households with high levels of trust are more confident in the ability of these products to generate future returns and perceive a lower risk of fraud. As a result, these households are more inclined to engage in financial market activities.

2.7. Financial advice and Financial Market Participation

Nguyen and Nguyen (2020) highlight the significant role of peer influence in encouraging financial market participation. This process, known as financial socialization, involves the impact of parents, peers, schools, and media in shaping financial knowledge and promoting positive financial behaviours, as noted by (Suyanto, Setiawan, Rahmawati, & Winarna, 2021). However, this influence does not apply uniformly to all investors. Pan, et al. (2020) found that financial advice from family and friends has minimal impact on stock market participation compared to advice from professionals and institutions. Professional financial advice tends to be more effective especially for households with optimistic expectations or preferences for diversification advice from informal sources like family and friends does not significantly drive market participation.

Pan et al. (2020) suggest that financial advice can encourage people to diversify their investments to invest in a broader range of assets rather than just savings. Diversifying investments can affect the risks and returns of a household's portfolio. However, when individuals do not recognize the importance of diversification, they often focus on low-risk assets like savings. Bhattacharjee and Singh (2017) further argue that financial advisers should simplify complex advice into a few clear and understandable options. This makes it easier for individuals with limited financial knowledge to make informed decisions. On the other hand, more experienced investors may prefer to manage their investment portfolios independently.

2.8. Chapter summary

Financial Markets play a crucial role in the economy of South Africa; however, an inclusive market is essential for developmental purposes. The findings from this literature review suggest that various challenges are influencing and discouraging households from participating in financial markets. One of the known challenges affecting households is financial literacy. The literature review indicates that households with higher educational attainment and financial literacy have a better understanding of how financial markets operate. They are more inclined to engage in and make investments in financial assets because they are more proficient at gathering and analysing information. These households have the means and the cash to invest, which implies the significance of financial literacy. Additionally, it was discovered that respondents who are employed, trust those around them, have more money in their pockets control their financial assets, and are content with their current financial situation are more inclined to invest in financial markets.

Higher trust levels make investors more inclined to invest in the financial markets because they reflect greater confidence in financial products and their potential to produce profitable future cash flows. Other findings from the literature review indicate that financial literacy and advice-seeking significantly and positively influence the likelihood of participation in the stock market. It appears that those who participate, do not just invest blindly. They are equipped with knowledge associated with the financial products that they invest in. Likewise, individuals with difficulties in understanding financial markets tend to withdraw from participating in financial markets and financial advice can encourage households to invest in asset holdings other than savings by promoting a preference for asset diversification. This is one way that financial advice can affect financial market participation.

3. Chapter 3. Research Methodology

3.1. Introduction

This chapter explains the methodology that was deployed in this study, and it goes further on to explain the research design, the population and sampling, the type of data that was used, the data source, the data variables, the measurement of the data and the method of analysis is provided. In this study the objective is to investigate the relationship between financial literacy and participation in financial markets among South African households and to investigate the contributing factors that influence household participation in financial markets.

3.2. Research Design

This research study focuses on household participation in financial markets, therefore adopts a quantitative research approach. Quantitative research deals with numerical data or data that can be converted into numbers (Sheard, 2018). This research approach was found to be more appropriate because the process involves collecting and analysing numerical data which can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations (Bhandari, 2023).

3.3. Data Source

For this study, data from the 2019 FinScope Survey was adopted. FinScope is a representative study of the usage of and access to financial services. The FinScope survey provides a holistic understanding of how individuals generate an income and how they manage their financial lives. It identifies the factors that drive financial behaviour and those that prevent individuals from using financial products and services. The survey is used to better understand money matters, with an emphasis on the market needs and attitudes of both informal and formal financial offerings and usage. The FinScope survey further sheds light on consumers and their behaviour by exploring individuals' interactions with the financial sector. Implementing the FinScope survey over time provides the opportunity to assess whether, and how, a country's situation changes.

3.4. Population and Sampling

The FinScope survey is a national representative survey, however, only responses from qualifying respondents who are 16 years and older were considered. The FinScope survey used computer aided

personal interviews (CAPI) which were conducted face to face. The fieldwork started on the 27th of August and ended on the 5th of November 2019.

In collecting this data, Finscope deployed 4,969 participants drawn systematically using Probability Proportional to Size (PPS) sampling, which conclude household respondents and individual respondents.

3.5. Variable Description

The variables listed in Table 3.1 were derived from the FinScope survey together with the definitions of variables used in this study. The variables include the following, household income, allocation of money earned, ethnic group, educational attainment, employment status, savings or investment holdings, and financial literacy data records to comprehend household behaviour and financial literacy. These data variables were used in the data analysis to determine the factors influencing household participation in financial markets, to assess the financial literacy of South African households, and to evaluate their investment in financial assets.

To understand household behaviour in relation to financial products, eight financial literacy questions (part 1) in Table 3.1 were adopted from the FinScope survey. The respondents were posed with these financial literacy questions (part 1) to gain insight into how households behave in relation to financial products. The financial product-related questions looked at the fees, interest rate, contract terms and conditions, and inflation to gauge the respondents' level of financial literacy regarding the financial products they own. Another objective of this study was to assess the respondent's ability to perform basic calculations. Table 3.1 contains three financial literacy questions (part 2) also adopted from the FinScope survey. The financial literacy questions (part 2) were used to assess the respondent's ability to comprehend and accurately respond to basic financial literacy questions and to assess the respondents' familiarity with fundamental financial computations. These questions serve as a gauge of their level of financial literacy.

Table 3.1: Finscope Survey SA, 2019 definition of variables

Variable	Definition
Dependent variable	
Investment in financial markets	Looking at the respondent's household financial assets held, which indicate the degree of participation and the degree of financial market participation is measured as the percentage of household wealth invested in financial assets

Independent variables	
Ethnic Group	The ethnic group of the responded (qualifying adults 16+) is coded 1 – 4 to represent the following: 1 Black; 2 Coloured; 3 Indian or Asian; 4 White
Gender	The gender of the responded (qualifying adults are 16+) is coded 1 – 2 to represent the following: 1 Male; 2 Female
Age	The exact age of the respondent is provided – qualifying adults are 16+
Marital Status	The marital status of respondents is coded 1 – 996 to represent the following: 1 Married; 2 Single (not married) and not living with a partner, 3 Single (not married) and living with a partner; 4 Widower or widow; 5 Separated; 6 Divorced; 996 Other (SPECIFY) *Open *Fixed
Education Level	The education level of the respondent is coded 1 – 8 to represent the following: 1 No schooling; 2 Primary school; 3 Some high school; 4 Matric; 5 Apprenticeship; 6 Diploma; 7 University degree; 8 Other (SPECIFY) *Open *Fixed
Personal Working Status	The respondents working Status is coded 1 to 996 to represent the following: 1 Work full-time; 40 hours a week or more for a company or individual 2 Work full-time; 30-39 hours a week or more for a company or individual 3 Work part-time; 8-29 hours a week for a company or individual 4 Work part-time; less than 8 hours a week for a company or individual 5 Self-employed full-time; work 40 hours a week or more for yourself or in your own business 6 Self-employed full-time; work 30-39 hours a week or more for yourself or in your own business 7 Self-employed part-time; work 8-29 hours a week for yourself or in your own business 8 Self-employed part-time; work less than 8 hours a week for yourself or in your own business 9 Student or learner (studying full-time) 10 Housewife or house husband 11 Pensioner or retired 12 Not working due to long-term illness/disability 13 Unemployed and looking for your first job (you have not been employed before) 14 Unemployed and looking for a new job (you were employed in the past) 15 Unemployed and not looking for a job; 996 Other (SPECIFY) *Open *Fixed
Monthly Household Income	Household income of the respondents is coded 1 to 15 to represent income from R0 to R60,000 or more
Allocation of money towards savings, investments and retirement	The allocation of household income to savings, investments and retirement is provided as a percentage from 0% - 100%
No. of people in household	The respondent is required to provide the number of people living in the household
No. of adults in household	The respondent is required to provide the number of adults living in the household

