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SAVINGS AND INVESTMENT BEHAVIOUR OF HEALTHCARE WORKERS: EVIDENCE FROM TAMALE TEACHING HOSPITAL

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By

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DECLARATION

I hereby declare that this submission is my own work towards the award of the M**aster of Science in Accounting and Finance** and that, to the best of my knowledge, it contains no material previously published by another person or any material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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(Head of Department) **Signature** **Date**

ABSTRACT

The primary objective of this study is to investigate the savings and investment behavior of healthcare workers at Tamale Teaching Hospital, using a quantitative approach with a survey strategy. Data was collected using a structured research questionnaire as the primary instrument and the targeted respondents were healthcare workers at the Tamale Teaching Hospital. The data was analyzed through descriptive and inferential analysis, including binary logistic regression. The findings of the study reveal that healthcare workers at Tamale Teaching Hospital possess a moderate level of knowledge in savings, but a low level of knowledge in investment. Secured deposits and treasury bills were identified as the preferred financial investment assets among the healthcare workers at the hospital. Furthermore, the study established that age, marital status, and income level significantly influence investment behavior, while gender does not. Based on these outcomes, the conclusion drawn is that there is a significantly low level of knowledge in investment matters among healthcare workers at Tamale Teaching Hospital."

DEDICATION

I dedicate "this thesis to my Parents Philip Armah-Bilson and Lydia Somuah, family and friends, the school of business and the administration at the Kwame Nkrumah University of

Science and Technology for being a strong pillar throughout my MSC program. Without their love and support, this project would not have been made possible. I have been deeply humbled by the knowledge acquired and support accorded to me during my studies at the University."

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Secondly, I expressed my warm gratitude to Mr Oko Adjei Danso. He advised me to do this program, assisted me throughout and also helped me with this thesis.

Last but not the least, I extend a gratitude to all lecturers of KNUST School of Business.” TABLE OF “CONTENTS

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Economic growth plays a central role in enhancing the well-being of the general public and on other areas of societal development (Friedman, 2017). Indeed, the critical role of played by economic growth has led to the subject of economic growth becoming a top priority for world leaders (Anju and Anuradha, 2017). However, there are several important things to consider while trying tostimulate economic growth. Savings and investment are two elements among the most important economic growth elements (Priyanka and Tripathi, 2019). Priyanka and Tripathi (2019) argue that a boost in personal wealth can be expected from prudent savings and investing practices and proper financial planning. This shows that individuals who have a positive attitude about saving and investing might have a positive impact on the overall economy of a country.

Even though the terms "savings" and "investment" are sometimes used interchangeably, there is a distinct difference between the two. Generally, savings are money that is set aside for the future, and they are mostly characterised by their ease of access and lack of risk. Household savings are one component of a country's total savings, along with business savings and governmental savings, which make up the other two (Syed, Nigar, and Ullah, 2017). Domestic savings are made up mostly of household savings, which is defined as the remainder of workers disposable income and their consumption expenditure (OECD, 2016; Syed, Nigar, and Ullah, 2017). Investing entails purchasing assets in the hopes of making a profit from those purchases. There are varieties of ways to invest in assets. These include stocks, bonds, real estate, and more.

Savings play a vital role as a means for channeling investments, which in turn contribute to the formation of domestic product as a percentage of GDP. According to data that is currently available, Ghana's total basic capital creation as a percentage of GDP showed an upward trend, rising from 13% in 2011 to 17% in 2012, representing a 4% increase. Following that, there were rises of 9.5% during 2013, 3% within 2014, and a small increase of 0.6% in 2015. However, there was a 2% decrease in 2016 when compared to the previous the season's record of 30%. The years following 2016 saw a large dip, with a 7% drop in 2017, followed by a 6% drop in 2018 (World Development Indicators, 2020). It is worthy of note that the figures have even worsened in the past two of three years which is arguably as a result of the emergence of the COVID-19 pandemic which brought hardships to the global economy.

The importance of individual savings and investments in contributing to the economy cannot be overstated, as it can significantly impact the overall health of the economy (Sudindra and Naidu, 2018; Priyanka and Tripathi, 2019). In the case of Ghana, the economy has encountered obstacles in recent years, notably from 2017 to the present, including a financial crisis around 2017 and 2019, as well as the unprecedented impact on companies and individuals of the worldwide COVID-19 epidemic. The drop in Ghana's total capital investment creation during 2017 demonstrates the negative impact of the economic volatility caused by these events on individual savings and investments, which are critical for economic progress.It is crucial to remember that financial situations change, and various groups of individuals may be affected differently, resulting in diverse saves and investing patterns. However, there has been little study on the savings and investing habits of healthcare employees, particularly in Ghana. Existing research focuses on studies on rural family investment behavior and demographic factors of rural savings and investing, as well as monetary management methods among families and citrus grower savings habits “(Amu, Offei-Ansah, and Gavor, 2012; Komla, 2012; Krah, Aveh, and Addo, 2014; Donkor and Anane, 2016).” This highlights the lack of research on the savings and investment behavior of healthcare workers in Ghana.

The current study intends to analyze the savings and investing behavior of healthcare employees in Ghana, with a special focus on healthcare workers at Tamale Teaching Hospital, given this context.