Independent Variables	
Financial Literacy Questions (Part 1)	**To understand the behavior of households with regards to financial products, the answers to the following questions were used to assess their financial literacy** Following questions were asked to respondents: 1 – You know the fees that your lender or place where you save your money charges you 2 – You know that higher interest rates mean it costs more to borrow money 3 – You understand the terms and conditions of contracts 4 – High inflation means that the cost of living is increasing rapidly 5 – You compare different options and choose the best one that suits your needs 6 – You know that higher interest rates increase the returns one gets on savings 7 – You know how to complain to your financial services provider if you are not satisfied 8 – You know who else to contact if your financial services provider does not give you the help or assistance you need

Independent Variables	
Financial Literacy Questions (Part 2)	**Additional financial literacy questions used to assess their financial literacy** Following questions were asked to respondents: 1. Numeracy Calculation – Imagine that five friends are given a gift of R1 000 in total. If the friends have to share the money equally, how much does each friend get of the R1 000? 2. Inflation Calculation – Now imagine that the friends have to wait for one year to get their share of the R1 000 and inflation remains the same. In one year's, time will they be able to buy…? 3. Inflation Calculation – You lend R25 to a friend one evening and he gives you R25 back the next day. How much interest has he paid on this loan?

Source: FinScope Survey Data (2019)

3.6. Measurement of Variable

Independent Variable: Financial Literacy

The main independent variable in this study is financial literacy, measured by the respondent's ability to understand and answer the basic financial literacy questions. Financial literacy entails the ability to understand and effectively apply various financial skills like personal financial management, budgeting, and investing (Lusardi & Mitchell, 2014). This study measures financial literacy by assessing households using the following four variables:

1. Understanding of basic financial concepts and behaviours – derived from the responses of the eight financial literacy questions (part 1)
2. Comprehension of inflation, interest rates, and numeracy skills are derived from three financial literacy questions (part 2)

These variables were found to be critical as they reflect the practical aspects of financial decision-making (Cui & Zhang, 2021; Pan et al., 2020). A good understanding of inflation and interest rates, for instance, is essential for long-term financial planning and avoiding the erosion of purchasing power. Similarly, numeracy skills are foundational for calculating interest, comparing prices, and understanding financial contracts (Lusardi & Mitchell, 2014; OECD, 2013).

Dependent Variable:

The dependent variable in this study is investment in financial markets, by looking at respondent's household financial assets held, which will indicate the degree of participation. The reason for using the current household financial assets, is to be able to associate it with the respondent's financial literacy and level of education. A measure for household participation in financial markets is adopted from Cuia and Zhangb (2001), where "the degree of financial market participation is measured as the percentage of household wealth invested in financial assets. According to the authors, household wealth is defined as the total value of household financial assets (including cash) plus the value of household fixed assets minus debt." And according to Khan et al. (2020), wealth has a positive relationship with investment.

3.7. Data Analysis

To answer the research questions, responses from the FinScope survey were used to investigate the factors that influence household participation in financial market investment, using descriptive statistics and inferential statistical analysis. Descriptive statistics was used to aggregate the household demographic factors as well as to perform mean analysis of the percentage of income invested in financial assets. There were eight financial literacy questions from the survey, each with binary responses (yes and no). To reduce these factors, the approach chosen was to calculate the average score for each respondent. This method was selected for its simplicity and interpretability in the context of the binary nature of the data. Averaging provided a straightforward way to generate an aggregate financial literacy score on a continuous scale while preserving the original structure of the survey questions. Alternative methods such as principal component analysis were considered but deemed less suitable for this specific dataset. As these methods are typically employed to uncover latent constructs in datasets with multiple continuous or ordinal variables (Shrestha, 2021), their application here might have introduced unnecessary complexity without adding significant analytical value.

Correlation analysis was used to establish the strength and direction of the relationships between each independent variable and dependent variable. According to Aggarwel (2016), "this is a statistical method

for determining the existence and strength of a relationship between two continuous variables" and Prematunga (2012) attributes that "it is employed in measuring linear relationships between variables, to measure the impact of the independent variables on a dependent variable" and to establish the extent to which the variables numeracy, understanding and behaviour, interest rates and inflation rates affected financial investment levels.

A multiple linear regression analysis was conducted to measure the influence of all independent variables, including demographic factors such as age, gender, and household size, on financial investment. This approach allowed for a quantitative analysis of how both demographic and non-demographic variables jointly and independently impacted financial investment behaviour. Regression analysis was selected due to its inclusion of multiple predictors while remaining fairly easy to interpret (Berry, 2005). To ensure the multiple regression model did not violate underlying assumptions, diagnostic tests were conducted. Firstly, multicollinearity was assessed using the Variance Inflation Factor (VIF) to ensure that independent variables were not highly correlated. Secondly, the normality of residuals was examined using a histogram to verify that the residuals approximated a normal distribution. Thirdly, heteroscedasticity was tested using an analysis of residuals to check whether the variance of residuals was constant across levels of predicated values. These diagnostics showed that the model met the necessary assumptions for reliable interpretation of the results.

3.8. Limitations

This study has the following limitation that should be considered while interpreting the results. Regarding investment in financial assets only 2149 participants allocated a portion of their monthly income in a financial asset out of a population of 4969.

3.9. Validity and reliability

The degree to which a measurement technique, test, or experiment produces consistent results after multiple tries is known as its reliability. Researchers would be unable to adequately formulate theories, draw conclusions, or assert the generalizability of their research without the cooperation of independent observers who could replicate research procedures or the use of research instruments and procedures that yield consistent measurements. And validity is the degree to which a study accurately reflects or evaluates the concept that the researcher is trying to measure. Validity is the ability of this study to measure the variables that the researchers intended to measure, whereas reliability is the accuracy of the actual measuring tool or procedure (Howell, 2015).

The data used in this study is reliable and valid because it was adopted from FinMark Trust, an independent non-profit trust. The FinMark Trust aims to improve financial markets for the disadvantaged by promoting financial inclusion and regional financial integration. Their main goal is to make financial markets more accessible to the poor through two key programs. The first happens through the creation and analysis of financial services demand side data to provide in-depth insights on both served and unserved consumers across the developing world. The second is through systematic financial sector inclusion and deepening programmes to overcome regulatory, supplier, and other market level barriers hampering the effective provision of services.

Through a symbiotic relationship between rigorous data collection and research activities, these programmes unlock financial and economic inclusion. Their work in data supports a global agenda, with focus being placed in the SADC region on the programmatic work. Their mission to make financial markets work for the poor extends to ensuring economic inclusivity and linking financial inclusion to the real economy. Regionally, FMT works closely with key stakeholders which include the Southern African Development Community (SADC), SADC Banking Association (SADC BA) and the Committee of Central Bank Governors in SADC (CCBG). At country level engagement with key partners at include Central Banks, Ministries of Finance, Ministries of SMME, Treasury Departments and National Statistics Officers.

3.10. Ethical Considerations

This study did not directly connect with respondents as it only used secondary data from the 2019 FinScope Survey. Consequently, ethical clearance was waived as the research did not involve primary data collection or engagement with human participants. Since the FinScope Survey guarantees anonymity and confidentiality, it is morally acceptable for secondary analysis. This approach conforms to recognised research ethical standards by safeguarding the privacy and rights of respondents.

Bhandari (2023) highlights that research ethics are crucial for maintaining scientific integrity, protecting human rights and dignity, and fostering collaboration between science and society. Ethical standards ensure that participants are involved in studies voluntarily with full knowledge of the risks, and their safety is prioritized. Similarly, Dudovskiy (2022) emphasizes the importance of following ethical guidelines in research, including ensuring voluntary participation, obtaining informed consent, maintaining privacy and anonymity, and avoiding offensive or discriminatory language. In line with these ethical principles, the researcher for this study adhered to these standards and obtained ethical clearance from the University of the Witwatersrand's ethical committee before beginning the research using secondary data for the study.

4. Chapter 4. Presentation and Interpretation of Results

4.1. Introduction

This chapter presents the results of this study in relation to the relationship between financial literacy and participation in financial markets among South African households and factors influencing participation in financial markets. The chapter includes an overview of the demographic characteristics of participants, descriptive statistics on the distribution of participants by financial literacy, and inferential statistics using correlation and regression analysis.

4.2. Presentation of results (Part 1)

4.2.1. Demographic characteristics of participants

The demographic information considered for this study includes distribution by age, gender, ethnic group, marital status, educational level, number of people/ adults/ children in the household and working status. From Table 4.1, demographic characteristics of the respondents reveal that the minimum age of participants was 16, while the maximum was 87. It was notable that the survey included participants of varying age groups, while the mean participants were around the age of 40. Regarding the gender distribution, 42.6% of participants were male, while 57.4% were female. The sample was skewed towards female participants, $1.56 \approx 2$, which represents females.

By ethnic group, most of the participants (63%) were Black, followed by White (17.2%), coloured (14.8%), and lastly Indian/ Asian (4.9%). The sample somewhat reflects the population demographics for South Africa by race, showing the majority Black participants, followed by Whites. On the distribution by marital status, the largest proportion of participants was single (unmarried) (44.7%), followed by married (33.6%), unmarried (cohabiting) (8.6%), widowed (8.3%), and lastly those separated/ divorced (4.7%). The distribution of participants by household sizes showed that total household sizes ranged from 1 to 17 people, while the number of adults ranged from 1 to 10, and the number of children ranged from 0 to 10. The mean household size was 4, with a mean of 3 adults and one child.

Participant distribution by educational level showed that the majority had the highest education of matric (46.0%), followed by 'some high school' (29.7%), diploma (10.5%), university degree (6.1%), primary school (3.8%), and those with no formal education (0.8%). Looking at personal working status, and the majority (40.5%) were formally employed full time, followed by the unemployed due to various reasons (20.3%), and the retired/ pensioners (12%), employed part time (8.2%), self-employed (7.5%), students

(7.3%), and house husbands/ wives (4.1%). The sample also shows widespread diversity by employment status. The average monthly household income is R7,520.93 and the average income allocated to savings, investments, and retirement R426.09.

Table 4.1: Summary statistics of key household data variables

Variable	Age	Gender	Marital Status	Education Level	Personal Working Status	Monthly Household Income	Allocation of money towards savings, investments, and retirement	No. of people in household	No. of adults in household	No. of children in household
Mean	39.90	1.56	2.48	4.03	6.96	7520.93	426.09	3.46	2.55	0.91
Standard Error	0.21	0.01	0.28	0.02	0.29	216.63	16.63	0.03	0.02	0.02
Median	38.00	2.00	2.00	4.00	6.00	3500.00	0.00	3.00	2.00	0.00
Mode	40.00	2.00	2.00	4.00	1.00	2000.00	0.00	2.00	2.00	0.00
Standard Deviation	14.93	0.50	19.97	1.24	20.51	14491.24	1172.45	2.04	1.31	1.25
Sample Variance	222.92	0.25	398.94	1.53	420.47	209996169.53	1374648.97	4.17	1.73	1.56
Kurtosis	-0.46	-1.93	2465.07	0.55	2178.97	877.46	533.60	3.21	2.30	3.85
Skewness	0.52	-0.26	49.58	0.81	45.20	23.66	16.78	1.36	1.24	1.70
Range	71.00	1.00	995.00	7.00	995.00	599996.00	45714.00	16.00	9.00	10.00
Minimum	16.00	1.00	1.00	0.00	1.00	4.00	0.00	1.00	1.00	0.00
Maximum	87.00	2.00	996.00	7.00	996.00	600000.00	45714.00	17.00	10.00	10.00
Sum	198237.00	7769.00	12300.00	20013.00	34554.00	33656184.00	2116819.00	17178.00	12679.00	4499.00
Count	4968.00	4968.00	4968.00	4968.00	4968.00	4475.00	4968.00	4968.00	4968.00	4968.00
Confidence Level (95.0%)	0.42	0.01	0.56	0.03	0.57	424.69	32.61	0.06	0.04	0.03

Source: FinScope Survey Data (2019)

4.2.2. Households main source of income

In table 4.2, main source of income of the respondents is provided. The top 5 sources of income have a total percentage weighting of 83%, contributed by 4160 respondents out of 4969. The income was derived from a salary or wage in the private sector (30%), child support or foster care grant (16%), salary or wages from a job or paid work in the public sector (13%), Money from parent or other family member who lives with the respondent (13%) and lastly money from husband, wife or partner who lives with the respondent (11%). The remining sources of income contributed less than 10% to the overall weighting.

Table 4.2: Main Source of income

Main source of income					
	Yes	**(%)**	**No**	**(%)**	**Total number of respondents**
Child support or foster care grant	803	16%	4166	84%	4969
Government old-age pension	398	8%	4571	92%	4969
Government disability grant	67	1%	4902	99%	4969
War Veteran's grant	7	0%	4962	100%	4969
Unemployment insurance fund or UIF	24	0%	4945	100%	4969
Money from your own business	248	5%	4721	95%	4969
Salary or wages from a job or paid work in the PUBLIC SECTOR	651	13%	4318	87%	4969
Salary or wages from a job or paid work in the PRIVATE SECTOR	1500	30%	3469	70%	4969
Money from rent	97	2%	4872	98%	4969
Selling things to neighbours or on the street	125	3%	4844	97%	4969
Money from farming	25	1%	4944	99%	4969
Piece job	376	8%	4593	92%	4969
Work pension or provident fund	165	3%	4804	97%	4969
Money from husband, wife or partner who lives with you	545	11%	4424	89%	4969
Money from parent or other family member who lives with you	661	13%	4308	87%	4969
Money from friend or family member who does not live with you	316	6%	4653	94%	4969
Money from maintenance from a former spouse/partner	83	2%	4886	98%	4969
Other specify	34	1%	4935	99%	4969
Do not get money	179	4%	4790	96%	4969

Source: FinScope Survey Data (2019)

4.2.3. Allocation of Household Income

Zahra and Anoraga (2021) note that households are becoming increasingly focused on luxury and excessive consumption which can lead to more consumptive behaviour. This behaviour may help explain why many households in South Africa face high levels of debt. According to the South African Reserve Bank, the average household debt-to-disposable income ratio was 63.2% between the first quarter of 2015 and the second quarter of 2023. This figure spiked to 75.2% during the COVID-19 lockdown when disposable income dropped significantly while debt levels remained high (Muneri & Kuhn, 2023).