1.2 PROBLEM STATEMENT

The combination of individual savings and investments is crucial for both the economic growth of a country and the well-being of individuals, as it enables surplus funds to be used by deficit units for projects that can improve economic growth “(OECD, 2016; Priyanka and Tripathi, 2019; Dobson, Ramlogan-Dobson, and Strobl, 2020).” However, the behavior of individual investors plays a significant role in determining the impact of savings and investments on fiscal growth (Adigamova and Orlova, 2015). In Ghana, there has been a decline in totalnationalinvestments as a proportion of GDP by 3% in 2017 compared to the previous year, resulting in a sharp decrease in total capital creation by 7% in the same year (World Development Indicators, 2020). This decline has persisted in recent years since 2017, indicating that the economic crisis exacerbated by the banking crisis from 2017 to 2019, along with the challenges posed by the COVID-19 pandemic and global economic developments, has affected the savings and investment behavior of individual workers. However, little attention has been given to the savings and investment behavior of healthcare workers in Ghana, who make up a significant portion of the workforce. Existing research focuses on studies on rural family investment behavior and demographic factors of rural savings and investing, as well as monetary management methods among families and citrus grower savings habits “(Amu, Offei-Ansah, and Gavor, 2012; Komla, 2012; Krah, Aveh, and Addo, 2014;

Donkor and Anane, 2016; Tettey, 2019). This highlights the lack of research on the savings and investment behavior of healthcare workers in Ghana. As a result, the purpose of this study is to address a research vacuum by analyzing the savings and investing behavior of healthcare workers, with a particular emphasis on healthcare workers at Tamale Teaching Hospital."

1.3 RESEARCH OBJECTIVES

The general objective of the study is to examine the savings and investment behaviour of healthcare workers in Ghana by closely focusing on workers in Tamale Teaching Hospital. Given the main aim of the study, the following specific objectives are pursued.

1. To determine the knowledge of level healthcare workers in Tamale Teaching Hospital on savings and investment.
2. To ascertain the investment product(s) preferred by healthcare workers in Tamale Teaching Hospital.
3. To examine the "effect of socio-economic factors on savings and investment behaviour of healthcare workers in Tamale Teaching Hospital."

1.4 RESEARCH QUESTIONS

The following research questions guide the study.

1. What is the knowledge of level of healthcare workers in Tamale Teaching Hospital on savings and investment?
2. What is (are) the investment product (s) preferred by healthcare workers in Tamale Teaching Hospital?
3. How do socio-economic factors influence the savings and investment behaviour of healthcare workers in Tamale Teaching Hospital?

1.5 SIGNIFICANCE OF THE STUDY

This study is anticipated to bring benefits to various stakeholders, including scholars in academia, policy makers and regulators, and financial institutions' management. The study is expected to contribute to the existing empirical literature on savings and investment behavior, particularly among healthcare workers, making it a valuable reference for future research in academia.

For policy makers and regulators, the findings of this study are expected to provide insights into the savings and investment behavior of healthcare workers. This information can be used to develop policies that streamline savings and investment procedures, encouraging greater participation by healthcare workers in the country.

The management of financial institutions can also benefit from this study as it may shed light on the financial investment preferences of healthcare workers. This knowledge can help financial institutions tailor their investment products to better suit the needs of healthcare workers, and revise their marketing strategies for other products to increase patronage among this group.

1.6 SCOPE OF THE STUDY

The study encompasses both conceptual and geographical scopes, addressing issues related to savings and investment behavior. Specifically, it focuses on the savings and investment behavior of healthcare workers in Tamale, which is situated in the Northern Region of Ghana.

1.7 SUMMARY OF METHODOLOGY

The research utilizes a quantitative approach along with a descriptive survey research design. The target population includes workers from Tamale Teaching Hospital, and a stratified sampling technique is employed to select 350 respondents. This technique ensures that various groups of healthcare workers are included in the sample, mitigating potential bias towards any specific group. A structured research questionnaire is used to collect primary data from the field, and the data collected are analyzed using SPSS software. Given the objectives of the research, the analytical technique deemed appropriate and employed to analyze the data are the descriptive analysis and inferential analysis, specifically, the logistic regression analysis.

1.8 ORGANIZATION OF THE STUDY

The study consists of five chapters. Chapter one provides a comprehensive introduction to the research, including the background, problem statement, research objectives, research questions, significance, scope, and limitations of the study, as well as a summary of the methodology and organization of the study. Chapter two reviews the relevant literature, encompassing conceptual, theoretical, and empirical literature. Chapter three presents the research methodology used, covering research design, population, sample and sampling technique, data collection procedures, and data analysis. Chapter four presents the results and discussions of the study. Finally, chapter five provides a summary and conclusion, which includes a summary of key findings, conclusion, and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

The "second chapter of the thesis provides a review of the literature on the topic of study, divided into three main sections. The first section focuses on the review of conceptual literature, which provides an overview of the key themes of the study. The second section reviews theoretical literature, discussing relevant theories that support the purpose of the study. The third section presents the empirical review, which discusses the findings of prior studies related to the current study."

2.1 Conceptual Review

2.1.1 The Concept of Savings

Savings is a widely recognized and established concept in the fields of finance and economics, denoting the part of the earnings that is not promptly spent (Issahaku, 2011). Renowned economists like Keynes have referred to it as the residual income remaining after subtracting consumption expenditure, highlighting its significance (Issahaku, 2011). Miller and VanHoose (2008) explain savings as forgone consumption, which occurs when a part of today's income is left for future use. Ahmed (2007) defines savings as putting money aside for future use, resulting from careful management of income and expenditure.

It is worth noting that savings and investment are often used interchangeably, but they have different meanings. As previously stated, savings refers to the surplus amount of disposable income that remains after subtracting consumption expenditure, and serves as the foundation for investment (Syed, Nigar, and Ullah, 2017). Although they are distinct concepts, Issahaku (2011) observes that there is a thin line between savings and investment, and they are often intertwined. Savings are often kept in an accessible form to cover future crises, ensuring that unforeseen events do not become financial difficulties owing to a lack of urgent finances.

Savings may take many forms. According to Aryeetey (2004), saves might take the shape of tangible goods (such as cattle, stored crop, etc.) or currency. He goes on to say that monetary savings are more liquid than actual commodity deposits. Savings are examined from the standpoint of monetary preservation in this study.

2.1.2 Forms of Savings

Diverse schools of thinking in the extant literature identify two principal forms of savings. Individual savings, as defined by Aryeetey (2004) and Quartey and Blankson (2008), can be either official or unofficial, subject to the banking entity involved, according to certain writers. "Savings made with official banking institutions that have been officially authorized and regulated by the Bank of Ghana (BOG) to offer banking services as a bank or a non-bank financial service institution are referred to as formal savings. Informal savings, on the other hand, are savings established outside the limits of official institutions permitted by the BOG, which frequently involve susu collectors, rotating savings, credit organizations, and savings and credit clubs operated by an operator."