However, in contrast to the findings above, results in Table 4.3, demonstrates that household respondents from the FinScope survey allocated their income to essential living expenses. In terms of disposal of income, the table below outlines how income earned was disposed of by respondents. The following top three essential living expenses were allocated money, food and drink and other groceries (23%), water/electricity, paraffin, and gas (11%), and transport expenses (11). This is a combined total of 45% allocated to the above-mentioned expenses. Other expenses that follow, had a weighting of 10% and below. These expenses are airtime, cell phone contracts, Telkom/Neotel telephone line payments, internet payments and data (10%), personal spending (9%) and education (6%) and the remaining expenses fall below the 5% weighting.

Table 4.3: Allocation of money spent

Allocation of money spent		
Monthly Expenses	Allocation of monthly income	(%)
Food and drink and other groceries	23692	23%
Water/electricity, paraffin, and gas	11199	11%
Education (school fees, university or college fees, uniform, transport)	5869	6%
Transport expenses (taxi fare, bus fare, train fare, petrol for car)	11285	11%
Bond or home loan, credit card, car financing	2233	2%
Airtime, cell phone contract, Telkom/Neotel telephone line payments, internet payments, data	10484	10%
Medical, health expenses, doctors' fees, pharmacy/chemist medicines	5016	5%
Rental payments and rates, levies	3891	4%
Other debt repayments (e.g., clothing store accounts, hire purchase)	4209	4%
Savings, investments, and retirement	3922	4%
Insurance and funeral premium payments	4460	4%
Household furnishings, equipment, and routine household maintenance	3135	3%
Personal spending e.g., haircuts, gym, lotto, cigarettes, alcohol, clothes, hobbies, car maintenance or repairs, charity, and religious donations	9263	9%

Leisure, entertainment and miscellaneous good and services/DSTV, MNet or other subscription	5691	5%
Total	104349	100%

Source: FinScope Survey Data (2019)

4.2.4. Savings/Investment Product Holding

Misra et al. (2021) found that several key factors affect individual investors' intentions and actions, including financial self-efficacy, personal or peer group experience, the financial ecosystem, financial literacy, and low liquidity available to investors. Consequently, this ultimately influences household savings or investment product holding. Individuals' attitudes toward their decision to choose to consume immediately or save money for the future are critical in determining personal behaviour as they make optimal financial decisions. Looking at savings or investment product holding in Table 4.4, 13% of the respondents prefer to keep cash or savings at home - kept aside for a specific purpose and not for everyday use, 8% have a deposit account – fixed or notice deposit, 7% have an investment or savings policy, another 7% have a call account, money market account (Savings account that you access your money immediately), and lastly another 7% make use of a stokvel. That is a combined total weighting of 42% and this was contributed by 2134 respondents out of 4969.

Financial assets with potentially high investment returns in Table 4.4, one can observe the product holding of these assets is extremely low. The percentage holding are as follows, unit trusts (1%), Endowment policy (2%), Shares on the stock exchange (1%), Other shares such as Sasol shares (Inzalo), MTN or Post Office shares (1%), Government bonds (1%), Off-shore investments (1%) and Structured deposits/ products (e.g., Structured Investment Plan) (1%). This sums up to a combined total weighting of 8% contributed by 329 respondents out of 4969 respondents.

The findings explained above together with the results in table 4.4, correspond with the findings and results from the 2011 household survey in India, where Misra et al. (2021) found that "Only 11% of Indian households invest in higher-risk assets, while the remaining 89% keep their savings in low-risk, fixed-income securities such as bank fixed deposits and post office savings schemes. (Misra, Goel, & Srivastava, 2021).

Table 4.4: Household Savings/investment product holding

Savings/investment product holding							
	Have now	**(%)**	**Used to have**	**(%)**	**Never had**	**(%)**	**Total**
Unit trusts	52	1%	121	2%	4796	97%	4969
Education policy or plan	198	4%	238	5%	4533	91%	4969
Investment or savings policy	338	7%	216	4%	4415	89%	4969
Endowment policy	97	2%	148	3%	4724	95%	4969
Stokvel account at a bank	146	3%	119	2%	4704	95%	4969
Savings book at a bank	222	4%	229	5%	4518	91%	4969
Deposit account – fixed or notice deposit e.g., 32 days	415	8%	424	9%	4130	83%	4969
Call account, money market account (Savings account that you access your money immediately)	365	7%	185	4%	4419	89%	4969
Shares on the stock exchange	31	1%	96	2%	4842	97%	4969
Other shares such as Sasol shares (Inzalo), MTN or Post Office shares	27	1%	73	1%	4869	98%	4969
Government bonds	42	1%	103	2%	4824	97%	4969
Off-shore investments	25	1%	58	1%	4886	98%	4969
Co-operative or village bank savings	13	0%	63	1%	4893	98%	4969
Stokvel or umgalelo	368	7%	223	4%	4378	88%	4969
Savings club/groups	246	5%	212	4%	4511	91%	4969
Giving money to family or any of your household members who will guard it for you, to keep it safe	172	3%	402	8%	4395	88%	4969
Keep cash or savings at home – kept aside for a specific purpose and not for everyday use	651	13%	586	12%	3732	75%	4969
Tax Free savings	192	4%	139	3%	4638	93%	4969
Structured deposits/ products (e.g. Structured Investment Plan)	55	1%	107	2%	4807	97%	4969

Source: FinScope Survey Data (2019)

4.3. Presentation of results (Part 2)

4.3.1. Household Understanding and behaviour on financial products

Household understanding and behaviour in terms of their financial products holding is critical in determining the level of financial knowledge about savings and investment. Cui and Zhang (2021) explain that financial products are essentially contracts that rely heavily on trust. Households with a high level of trust are more confident that their investments are secure and are more likely to believe that these products will generate future cash flows. As a result, they are more inclined to participate in financial markets. The more financially literate a household is, the better its chances of understanding financial advice that involves comparing various financial products (Pan, Wu, & Zhang, 2020). Table 4.5 provides an overview of household understanding and behaviour in terms of their financial product holding. The results below are all above 60%, indicating that more than 50% of the respondents know the fees charged by the lender or place where they save their money.

The participants know the terms and conditions of contracts they have with financial institutions on the products they hold, they examine several choices and select the best option that best meets their requirements. The participants have an understanding and know that higher interest rates mean it costs more to borrow money and higher interest rates increases the return on one's savings. They understand that high inflation means the cost of living is increasing. And lastly, they are aware of their rights as customers, how to complain to their financial services provider if they are not satisfied and they know who else to contact if the financial services provider does not help or aid where needed. Nyakurukwa and Seetharam (2022) observed that the increasing complexity of financial products has shifted more financial risks onto households. This shift forces individuals to take on these risks, which increases the need for greater financial literacy.

Table 4.5: Household behaviour and understanding of financial products

Household understanding and behaviour with regards to financial products							
Questions	**Agree**	**(%)**	**Disagree**	**(%)**	**Neutral**	**(%)**	**Total**
1 - You know the fees that your lender or place where you save your money charges you	3198	64%	1322	27%	449	9%	4969
2 - You know that higher interest rates mean it costs more to borrow money	3571	72%	1036	21%	362	7%	4969
3 - You understand the terms and conditions of contracts	3318	67%	1294	26%	358	7%	4969
4 - High inflation means that the cost of living is increasing rapidly	3783	76%	875	18%	311	6%	4969
5 - You compare different options and choose the best one that suits your needs	3716	75%	968	19%	285	6%	4969
6 - You know that higher interest rates increases the returns one gets on savings	3455	70%	1084	22%	430	9%	4969
7 You know how to complain to your financial services provider if you are not satisfied	3219	65%	1367	28%	383	8%	4969
8 - You know who else to contact if your financial services provider does not give you the help or assistance you need	3098	62%	1460	29%	411	8%	4969

Source: FinScope Survey Data (2019)

4.3.2. Relationship between investment in financial assets and the level of financial literacy

The first research question for this study was "What is the relationship between financial literacy and participation in financial markets among South African households?" This section employs descriptive and inferential statistics to investigate the influence of measures of financial literacy based on the survey and the levels of investment in financial assets.

Tables 4.6 – 4.9 show how each of the study's four independent variables affecting financial participation were measured. The level of financial literacy was partially measured using the first independent variable households' levels of understanding and behaviour regarding financial assets. Cui and Zhang (2021) found that households with higher levels of education and financial knowledge, or confidence in their financial understanding, are better equipped to comprehend how financial markets operate. They are better at acquiring and processing information and are more likely to participate and invest in financial assets".

In this study, the FinScope survey included eight separate statements measuring understanding and behaviour, where participants had the option to agree or disagree with the statements.

The following is an overview of each statement and what it seeks to measure:

- You know the fees that your lender or place where you save your money charges you – Measures participants' awareness of the cost of obtaining finance.
- You know that higher interest rates mean it costs more to borrow money – Measures whether borrowers correctly perceive higher interest rates as costs. This can affect their appetite for borrowing.
- You understand the terms and conditions of contracts – Assess whether participants are aware that contracts signed are binding and influence their borrowing decisions.
- High Inflation means that the cost of living is Increasing rapidly – This question checks whether participants have a basic understanding of inflation's definition as an erosion in their funds' buying power over time.
- You compare different options and choose the best one that suits your needs – Check whether participants try to reason first before making key financial choices.
- You know that higher interest rates increase the returns one gets on savings – Determines whether participants understand that higher interest rates are desirable for investing/ saving.
- You know how to complain to your financial services provider If you are not satisfied – This assesses whether participants are aware that they can complain/ negotiate with their service providers to obtain better terms or rates.
- You know who else to contact If your financial services provider does not give you the help or assistance you need – Determines whether participants know that they have a right to escalate complaints to regulators if not satisfied with the assistance from service providers.

Table 4.6 show the distribution of mean percentage investment in financial assets between participants who agreed versus those who disagreed with the given statements. To determine the proportion (percentage) of income invested in financial assets by participants in each component of understanding, the first step was to create a new variable (calculated column) "percentage invested" which divided the amount of money

each participant reported to have invested by their monthly income. The next step was to subset the data between those who answered "yes" and those who answered "no" to each of the eight questions regarding the understanding of basic financial concepts. A simple average/ mean was then calculated for the segment of participants who agreed and those who disagreed with the statements, leading to the creation of a summary on Table 4.6.

Table 4.6: Mean % of financial investment by participant behaviour and understanding

Component of understanding	Agree – mean % investment	Disagree – mean % investment
You know the fees that your lender or place where you save your money charges you	4.33%	2.91%
You know that higher interest rates mean it costs more to borrow money	4.17%	2.94%
You understand the terms and conditions of contracts	4.31%	2.90%
High Inflation means that the cost of living is Increasing rapidly	4.26%	2.84%
You compare different options and choose the best one that suits your needs	4.10%	2.97%
You know that higher interest rates increases the returns one gets on savings	4.20%	2.99%
You know how to complain to your financial services provider If you are not satisfied	4.28%	2.92%
You know who else to contact If your financial services provider does not give you the help or assistance you need	4.55%	2.77%

Source: FinScope Survey Data (2019)

Table 4.6 shows that on average, participants who agreed with the given statements had a higher mean percentage of funds invested in financial assets as compared to those who disagreed. This result suggests that financial literacy measured through the understanding and behaviour around financial assets has a positive influence on investments in financial assets.

4.3.3. Basic financial knowledge of respondents

Table 4.7 – 4.9, shows the results of the 3 financial literacy variables - numeracy, inflation, and interest rates. These variables were used to measure the financial literacy of households. Figure 4.1 shows four visualisations showing how numeracy skills, understanding of interest rates, inflation, and basic financial investments relate to levels of financial investment.

Basic numeracy skills were gauged using the following question: *"Imagine that five friends are given a gift of R1,000 in total, if the friends have to share the money equally, how much does each friend get out of the R1,000?"* Participants had the option to answer "R200" (correct answer), or "any other amount", see table 4.7.

Table 4.7: Fundamental financial computation (1)

Imagine that five friends are given a gift of R1 000 in total. If the friends have to share the money equally, how much does each friend get of the R1 000?				
Numeracy	1	**R200**	**4156**	**84%**
	2	Another Rand amount	404	8%
	3	Invalid answer	202	4%
	999	Don't Know	141	3%
	997	Refused to answer	66	1%
		Total	4969	100%

Source: FinScope Survey Data (2019)

For the inflation rate understanding, participants were asked the question *"Now imagine that the friends had to wait for one year to get their share of R1,000 and inflation remains the same. In one year will they be able to buy...?",* with the answer options being "more with their share", "the same amount" (correct answer), "less than they could buy before", and "it depends on the type of things they are buying", see table 4.8.

Table 4.8: Fundamental financial computation (2)

Now imagine that the friends have to wait for one year to get their share of the R1 000 and inflation remains the same. In one year's time will they be able to buy…?				
Inflation	1	More with their share of the money than they could today	608	12%
	2	**The same amount**	**2952**	**59%**
	3	Or, less than they could buy today	475	10%
	4	It depends on the types of things that they want to buy	618	12%
	999	Don't Know	240	5%
	997	Refused to answer	76	2%
		Total	4969	100%

Source: FinScope Survey Data (2019)

Meanwhile, Interest rate understanding was gauged using the following question: *"You lend R25 to your friend one evening and he gives you back R25 back the next day. How much interest has he paid on this loan?",* where the answer options were "zero/nothing" (correct answer) and "any other amount", see table 4.9.

Table 4.9: Fundamental financial computation (3)

You lend R25 to a friend one evening and he gives you R25 back the next day. How much interest has he paid on this loan?				
Interest	1	**Nothing/zero/zero %**	**3677**	**74%**
	2	Any other numeric amount	783	16%
	3	Invalid answer	180	4%
	999	Don't know	258	5%
	997	Refused to answer	71	1%
		Total	4969	100%

Source: FinScope Survey Data (2019)

Figure 4.1 shows the mean percentage invested in financial assets by households using answers to questions on numeracy, inflation rates, interest rates, and understanding to subset the data.