2.1.3 The Concept of Investment

The concept of investment involves deferring current consumption and allocating funds towards purchasing assets, giving loans, or savingmoney in financial institutions with the aim of generating impending dividends. Unlike savings, investment entails committing funds into real or financial assets to generate income through interest, dividends, capital appreciation, and other means (Chandra, 2017). Reilly and Brown (2011) describe investment as the present dedication of cash for a set length of time in exchange for future installments that compensate for variables such as time, expected inflation rate, and uncertainty. Investors can be individuals, governments, pension funds, or corporate entities (Kaptan, 2001).

According to Singh (2012), investment is viewed differently from financial and economic perspectives. "Financially, it refers to allocating monetary resources with varying degrees of risk to expect a return (Stoughton, Wu, and Zechner, 2011; Singh, 2012). Risk is an inherent element of financial investment, and investors need to balance risk and return." Economically investment refers to total increases to the capital stock of the economic system, which comprises products and services employed in the creation of additional commodities and services. (Singh, 2012; Rauf, 2014). This encompasses the creation of new and productive capital, such as construction, human resources, durable equipment production, and inventories..

researchers have argue that the significance of investing cannot be isolated from financial and economic viewpoints as It entails the transfer of savings into the capital market as new or used capital finance. Investors converge in the capital market as both providers and consumers of funds. However, for the sake of this research, investment is regarded from a monetary rather than an economic standpoint. (Litterman, 2004; Avadhani, 2010).

2.1.4 The Avenues of Investment

Investment channels can be classified based on risk, as observed by Murithi, Narayanan, and Arivazhagan (2012). Risk-free investment channels refer to those without inherent risk, often involving government securities such as treasury bills and bonds. Risky investment channels encompass all other avenues excluding government securities (Murithi, Narayanan, and Arivazhagan, 2012).

Singh (2012) and Syed, Nigar, and Ullah (2017) also differentiate between direct and indirect investment channels. Direct investment channels allow investors to have full control over decisionmaking regarding the investment product, such as corporate bonds and equity shares (Singh, 2012). In contrast, indirect investment channels involve decisions being made on behalf of the investor by an entity managing the investment, such as pension funds, mutual funds, and life insurance covers (Syed, Nigar, and Ullah, 2017).

"It is vital to remember that the major goal of an investor's choice is to select a certain investment channel is to achieve the optimal balance between risks and return (Sarkar and Sahu, 2018).”Therefore, investors need to familiarize themselves with the several investment channels to determine which one make the most of their value and aligns with their investment goals.

2.1.6 Determinants of Savings and Investment Behaviour

The concept of investment behavior originated from the field of behavioral finance, which seeks to combine concepts from finance and psychology to understand how individuals make financial decisions in different situations. Essentially, investment behavior aims to identify and understand the motivations, reasons, and actions behind investment decisions from a “human perspective (Ricciardi and Simon, 2000). According to Baker and Ricciardi (2014),”when it comes to the financial market, an individual's past, present, and future opinions and actions are taken into account when explaining investment behavior. When it comes to financial planning and investing, investors go through mental and emotional processes that can be influenced by, among other things, their past experiences, beliefs, and rumors. Additionally, Ricciardi and Simon (2000) note that psychological and social factors that affect investment decision-making are entwined with investing behavior.

The investment behavior of individuals is subjective by a “variety of factors. Onwioduokit (2002) notes that two main factors, namely the macroeconomic environment (such as government policies on trade, monetary control, fiscal and exchange rates) and institutional factors (such as administrative, legislative, and regulatory frameworks),” serve as the driving forces behind people's investment behavior. Mak and Ip (2014) also argue that demographic, psychological, and socioeconomic factors are among the major influences on the investment behavior of individual investors.

Olsen and Lund (2011) further emphasize that the investment behavior of individuals is strongly influenced by the investment climate, which refers to the political and economic climate in which investments are made. This implies that individual investors' behavior may alter depending on how stable the political or economic environment is.

Another major factor influencing investment decisions is risk. According to Frank and Edgar (2006), risk continues to play a significant role in influencing every investor's investment decision. They highlight that risk is an important component of investing and that it impacts the investor's ability to achieve their investment aim, which is to earn returns. It is critical to understand that risk can be systemic or asset-specific. It may be argued that systemic risk is tightly linked to the investment environment, as Olsen suggests, because systematic risk has an influence on the investment environment (Olsen and Lund 2011).

An alternative viewpoint posits that the investment behavior of investors is shaped by their investor type, as proposed by Baker and Nofsinger (2010). The authors classify investors into three categories: aggressive investors, long-term investors, and income investors. Aggressive investors are focused on achieving instant and substantial gains, rendering them less risk-averse compared to long-term and income investors who highlight regular, long-term income and tend to exhibit a higher degree of risk aversion, based on their perspective.

2.2 THEORETICAL REVIREW

2.2.1 The Rational Expectation Theory

Although originally proposed by John F. Muth in the 1960s, the rational expectation theory gained popularity in academic circles in the 1970s through the work of Robert E. Lucas Jr. (Gennaioli, Ma, and Sheifer, 2016). The theory suggests that individuals make decisions based on their human intelligence, the facts at hand, and previous encounters, including their past investment experiences. As rational beings, investors consider a wide range of factors, such as their past investment performance and the current economic and investment climate, when making investment decisions. Thus, the rational expectation theory helps explain how certain investors act when faced with unpredictability and how their future expectations influence their investment behavior.