Mean % investment by participant financial literacy factors

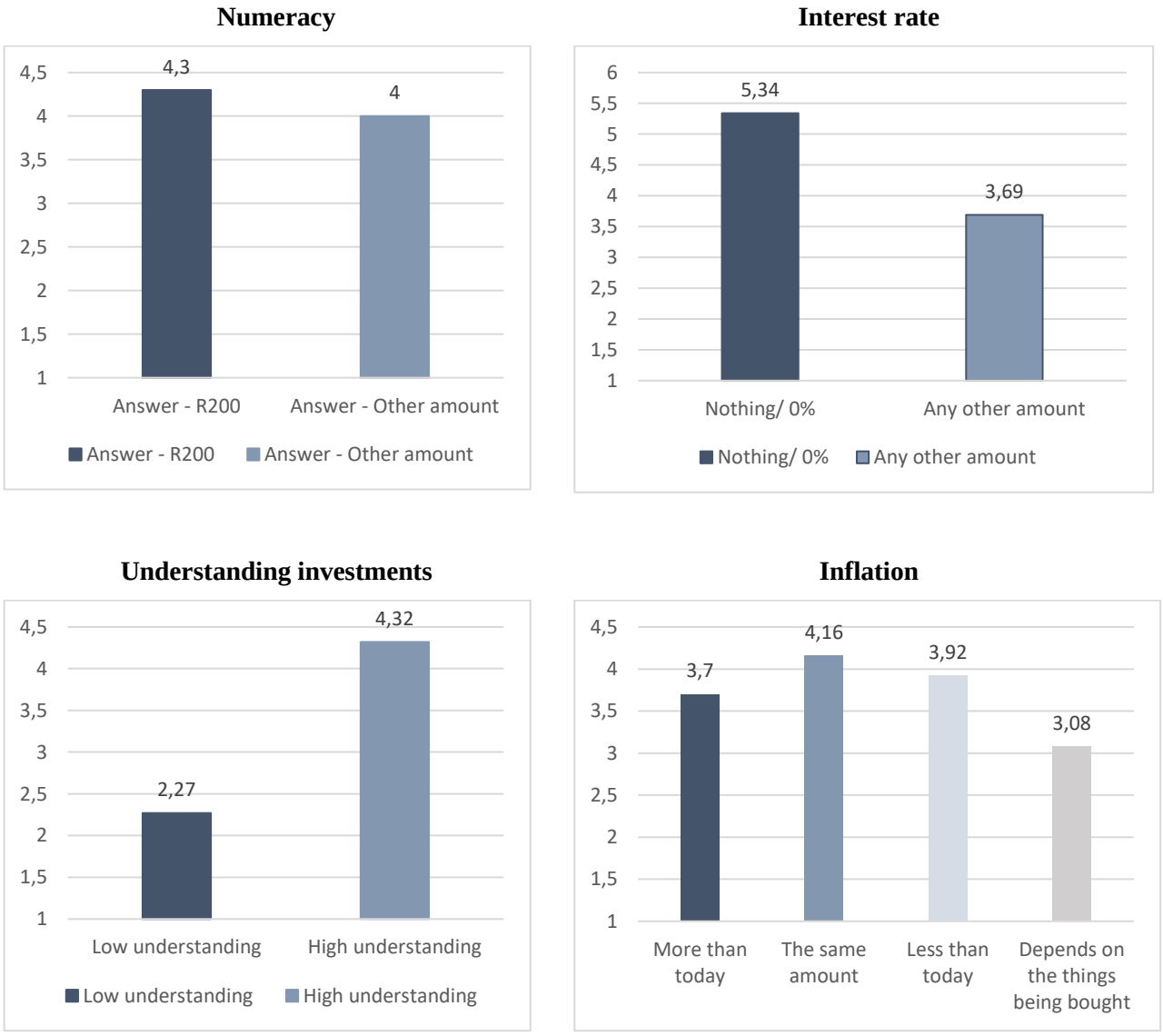


Figure 4.1: Mean % investment by participant financial literacy factors
Source: FinScope Survey Data (2019)

From Figure 4.1, based on the basic numeracy skills answer, the chart shows that participants who got the answer correctly had a slightly higher mean percentage investment amount than those who got the answer wrong. The gap was more pronounced on interest rates understanding, where participants who got the answer correctly had a noticeably greater rate of financial investment than those who got it wrong. Similarly, participants' understanding of basic investment concepts based on statements from Table 4.6 shows that on average, those with lower understanding tended to invest noticeably less than those with a better

understanding. Regarding the understanding of inflation, participants who got the question correct had the highest average of investment in financial assets compared to those who pointed to other answers.

While the results on Table 4.6 and Figure 4.1 provide a descriptive understanding of the relationships between financial literacy measures and levels of financial investment, they do not provide evidence on the level of statistical significance for the differences. To determine whether the differences were statistically significant, Tables 4.10 and 4.11 show the results of Pearson correlation analysis and multiple linear regression analysis respectively.

4.3.4. Pearson correlation analysis

Table 4.10: Correlation between financial literacy factors and investment levels

	Understanding & behaviour	Numeracy	Interest rates	Inflation rates
Understanding & behaviour	1			
Numeracy	0.206**	1		
Interest rates	0.209**	0.464**	1	
Inflation rates	0.151**	0.264**	0.189**	1
% invested	-0.211**	-0.020*	0.124**	0.036*
**. Correlation is significant at the 0.01 level. *. Correlation is significant at the 0.05 level.				

Source: FinScope Survey Data (2019)

The correlation analysis in Table 4.10 shows that **understanding and behaviour** were significantly negatively correlated with the percentage invested in financial assets *($r = -0.211$, $p < 0.01$).* This suggests that while better understanding and financial behaviour are expected to encourage investment, in this sample, households with higher scores on understanding and behaviour may prioritise other financial goals over direct investments in financial assets. This aligns with findings by Lusardi and Mitchell (2014), who noted that while financial literacy is critical for participation, households may allocate resources to debt reduction or savings first, reflecting trade-offs in financial decision-making due to limited disposable income.

The lack of a statistically significant correlation between **numeracy** and investment levels *($r = -0.020$, $p > 0.05$)* is also notable. Numeracy, as a component of financial literacy, is often associated with effective decision-making in financial markets (Nguyen & Nguyen, 2020). However, the absence of a significant relationship may indicate that basic numeracy alone does not translate into participation unless paired with

other competencies, such as an understanding of risk-reward trade-offs or access to financial intermediaries. Rooij et al. (2011) similarly found that formal education or basic numeracy is insufficient to foster market participation, suggesting the need for tailored interventions that emphasize practical application.

Furthermore, a significant positive correlation is observed between the understanding of **interest rates** and investment levels *($r = 0.124, p < 0.01$)*. This highlights the importance of financial awareness in recognizing opportunities for growth in favorable economic conditions. The literature confirms that knowledge of financial concepts, such as interest rates, encourages proactive engagement with investment products, particularly in households that perceive them as viable for wealth growth (Khan et al., 2020). This finding aligns further with Pan et al. (2020), who argue that financial awareness directly impacts the confidence required for market entry.

Lastly, the weak but significant positive correlation between **inflation rates** and investment levels *($r = 0.036, p < 0.05$)* may suggest limited understanding or consideration of inflation's impact on the real value of returns. Lamichhane (2022) noted that a lack of deeper financial knowledge often prevents individuals from incorporating such macroeconomic factors into investment decisions. Households may also lack access to inflation-hedged products or perceive them as complex, as suggested by Nyakurukwa and Seetharam (2022). The next section presents the results of a multiple linear regression analysis.