2.2.2 The Prospect Theory

Another influential theory in understanding investment behavior is the prospect theory, also known such as the psychological theory of risk-averse taking decisions or the loss-aversion theory. This theory emerged in 1979 and gained further popularity in academic and finance circles in 1992 through the work of Amos Tversky and Daniel Kahneman. The prospect theory draws from behavioral economics and explains how individuals make choices between probabilistic alternatives with unknown probabilities. This idea holds that people evaluate wins and losses differently and that they make decisions more often based on imagined benefits than felt losses. In other words, people are more likely to pick the option with imagined benefits when given two equal options, one of which is framed in terms of possible profits and the other in terms of potential losses. This suggests that the perceived profits that an investment brings influence investors' decisions to invest in a good or asset quite a bit. Investors may naturally become less inclined to take risks under uncertain circumstances, when anticipated losses outweigh apparent rewards due to economic unrest, which greatly impacts their choices about saving and investing.

2.3 EMPIRICAL REVIEW

2.3.1 Knowledge on Savings and Investment

In a 2015 research by Mireku on financial literacy among Ghanaian learners at universities, it was found that the respondents possessed a moderate level of knowledge regarding savings and borrowing. This finding is consistent with the study by Mabula and Dongping (2019), which focused on SME managers and also reported moderate savings knowledge among the participants.

However, in contrast to these studies, Millar and Devonish (2009) and Suppakitjarak and Krishnamra (2015) found low levels of knowledge among workers on savings in Barbados and Thailand, respectively.

In addition, Mireku (2015) noted in his study that respondents' understanding of products for investing, risks, and heterogeneity was lacking. Zuraina (2018) revealed a comparable result, showing inadequate investment literacy. These results are consistent with research by Van Rooij et al. (2011) and Volpe et al. (1996), which similarly found that study participants had a low degree of knowledge.

Samudra and Burghate (2012) showed that bank savings were an especially common savings and investment vehicle that a sizeable number of individuals were aware of while examining the investment and savings behavior of middle-class households in India. A typical investment choice was also recognized as insurance.

This conclusion is consistent with a research conducted in 2012 by Chaturvedi and Khare that examined investment trends and investor awareness in India. They came to the conclusion that respondents knew more about conventional investing options like bank deposits than they did about corporate securities, mutual funds, equities, and preference shares. The study also showed that an individual's understanding of various investment possibilities was highly impacted by their career, level of education, and income.

Males exhibited a greater degree of knowledge than females did, according to a research by Nga et al. (2010) on the degree of knowledge of broad financial problems and investment opportunities amongst youthful people in higher educational institutions in Malaysia. The study came to the additional conclusion that a person's course of study had a substantial impact on their understanding of financial issues and investment opportunities.

Another study by Geetha and Ramesh (2011) on Indian workers' behavior towards investment preferences found that people's awareness of available investment products in the market was extremely inadequate, with most of the respondents are unaware that there are securities for financial investments.

2.3.2 Preference and Motivation for Investment

According to a research by Assefa and Rao (2018) that was done in Ethiopia, employees chose to invest in traditional and secure financial instruments like government bonds., which were perceived as less risky compared to other assets offering higher returns. This finding was supported by the study conducted by Suppakitjarak and Krishnamra (2015) in Thailand, which also reported a preference for financial assets with lower risk such as secured deposits.

In contrast to research by Assefa and Rao (2018) and Suppakitjarak and Krishnamra (2015), Hunjra (2019) in Pakistan revealed that paid employees had a stronger preference for less risky investments while giving lower returns. According to the Hunjra research, employees favored investing in real estate assets over marketable financial assets.

As far as the nature regarding investment motivation, a study by Addai, Gyimah, and Owusu (2017) among unofficial fishermen in Ghana discovered that meeting the requirements of one's children, including schooling and basic needs, is an especially significant driver of investment.On another hand, financial stability in old life is the primary driver that motivates individuals to invest, according to a 2012 research in Thailand by Swasdpeera and Pandey. Similarly, a study pursued in Thailand by Suppakitjarak and Krish

2.3.3Socio-economic Factors Influence on Savings and Investment Behaviour

In a study conducted by Olsen and Lund (2011) that “examined the influence of socio-economic factors and incentives on farmers' investment behavior in Denmark, it was found that these factors significantly impact investment behavior. The authors also concluded that the investment context, including the economic and political environment, plays a role in shaping farmers' investment behavior. Similarly, Adeyemo and Bamire (2005) conducted a study on saving and investment patterns of cooperative farmers in Southwestern Nigeria and concluded that farmers' income levels influence their investment behavior.

Mak and Ip (2014) conducted a study on investment behavior of investors in China and Hong Kong, and found that demographic, psychological, and socio-economic factors play a significant role in shaping investment patterns of individuals. These findings were consistent with the study conducted by Deb and Singh (2017), which found that demographic factors such as age and marital status, as well as socio-economic factors such as education, employment, and income levels, greatly influence individual investors' behavior.

Kamaldhasan (2015) conducted a study on retail investors' financial risk tolerance and risk-taking behavior, and found similar conclusions as the previous studies, that demographic characteristics and socio-economic factors have a significant impact on investor behavior. The study also found that women tend to be more conservative than men, and that risk tolerance tends to decrease with age. Married individuals were found to be more risk-averse compared to unmarried individuals, and higher levels of education and income were associated with higher risk appetite.

Shinde and Zanvar (2015) conducted a study on mutual fund investment behavior and found that demographic and socio-economic factors such as gender, age, education, family size, income, and savings have a significant influence on people's investment behavior in mutual funds. The study found that female investors tend to be more reluctant to invest in mutual funds, while higher income individuals are more inclined to invest. Additionally, the study found an inverse relationship between age and mutual fund investment, with higher age groups being more reluctant to invest compared to lower age groups.

Parashar (2010) investigated the relationship between demographics, personality qualities, and investment decisions of individual investors, and found that investment choices are influenced by factors such as gender, age, income, education, occupation, and risk tolerance.

In contrast to the above findings, Ramanathan and Meenakshisundaram (2015) conducted a study focusing on bank employees and found that demographic and socio-economic factors were not significant in influencing investment decision-making. However, the study revealed that motivation from friends and family members were the most important factors influencing investment decisions and behavior.

Abdallah and Hilu (2015) conducted a study on investment decisions in financial trading behavior in the United Arab Emirates, and identified three determinants of investors' risk attitude, including perception of information asymmetry, market perceptions, and overconfidence, as key factors influencing investment behavior.

In a study of Indian customers, Pandit and Yeoh (2014) found that psychological elements such as risk inclination and consumer participation have a significant impact on individual investors' purchasing decisions in a developing capital market. Ng and Wu (2010) investigated the influence of social and external factors on individual investors' decision-making in the People's Republic of China, and found that word of mouth and peer recommendations have an impact on Chinese investors' trading decisions."

2.4 CONCEPTUAL FRAMEWORK

The conceptual framework for the study is shown in Figure 2.1 as follows.

Figure 2.1: Conceptual framework

Source: Developed by author (2022)

2.5 SUMMARY OF CHAPTER

Savings and investment behaviour are critical to the sustainability and vibrancy of every financial system. Hence, savings and investment behaviour is of major concern to the managers of the financial industry of every country. This chapter details out the discussion on the review of relevant literature on the core subject of investigation which is savings and investment behaviour. It begins with the thorough review of conceptual literature on savings as well as investment to provide a vivid understanding of these key concepts in the subject under study. It then focuses on the theoretical discussion where the relevant theories that underpin the study are review. Here, review is done on two major theories deemed relevant and adopted to support the study. These are the rational expectation theory and the prospect theory. The chapter also addresses the empirical review. Here, discussion is provided on the outcomes from various empirical studies that are related to the current study. Conceptual framework is also provided for the study in this chapter in the section that precedes the chapter summary.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 INTRODUCTION

In this chapter, a detailed methodology is presented for conducting the study, providing a step-bystep account of the approach taken. The study's research design is discussed in the first part, which is followed by a description of the study population. A summary of the sample size and the method used to choose the sample are given in the third part. Data collection, data analysis, reliability and validity testing, and ethical issues that are pertinent to the study are covered in later parts.

3.1 RESEARCH DESIGN

The study utilizes a “descriptive research design as it aims to describe the behavior of health workers towards savings and investment. This aligns with the argument presented by Creswell and Creswell (2017) that the study seeks to describe the saving and investment behavior of participants.

The study also adopts a quantitative research approach, using quantitative measures to investigate savings and investment behavior, as argued by Balnaves and Caputi (2001) and Creswell and Creswell (2017). Additionally, the study employs a survey research strategy to obtain information from a large and diverse group of individuals, enabling conclusions to be drawn about the phenomenon under study."

3.2 POPULATION OF THE STUDY

The population for the study is healthcare workers in the Tamale Teaching Hospital. The total number of elements that form this population is 3219 per the end of year report of the hospital obtained from the Human Resource Directorate of the Hospital. Hence, the population of the study is 3,219.

3.3 SAMPLING TECHNIQUE AND SAMPLE SIZE

The study employs "the stratified sampling technique to select respondents in order to ensure a fair representation of participants from different strata, such as gender, and to eliminate bias. This sampling technique is chosen based on the nature of the study, aiming to ensure that participants from diverse strata are included in the study in a balanced manner. Following the sample size determination table proposed by Krejcie and Morgan (1970), the ideal sample size" for a population of 3000 and 3500 are 341 and 346 respectively. This means that the ideal sample size for the population of 3219 is between 341 and 346. Nonetheless, a sample size of 350 is used since larger sample size helps to increase the representativeness of a sample to a given population as contended by Saunders et al. (2012).

3.4 DATA COLLECTION

Data for the study is collected solely from primary sources using a research questionnaire that includes "both closed-ended and open-ended questions, covering the objectives of the study." To enhance the data collection process, an online survey approach is employed. This approach is chosen because the target population comprises healthcare workers who are assumed to have a reasonable level of literacy and familiarity with online media. The questionnaires are sent to respondents through channels such as email, WhatsApp, and “other accessible online media, based on their preference, after obtaining their consent via telephone conversation.”

3.5 DATA ANALYSIS

For data analysis, “both descriptive and inferential techniques are used. Data obtained from the field is organized and sorted into an analyzable format. Descriptive analytical approaches, such as frequencies, percentages, and means, are employed to analyze the first two objectives of the study. For the third objective, the inferential technique of binary logistic regression is used, as the response variable is dichotomous or binary. The SPSS software is utilized to aid in the data analysis process.The binary logistic regression model for the study is adopted from Baidoo, Boateng, and Amponsah (2018) and Aidoo-Mensah (2020) and modified as follows:”

$\mathbf{Ln(p/1\text{-}p) = \beta_0 + \beta_1 Gender_i + \beta_2 Age_i + \beta_3 MaritalStatus_i + \beta_4 Income_i + e}$; where: p

= proportion of respondents’ investment behavior;

β_0 - β_4 = the parameters e

= error term

Thus, the explanatory variables are explained as:

Age= Age of respondent (in years)

Gender = Sex (1 = male, 0 = female)

Marital Status = Marital status of respondent (1 = married, 0 = not married)

Income = Gross income per month of respondent (Gh¢)

Dependent variable: Investment behaviour = binary variable: 1 if person undertakes financial investment, 0 if not.

3.6 RELIABILITY AND VALIDITY OF DATA

To ensure the reliability and validity of the data, the research instrument undergoes pilot testing to ensure that it reflects "the objectives of the study, and necessary amendments are made as applicable. The validity of the research instrument is tested through a pilot test conducted with 15 healthcares" workers from two different health institutions outside the study organization.

Subsequently, the questions are thoroughly reviewed and edited to eliminate any ambiguities.

3.7 ETHICAL CONSIDERATION

Ethical considerations are given high importance in the study to comply with academic integrity. First of all, the questionnaire is made to leave out any questions that may identify the respondents' identities. In order to conduct the surveys, the researcher first gets the participants' permission. Additionally, the information gathered from the respondents is kept private, isn't shared with outside parties, and is only utilized for this academic study.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 INTRODUCTION

This “chapter serves as the fourth section of the thesis report, focusing on the analysis and discussions. It comprises five main sections, including the background information of the respondents, analysis of knowledge on savings and investment, analysis of investment asset preferences, analysis of the influence of socio-economic factors on savings and investment behaviors, and finally, the discussion of the findings.”