4.3.5. Multiple linear regression analysis

Table 4.11 presents the results of the multiple linear regression analysis conducted to determine the influence of the independent variables: understanding and behaviour, numeracy, inflation, and interests, on the mean percentage invested in financial assets by households. The mean percentage invested was calculated by dividing households' monthly income with their estimated amounts invested in financial assets, then multiplying by 100. The following was the regression equation employed:

$$Y=\alpha+\beta_1\ X_1+\beta_2\ X_2+\beta_3\ X_3+\beta_4\ X_4+\beta_5\ X_5+\beta_6\ X_6+\beta_7\ X_7+\beta_8\ X_8+\beta_9\ X_9+\beta_10\ X_10+\beta_11\ X_11+\beta_12\ X_12+e$$

Where:

Y = the dependent variable, mean percentage invested,

α = the constant,

X_1 – X_4 = Independent variables Understanding and behaviour, Numeracy, Inflation, and Interest rates respectively,

X_5 – X_12 = Demographic factors Age, Gender, Ethnic group, Marital status, Educational level, Number of people in household, Number of children in household, Working status of household head, and

β_1 – β_12 = Beta coefficients associated with the independent variables *X*_1 – *X*_12

e = the equation's error term.

Table 4.11: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.155[a]	.054	.021	.088405580
a. Predictors: (Constant), Occupation, Age_group, L10_Interest, Status binned, Ethnic_group, L9_Inflation, Gender, Count_people, Understanding, Education_level, L8_Numeracy, Count_children				
b. Dependent Variable: Percentage_invested				

Source: FinScope Survey Data (2019)

Table 4.12: Model's ANOVA Table

Model		Sum of Squares	d.f.	Mean Square	F	Sig.
	Regression	0.846	12	0.071	9.025	0.000
	Residual	34.271	4385	0.008		
	Total	35.118	4397			

Source: FinScope Survey Data (2019)

Table 4.13: Residuals Statistics

	Minimum	**Maximum**	**Mean**	**Std. Deviation**	**N**
Predicted Value	-0.00172676	0.08478355	0.03909512	0.013874629	4398
Residual	-0.070867717	4.766853809	0.000000000	0.088284862	4398
Std. Predicted Value	-2.942	3.293	0.000	1.000	4398
Std. Residual	-00.802	53.920	0.000	0.999	4398

Source: FinScope Survey Data (2019)

The robustness of the multiple linear regression model was evaluated using different measures. The model summary indicates that the R-squared value is 0.54, suggesting that approximately 54% of the variance in the percentage invested in financial assets is explained by the independent variables. Meanwhile, the ANOVA table shows that the model is statistically significant (*p = 0.000*). This suggests that the independent variables collectively have a significant impact on the dependent variable. The collinearity diagnostics as indicated by the VIF values suggest no major multicollinearity issues. All VIF values are below the threshold of 10, and most are close to 1, which supports the independence of the predictors in the model. Additionally, residual statistics show a mean residual of approximately 0, indicating no systematic bias in the residuals. Table 4.14 shows the beta coefficients of the variables. Lastly, the standard deviation of residuals (0.088) is reasonably low, supporting model precision.

Table 4.14: Multi – Linear regression results summary

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
	β	**Std. Error**	**β**			**Tolerance**	**VIF**
(Constant)	0.021	0.011		1.924	0.054		
Understanding and behaviour	0.004	0.003	-0.020	3.249	0.012*	0.847	1.180
Numeracy	0.005	0.002	-0.034	4.944	0.022*	0.742	1.348
Inflation	-0.001	0.002	-0.014	-0.910	0.363	0.915	1.093
Interest rate	0.004	0.002	0.036	2.133	0.033*	0.768	1.303
Age	0.001	0.001	0.013	3.851	0.035*	0.996	1.004
Gender	0.001	0.003	-0.001	-0.089	0.049*	0.897	1.114
Ethnic group	0.001	0.001	0.007	0.408	0.683	0.839	1.192
Marital status	0.000	0.002	-0.002	-0.145	0.884	0.963	1.039
Educational level	0.007	0.001	0.094	5.722	0.000**	0.817	1.224
Number of people in household	-0.003	0.003	0.020	5.935	0.003**	0.503	1.988
Number of children in household	-0.009	0.003	0.007	4.336	0.002**	0.475	2.105
Working status of household head	0.04	0.001	-0.083	5.111	0.000**	0.852	1.174

** = β coefficient is significant at the 0.01 level.
* = β coefficient is significant at the 0.05 level.
Source: FinScope Survey Data (2019)

As on Table 4.14, regarding the variable Understanding and Behaviour, the coefficient *(β = 0.004, p = 0.012)* indicates that households with better financial understanding and behaviour were more likely to

invest a higher percentage of their income in financial assets. The significant positive relationship between understanding and behaviour and the percentage invested confirms the importance of informed financial decision-making in enhancing investment behaviour. As Lusardi and Mitchell (2014) emphasise, households with higher levels of financial literacy are better equipped to make optimal financial choices. However, the relatively low coefficient suggests that while understanding and behaviour are influential, they are not the sole determinants of investment levels. This aligns with findings from Nyakurukwa and Seetharam (2022), who argued that financial literacy must be supplemented with trust and confidence in financial markets to maximize participation.

Regarding numeracy skills, the analysis found a significant positive coefficient *(β = 0.005, p = 0.022,)* suggesting that numeracy skills such as the ability to calculate and interpret financial figures enhance households' participation in financial markets. This finding corroborates studies showing that numeracy enhances confidence in managing complex financial products (Rooij et al., 2011). Rooij et al. (2011) highlighted that numeracy enhances confidence in managing complex financial products, making it easier for households to engage with investment opportunities. However, Nguyen and Nguyen (2020) caution that basic numeracy alone may be insufficient for optimal decision-making unless paired with deeper financial understanding, suggesting that numeracy might act as a foundational skill upon which broader financial literacy is built.

Regarding inflation, there was a negative, non-significant coefficient *(β = -0.001, p = 0.363)* which implies that households' perceptions of inflation do not strongly influence their financial investment decisions. While correlation results on Table 4.10 show inflation to be significant, multiple linear regression results suggest that, in consideration of other factors, understanding of inflation was a weaker predictor of households' financial investment levels. This finding may indicate that South African households lack access to or awareness of inflation-protected investment options, as suggested by Lamichhane (2022). Furthermore, this could reflect a gap in financial education where households fail to consider macroeconomic factors in their financial planning, a limitation highlighted by Khan et al. (2020).

Concerning Interest Rates, a positive, significant relationship *(β = 0.004, p=0.033)* was found which indicates that higher interest rate awareness was associated with greater investment. This may suggest that households are more inclined to invest when they perceive favourable returns on investment opportunities. The significant effect of interest rates further underscores the role of perceived financial returns in encouraging investment. This finding aligns with Zahra and Anoraga (2021), who noted that awareness of interest rate dynamics can guide households toward more profitable investment choices. However, limited access to financial products offering competitive returns may still constrain broader market participation.

The regression analysis also included various demographic factors. Table 4.15 shows the descriptives on the distribution of mean percentage investment by household demographic factors, helping to contextualise and interpret the multiple linear regression results.