4.2 KNOWLEDGE OF SAVINGS AND INVESTMENT

This section analyzes the respondents' “knowledge of savings and investment. To assess their knowledge, respondents were provided with options of correct answers, incorrect answers, and "don't know" answers to prevent guessing of accurate answers (as employed by scholars such as Chen and Volpe, 1998; Lusardi and Mitchell, 2006; Mireku, 2015). The percentage means score of correct answers is used to determine the level of knowledge, with a percentage mean value less than 60% indicating low knowledge, 60 to 79% indicating medium knowledge, and 80% or more indicating high knowledge.”

4.2.1 Knowledge of Savings

This section looks at what the participants know about saving. As demonstrated in Table 4.2, 64.8% of the participants correctly identified saving and investing as the same thing. Incorrect replies were given by 23.9% of participants, while "don't know" was selected by 11.4%. This implies that most participants understand the relationship between saves and investing.

Furthermore, when asked to choose the most accurate statements related to savings, 55.7% of the participants chose properly. There were likewise 30.7% incorrect answers and 13.6% "don't know" responses. This indicates that while 55.7% of the participants can identify real savings claims, about 44% of participants have difficulties doing so. About 75% of those questioned about which account the best interest rate has said that, when asked about the account that pays the most interest, 75% of the participants correctly answered the question about the account with the greatest interest rate, while 17% provided inaccurate information and 8% picked "don't know." This indicates that a large proportion of the participants are aware of the account with the highest interest rate.

Last but not least, 52.3% of the participants correctly estimated the annual interest rate on a savings account. Incorrect and "don't know" replies were provided by 44.3% and 3.4% of participants, respectively. This implies that 52.3% of the participants, or the majority, understand how to correctly calculate and anticipate the interest on a savings account.

Table 4.2: Knowledge of savings and investment

“Indicators	Correct Answer	Incorrect Answer	Don’t Know Answer
Savings knowledge			
Savings equal to investment	64.8	23.9	11.4
True statement about savings	55.7	30.7	13.6
Most interest paying account	75.0	17.0	8.0
Savings account interest p.a.	52.3	44.3	3.4
Mechanisms or medium for savings	58.0	31.8	10.2
Mean percentage score	***61.1***		
Investment knowledge			
Trading of shares	35.2	47.7	20.5
Short term investment	54.5	33.0	15.9
Likelihood of losing all investment in single stock	58.0	30.7	14.8
High risk high return	65.9	28.4	9.1
Examples of financial investment asset	55.7	39.8	8.0
Mean percentage score	***53.9”***		

Source: Field survey (2022)

In relation to understanding mechanisms or mediums for saving money, the survey results revealed that 58% of respondents provided correct answers, while 31.8% provided incorrect answers, and 10.2% answered "don't know". This indicates that a majority of respondents have knowledge about saving money and its various mechanisms.

“The overall average percentage score for correct answers on the five savings indicators used to assess respondents' knowledge about savings was 61.1%. This suggests that respondents possess a moderate level of knowledge about savings.”

4.2.2 Knowledge of Investment

In assessing respondents' knowledge “about investment, five investment-related items were tested. Results from the survey, presented in Table 4.2, showed that only 35.2% of respondents correctly answered the question related to the medium where shares are traded in Ghana, while 47.7% provided incorrect answers and 20.5% answered "don't know". This indicates that the majority of respondents lack knowledge about where shares are traded in Ghana.

When asked about short-term investment assets, 54.5% of respondents provided correct answers, while 33% provided incorrect answers, and 15.9% answered "don't know". This suggests that most respondents are knowledgeable about short-term investment products.

Results also showed that 58% of respondents provided correct answers when asked about “the risk of losing all funds in a single stock compared to a diversified portfolio of stocks, while 30.7% provided incorrect answers, and 14.8% answered "don't know". This indicates that a majority of respondents understand the importance of diversifying investments to mitigate risk.

In addition, 65.9% of respondents correctly answered the question about high risk assets providing high returns, while 28.4% provided incorrect answers, and 9.1% answered "don't know". This suggests that most respondents are knowledgeable about the relationship between risk and returns in investments.

When asked to identify examples of financial investment assets from a list of items, 55.7% of respondents provided correct answers, while 39.8% provided incorrect answers, and 8.0% answered "don't know". This indicates that a significant number of respondents can accurately identify financial investment assets, indicating a fairly good level of knowledge about financial investment products.

The overall average percentage score for the various investment indicators was 53.9%which suggests that respondents possess a low level of knowledge about investment.

4.3 FINANCIAL INVESTMENT PRODUCTS PREFFERED

Table 4.3 presents the results of respondents' preferred financial investment products, with 38% preferring fixed deposits and 20% preferring pension schemes."

Table 4.3: Investment assets preference of respondents

	Frequency (n)	Percentage (%)
"Fixed deposit	76	38%
Pension scheme	40	20%
Bonds	0	0%
Shares	8	4%
Mutual funds	4	2%
Treasury bill	72	36%
Total	200	100%"

Source: Field survey (2022)

Furthermore, as shown in Table 4.3, a "small percentage (4%) of respondents prefer to invest in shares, while 2% and 36% prefer to invest in mutual funds and treasury bills, respectively. Interestingly, none of the respondents indicated a preference for bonds based on the results" in Table 4.3. These findings provide evidence that a majority of the respondents have a preference for low-risk or risk-free financial investment options such as fixed deposits and treasury bills.

4.4 INFLUENCE OF SOCIO-DEMOGRAPHIC FACTORS ON INVESTMENT BEHAVIOUR

Finding the"influence of socio-demographic factors on investment behavior, binary logistic regression was employed as the dependent variable is dichotomous. The results of the logistic regression are presented in Table 4.4, revealing a Nagelkerke R^2 value of 0.397. This indicates that approximately 40% of the variations in the dependent variable can be accounted for by the independent variables."

Table 4.4: Binary logistic regression result of socio-demographic factors on investment behavior

	"B	S.E	Wald	Sig.	Exp(B)
Gender	0.085	1.020	0.007	0.913	1.103
Age	-0.105	0.027	15.123	0.021**	.947
Marital status	2.151	0.401	28.773	0.037**	1.118
Income	0.347	1.047	0.110	0.000***	1.060
Constant	-2.025	0.263	59.284	0.004***	0.314

Log likelihood	Cox & Snell R^2	Nagelkerke R^2
145.601	0.178	0.397"

NB: " denotes significance at 10%, ** denotes significance at 5%, *** denotes significance at 1%."*

Source: Field survey (2022)

Table 4.4 reveals "that gender does not have a significant relationship with investment behavior, as the significance value (sig.) of 0.913 is greater than the significance level of 0.10. This suggests that gender does not play a significant role in influencing respondents' investment decisions, indicating that investment behavior among healthcare workers at Tamale Teaching Hospital is not dependent on gender.

Additionally, the results in Table 4.4 indicate a significant inverse relationship between age and investment behavior of respondents, with a significance value of 0.021, which is less than the significance level of 0.05. The odds ratio suggests that as a respondent's age increases by a unit, there is a 5.3% odds of not investing or decreasing investment. This implies that as healthcare workers age, they tend to invest less in financial assets, possibly opting for other real assets as a means of generating income in their old age.

Furthermore, Table 4.4 shows a significant and direct link between marital status and investment behavior of respondents, with a significance value of 0.037, which is less than the significance level of 0.05. The odds ratio indicates that married healthcare workers at Tamale Teaching Hospital are 1.118 times more likely to invest in financial assets compared to unmarried ones, providing evidence of a higher likelihood of investment among married healthcare workers.

Lastly, the results in Table 4.4 reveal a positive and significant link between income level of respondents and investment behavior, with a significance value of 0.000, which is less than the significance level of 0.01. The odds ratio suggests that as a person's income increases by a unit, there is a 1.060 odds of increasing investment. This indicates that investment behavior among healthcare workers at Tamale Teaching Hospital is dependent on their income level."

4.5 DISCUSSION OF FINDINGS

4.5.1 Knowledge of Savings and Investment

The "mean proportion of accurate responses for the five savings indicators used to measure participants' savings knowledge"is 61.1%, suggesting a medium degree of savings knowledge.

This outcome is consistent with prior research by Mabula and Dongpin (2019) and Mireku (2015). However, it contradicts the findings of Devonish (2009) and Suppakitjarak and Krishnamra (2015), who found that participants had a low degree of savings awareness.

According to the report, the total mean percentage score for several investment indicators is 53.9%, suggesting a low degree of investment expertise. This conclusion backs with the "findings of Mireku (2015), Zuraina (2018), Van Rooij et al. (2011), and Volpe et al. (1996), all of"which indicated low investing knowledge among respondents.

4.5.2 Investment Asset Preference

Most healthcare workers at Tamale Teaching Hospital choose to invest in fixed deposits and treasury bills, as evidenced by the survey's finding that a sizable majority of respondents chose secured deposits and treasury bills. Although the reason for this choice is uncertain, it might be because equities shares are seen as having higher risk than these financial assets. This shows that respondents are risk cautious and choose investments with low risk over those with high risk. This conclusion is in line with those reached by Suppakitjarak and Krishnamra (2015) and Assefa and Rao (2018), who discovered that investors choose low-risk financial products including secured deposits and government treasury notes.

4.5.3 Influence of Socio-Demographic Factors on Investment Behavior

The study finds that age, marital status, and income level have a greater influence on healthcare personnel' investment behavior than gender does. Among the three factors, age has a significant negative association with investing behavior, whereas marital status and income level exhibit a direct significant link. This finding is consistent with studies by Adeyemo and Bamire (2015), Shinde and Zanvar (2015), "Mak and Ip (2014), and Deb and Singh (2017) that discovered a strong correlation between income level and investment behavior as well as studies by Mak and Ip (2014) and Deb and Singh (2017) that discovered a significant correlation between age/marital status and investment behavior. But it's crucial to remember that Mak and Ip (2014), in contrast to the current studyIt is important to keep in mind, nevertheless, that contrary to the findings of the present study, Mak and Ip (2014) and Deb and Singh (2017) found a positive relationship between age and investing behavior. Furthermore, contrary to Kamaldhasan's (2015) study, which indicated a strong link between gender and investing behavior, the current study found no correlation between gender and investment behavior."

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.0 INTRODUCTION

This chapter serves as the concluding section of the thesis and is divided into five distinct sections. The first section provides a summary of the findings, while the second section presents the conclusion. The third section offers recommendations for policy and management considerations based on the research findings. The fourth section outlines the limitations of the study, and the fifth section suggests directions for future research."

5.1 SUMMARY OF FINDINGS

The first "objective of the study was to evaluate the level of knowledge among healthcare workers at Tamale Teaching Hospital regarding savings and investment. The findings revealed that the mean percentage score for savings was 61.1% and for investment it was 53.9%. This suggests that healthcare workers possess a moderate level of knowledge about savings but a low level of knowledge about investment. The second objective of the study was to identify the investment preferences of healthcare workers. The findings showed that a significant proportion of respondents preferred secured deposits and treasury bills, indicating a preference for fixed deposits and treasury bills as financial investment assets among healthcare workers. Furthermore, the study identified age, marital status, and income level as significant factors influencing the investment behavior of healthcare workers, while gender had no significant influence. Among these factors, marital status and income level were found to have a direct significant link with investment behavior, whereas age had an inverse significant influence."