Table 4.15: Descriptive statistics on the influence of demographic variables

Demographic Group	Category	Mean % Investment
Age	16–17 years	1.72%
	18–29 years	3.48%
	30–44 years	4.09%
	45–59 years	4.29%
	60+ years	3.11%
Gender	Male	4.17%
	Female	3.53%
Race	Black	3.59%
	Coloured	3.09%
	Indian/Asian	4.81%
	White	4.89%
Marital Status	Married/Cohabiting	4.26%
	Single	3.44%
	Widowed	3.38%
	Separated/Divorced	4.00%
Education Level	No education	2.53%
	Primary school	2.08%
	Matric	3.44%
	Apprenticeship	5.41%
	Diploma	5.16%
	Degree	6.30%
Household Size	3 and below	4.02%
	4 to 6	3.58%
	7 to 10	3.05%
	More than 10	3.54%
Number of Children	No children	4.10%
	1-2 children	3.46%
	3-4 children	3.40%
	5 or more	2.04%
Occupation	Employed	4.84%
	Self-employed	4.8%
	Studying	2.22%
	Housebound	6.06%
	Pensioner	2.92%
	Unemployed	2.19%

Source: FinScope Survey Data (2019)

By age groups, the positive and significant relationship *(β = 0.001, p = 0.035)* suggests that older individuals are more likely to invest in financial assets. This is consistent with lifecycle hypotheses, where older individuals have higher disposable incomes and investment experience (Modigliani & Brumberg, 1954). However, the decline in mean investment percentage among individuals aged 60+ (Table 4.15) may reflect a shift toward more conservative financial behaviours as individuals approach retirement, in corroboration with findings by Xu et al. (2023).

By gender, the analysis found that Gender had a significant negative effect *(β = 0.001, p = 0.049),* potentially reflecting gender disparities in financial inclusion or risk tolerance in the South African context (Agarwal et al., 2020). Agarwal et al. (2020) noted that women often face structural and cultural barriers to financial inclusion like lower risk tolerance and limited access to financial education. Consequently, interventions such as financial literacy programs tailored to women and the promotion of inclusive financial products can be useful in breaking such barriers.

The distribution by Educational Level found a strong positive relationship *(β = 0.007, p < 0.001)* which highlights education as a critical determinant of investment behaviour. Higher education levels likely enhance financial literacy, which in turn equips individuals with skills to navigate investment markets. This corroborates Nguyen and Nguyen (2020), who found that education reduces the fixed costs associated with financial market participation, leading to greater engagement. However, scholars also caution against equating formal education with financial literacy, as there is a need for experiential learning to complement traditional education (Rooij et al., 2011).

Regarding the influence of Household Composition (Number of People and Children), both the number of people *(β = -0.003, p = 0.003)* and children *(β = -0.009, p = 0.002)* in a household show significant negative effects. This suggests that larger households allocate less income to financial investments, which reflects possible financial strain due to higher consumption demands in larger families. As a result, this finding supports the view that financial constraints are a critical barrier to participation for lower-income households (Cui & Zhang, 2021).

Lastly, concerning the Working Status of Household Head, results established a significant relationship ($\beta = 0.04$, $p < 0.001$) may indicate that employed household heads tend to allocate more funds to financial market investments when compared to those who are not working. The significant relationship between the underscores the importance of stable income streams in facilitating financial market participation. This finding aligns with Bodie et al. (2021), who emphasised the link between stable employment and increased financial activity.

4.4. Chapter summary

This chapter presented and interpreted the results of a study on the factors influencing participation in financial markets by South African households and explored the relationship between financial literacy and financial asset investment levels. The demographic characteristics of participants, including age, gender, ethnic group, marital status, educational level, household size, and working status, were detailed. Statistical analyses of correlation and regression were used to investigate the impact of financial literacy on investment levels. The results indicate that participants with higher financial literacy, measured through understanding and behaviour regarding financial assets, tended to have a higher mean percentage of funds invested in financial assets. Additionally, this study explored the influence of various demographic factors on financial participation, revealing that age, gender, educational level, household size, and working status significantly impact investment levels. The findings contribute to an understanding of the interplay between demographic factors, financial literacy, and household financial market participation in the South African context.

5. Chapter 5. Conclusion

5.1. Introduction

In this study, the relationship between investment in financial assets and financial literacy was investigated along with the factors that influence South African household participation in financial markets. In this chapter, a conclusion is provided on the main findings of this study together with some recommendations on alternative cost-effective means to encourage household participation in financial markets and potential future research study.

5.2. Conclusion on the main findings of this study

The conclusion of this study offers some explanations for the financial markets' limited participation challenge. Based on the finding of this study, the following conclusion on the relationship between investment in financial assets and the level of financial literacy was made. An appropriate level of understanding of financial assets has a positive influence on investments in financial assets. As a result, those with a better understanding of investment concepts tend to participate and invest more than those with a lower understanding of financial concepts. Looking at factors that influence household participation in the financial markets, household demographic factors (age, gender, education level, number of people in household, number of children in household, working status of household head) significantly influence and explain levels of investment in financial assets.

Furthermore, age was found to be a significant predictor of financial investment levels of households. Participants between the age of 30 and 59 years of age had the highest average income percentage invested in financial assets. Therefore, as income-generating participants, they were more likely to invest more. In our study, male participants invested more of their income on average, than female participants. Participants' race significantly influenced the amount of income invested in financial assets. Such differences could be explained possibly by the imbalanced access to resources by race groups, or differing knowledge and information regarding the benefits of investing.

Households' marital status did not have a significant influence on the percentage of money invested in financial assets. Married and cohabiting couples however had the highest percentage invested and this may be due to their tendency to focus more on creating family wealth, as opposed to single and carefree individuals. And households with fewer total members and similarly those with fewer children, had more proportion of income to invest in financial assets on average. On the other hand, larger household sizes,

especially those with at least five children, had significantly less of their proportion of income invested in financial assets. These differences may be attributable to pressure on resources within households, as households with fewer members had more disposable income to focus on financial investments.

Notably, results suggest that individuals who had low education had significantly less to invest on the financial market, which may be explained by the differences in income levels as well as knowledge of financial investment. Participants who studied beyond matric had significantly greater percentages of income invested in financial assets, highlighting the overall importance of education on financial participation levels. As would be expected due to income levels, students, pensioners, and the unemployed invested significantly less of their income on the financial market as opposed to the employed. Since the differences were statistically significant, it can therefore be concluded that occupation was a strong predictor of households' levels of financial participation.

5.3. Recommendations

The results of this study imply that raising financial literacy levels could lead to a rise in financial market investment and the optimization of household wealth. Developing nations, such as South Africa, ought to prioritize raising the general level of financial literacy among their populace through public training initiatives aimed at small investors and formal education. By promoting asset diversification, financial literacy improvements can lower investment risk in addition to raising financial market participation. Financial advisors should endeavour to simplify complex financial advice into a small number of clear choices in the interim. Because of this, even investors with limited financial knowledge can comprehend the advice given, and the advice itself is at an affordable price.

Our findings about the relationship between financial literacy and financial asset investment support the long-term prosperity of the nation as well as the participants. Financial market investment can help in facilitating the accumulation of capital needed for a country to engage in productive economic endeavours. Therefore, improving financial literacy and encouraging people to make the best possible investments in the financial markets will ultimately support the long-term growth of the country.

Our study has important policy implications. Given the strong correlation between financial literacy and financial asset investment, policymakers may want to consider integrating financial education initiatives into academic curricula. Providing early financial education could encourage more people to participate in the financial markets as investors. For those who are not enrolled in schools, there may be additional benefits from specialized financial education programs. To raise public awareness of financial issues, authorities

may want to set up training courses for potential investors and encourage financial literacy through print, electronic, and online social media.

5.4. Proposed areas of future research

Subsequent investigations may focus on the correlation between financial behaviour, financial attitude, and financial literacy and financial market investment strategies and outcomes. Understanding these relationships can provide valuable insights for developing effective financial education programs and policies to promote better financial decision-making among investors. The effect of educational programs on participation in financial markets and the impact of financial literacy on long-term financial success are also important areas for further research. By examining these factors, policymakers and educators can better tailor their efforts to improve overall financial well-being and investment outcomes for individuals.

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