5.2 CONCLUSION

The primary “objective of this research is to examine the savings and investment behavior of healthcare workers at Tamale Teaching Hospital using a quantitative approach and survey strategy.” A sample of 350 healthcare workers was randomly selected from a population of 3219, resulting in a 57% response rate (i.e., 200 respondents). Structured research questionnaires were utilized as the primary instrument for data collection in the field. Descriptive and inferential analyses, specifically binary logistic regression analysis, were conducted using SPSS software. The findings of the study reveal that healthcare workers at Tamale Teaching Hospital possess a moderate level of knowledge regarding savings but a low “level of knowledge concerning investment. The preferred financial investment assets among healthcare workers are secured deposits and treasury bills. Furthermore, the study establishes that age, marital status, and income level” significantly influence investment behavior, while gender does not. Based on these outcomes, it can be concluded that healthcare workers at Tamale Teaching Hospital exhibit a

significantly low level of knowledge in investment matters. Additionally, the study “concludes that investment behavior is dependent on age, marital status, and income level, but not on gender.”

5.3 RECOMMEDATIONS FOR POLICY AND MANAGEMENT

The “conclusion is that there is a poor degree of investment awareness, it is suggested that financial “institution management, health workers unions, and government policy makers implement methods to increase education on investment-related topics among healthcare professionals. The Tamale Teaching Hospital's healthcare providers will benefit from improved investment literacy, which will eventually lead to increased investment.

It is advised that financial institution managers target all income groups to promote investment culture among healthcare workers in light of the finding that the level of income that they earn affects their investment behavior. This will help to improve the surplus funds raised for deficit units to engage in investment, which will help to advance the nation's economic development.

5.4 LIMITATION OF THE STUDY

This study was to examine the savings and investment behaviour of healthcare workers in Ghana by closely focusing on workers in Tamale Teaching Hospital.

Consequently, the finding of the study may be inferred on the Tamale Teaching Hospitals workers, leaving out other Teaching Hospitals in Ghana which are of equal importance to the savings and investments.

Further, the time frame for this study was limited thus only small sample size would be drawn for the study. This implies that extensive assessment of the saving and investment behaviour of healthcare workers in Tamale Teaching Hospital may be challenged due to the limited time available for the study.

5.5 RECOMMENDATIONS FOR FURTHER STUDIES

It is suggested that future researchers expand the scope of the current study to investigate the savings and investment behavior of healthcare workers in diverse healthcare settings, as the generalization of findings may be challenging due to the limited focus on Tamale Teaching Hospital. Furthermore, it is recommended that future studies explore the impact of financial literacy on the savings and investment behavior of healthcare workers. This could provide valuable insights into the relationship between financial literacy and savings and investment behavior, and inform potential interventions or strategies to promote better financial literacy among healthcare workers.

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RESEARCH QUESTIONNAIRE

Topic: Savings and Investment Behaviour of Healthcare Workers: Evidence from Tamale Teaching Hospital

Dear Respondent,

I am a graduate student of KNUST and conducting a research on the above-mentioned topic. I am conducting this study as part of the requirements for the Master of Science Degree in Accounting and Finance from KNUST. Your participation in this study by responding to the following questions would be greatly appreciated. Please be assured that all information provided will be treated confidentially and this is solely an academic exercise. Kindly respond by indicating your choices or providing written responses where applicable. Thank you for your participation.

Section A: General Information

1 Gender: a. Male ( ) b. Female ( )

2 Age: a. Below 30 years ( ) b. 31 – 40 years ( ) c. 41- 50 years ( ) d. > 50 years ( )

3 Marital status: a. Never married ( ) b. Married ( ) c. Divorced ( )

4 Educational Background: a. First Degree ( ) b. Second Degree ( ) c. Others (please specify) …………………….

5 What is your average monthly income (i.e. including income from other sources apart from healthcare)? a Less than Gh¢2500 b. Gh¢2500 – Gh¢5000 c. Above Gh¢5000

6 Years of work in present employment: a. 1 – 5 years ( ) b. 6 – 10 years ( ) c. More than 10 years.

Section B: Knowledge on Savings and Investment

Part I: Knowledge on Savings

6. Savings is equal to investment?

   a. True

   b. False

   c. Don’t know

7. Which of the following statement is true about savings?

   a. Savings is how much money you have in your bank account

   b. Savings is the excess of disposable income after deducting consumption expenditure

   c. Savings is the part of investment earmarked for child’s school fees

   d. Savings is the total amount of money you have at home

   e. Don’t know

8. Which account pays the most interest?

   a. Fixed Deposit

   b. Savings Account

   c. Current Account

   d. Don't Know

9. Assuming you had a GH¢200 in a savings account and the interest rate was 10 percent per year, how much do you think you will have the account after a year?

   a. Greater than Gh¢220

   b. Exactly Gh¢220

c. Less than Gh¢220

d. Exactly Gh¢200

e. Don’t know

10. Which of the following is a mechanism or medium for saving money?

a. Bank

b. Susu collectors

c. Money box at home

d. Buying groceries in advance of upcoming Christmas

e. Don’t know

Part II: Knowledge on Investment

11. In Ghana, listed/issued shares are traded on the

a. Bank of Ghana

b. Ghana stock exchange

c. Securities and exchange commission

d. Ghana investment Market

e. Don't Know

12. Which of these is a short-term investment?

a. Shares

b. Treasury Bills

c. Bonds

d. Mortgage

e. Don't Know

13. It is less likely to lose all your money if you invest in a single stock (shares) compared to investing the money in a wide range of stocks (shares).

   a. True

   b. False

   c. Don't Know

14. If an investment offers a very high return, it is likely to be of high risk.

   a. True

   b. False

   c. Don't Know

15. Which of the following is a financial investment asset?

   a. Shares

   b. Mutual fund

   c. Treasury bill

   d. Real Estate

   e. Don’t know

Section C: Savings and Investment Habits of Workers

16. Do you engage in savings? a. Yes (   ) b. No (   )

17. Do you engage in financial investment? a. Yes (   ) b. No (   )

18. Among the investment assets listed below, which one do you investment in or would you prefer to invest in should you decide to patronize an investment asset?

Investment Options	
Secured Deposits (Fixed Deposits)	

Pension schemes	
Bonds / Debentures	
Equity Shares	
Mutual funds	
Treasury bills	

End of Questionnaire

Your participation is highly appreciated.