



# The Influence of Demographic Factors on Investment Behaviour of Individual Investors: A Case Study of Edo State, Nigeria

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## Abstract

This study empirically examines the influence of demographic factors on investment behaviour of individual investors using Edo state, Nigeria as its case study. Using the maximum likelihood method of estimation to estimate four multinomial logit equations, the results showed that educational level, occupation and marital status are the main demographic determinants of individual investors' behaviour. Also, age and gender have strong influences on individual investor's risk preference. Therefore, we recommend that it is pertinent that macroeconomic policies aimed at boosting investment should consider the expansionary effect of targeting civil servants and those in professional practice by providing them with investment incentives as these categories of persons have a much higher affinity for risk for investment purposes.

**Keywords:** Demographic factors, Individual investors' Behaviour, Multinomial Logit Equations.

**JEL Classification:** G11; A31; C38; C39; G02; C40; D7.

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### Contribution of this paper to the literature

This paper helps in analyzing the factors which influence formation of intention to invest and further direct towards investment in the investment behaviour of retail investors. It provides solid preference to retail investors on portfolio selection and other risk preferences. It also provides a hybrid model which justifies the extent upon which demographic factors influences the investment patterns of individual investors giving a particular location.

## 1. Introduction

### 1.1. Background of the Study

This study analyzes the investment behavior of individual investors in Edo state Nigeria. Investment behavior refers to how investors judge, predict, analyze and review the procedures for decision making, which includes investment psychology, information gathering, defining and understanding, research and analysis. It is the employment of funds with the aim of earning income or capital appreciation (Pandey, 2001). Economic theories of investment behaviour are largely based on the belief that individuals behave in a rational manner and that all existing information is embedded in the investment decision process. This assumption is the crux of the efficient market hypothesis (Vijaya, 2016). But researchers questioning this assumption have uncovered evidence that rational behavior is not always as prevalent as we might believe. Behavioral finance models attempts to understand and explain how human emotions influence investors in their decision-making process. Furthermore, previous studies attempt to analyze the influence of demographic factors on the investment pattern of individual investors which has enhanced better understanding of why people manage investment in different ways, Debondt and Thaler (1995). This study examines the role of demographic factors as a differentiating and classifying factor of individual investors associated with their investment behaviour, the exposition to various investment avenues in their choice of portfolio selection and the level of information an individual investor has over his investments. This will enable financial advisors guide investors on the basis of their age, income, and risk tolerance. Earlier literature focused on the relationship between risk tolerance and demographics variables. Information on the nature of the relationship between demographic factors and individual investment behaviour will be of immense use to individual investors, financial experts, brokers and investment firms.

Given the complexity and importance of investment decisions to individuals and the economy, there exists a mirage of theories and procedures; the expected utility theory, efficient market hypothesis, modern portfolio theories, prospect theory and mental Accounting. Many studies on this aspect has judiciously made use of behavioural finance to analyze the behavioural pattern of investor's behaviour and specifically generalized assertions based on the cognitive and heuristic factors that affect individual investment behaviour. There exist a close association between individual investor behaviour and their own investment methods and also, each individual investor is different, some are more risk averse than others, and some have more resources than others. These premises beg the questions over the relevance of traditional theories like the prospect theory, mental accounting, efficient market hypothesis and modern portfolio theories (Kahneman & Tversky, 1979; Thaler, 1985; Von Neumann & Morgenstern, 1944). Individual investors are said to be influenced by some psychological biases. It is important to identify the most influential factors on investment behaviour. Despite the growing interests in this important and relatively new stream popularly known as behavioural finance, there are yet scanty scientific researches in this field especially in Nigeria. Therefore, this study represents one of such attempt to fill this gap by investigating the demographic factors influencing individual investment behaviour.

### 1.2. Research Questions

In other to attain the basic objectives of this study, the following research questions will be answered;

- i. To what extent do demographic factors impact on access to sufficient information by individual investors?
- ii. Do demographic factors have any impact on the risk appetite of individual investors?
- iii. The degree of impact of demographic factor on the investment avenue selection by individual investors?
- iv. Do demographic factors have any impact on the investment experience of individual investors?

### 1.3. Objectives of the Study

The general objective of this study is to determine the impact of demographic factors on individual investor behaviour with emphasis on risk appetite, availability of information, portfolio selection and investment experience.

The specific objectives of this study are:

- i. To assess the influence of Demographic factors on the access to sufficient information by individual investors.
- ii. To ascertain the influence of Demographic factors on the risk appetite of individual investors.
- iii. To establish the influence of Demographic factors on the investment avenue selection by individual investors.
- iv. To evaluate the influence of Demographic factors on the investment experience of individual investors.

## 2. Literature Review

Theories under behavioural finance seek to improve the standard theories of finance by introducing behavioural aspects to the investment decision making process. Heuristic decision making process refers to rule of thumb which humans use to make decisions in complex, uncertain environments. Most times investors make decision with lax collection of information and objectivity and this involves the mix of mental, environmental and emotional factors. Some investors are overconfident of their ability to consistently time and beat the market, thus, they trade excessively, with trading costs denting profits (Tomola, 2013). Furthermore, these differences are most pronounced between single men and single women. Barber and Odean (2001) carried out a test on the prediction

that overconfident investors trade excessively by partitioning investors on gender. Their analysis showed that men tend to be more confident traders than women and thus trade more volumes than women. Consequently, their average returns are less than that of women. On the other hand, some investors place undue weight of decision making on the most available information. This leads to less return and sometimes poor results. This bias is the tendency for people to place greater importance on more recent data or experience. Shiller and Pound (1989) found that at the peak of the roaring 1980s Japanese bull market, only 14 percent of Japanese investors expected a crash and eventually after the crash, 32 percent said that they expected the crash. This illustrates the tendency for investors to become more optimistic when the market goes up and more pessimistic when it goes down and this tendency causes a good number of investors to consistently buy high and sell low. Kahneman and Tversky (1973) found that people usually forecast future uncertain events by focusing on recent history and pay less attention to the possibility that such short history could be generated by chance. Shefrin and Statman (1995) described what is known as the disposition effect where investors are disposed to selling the winners too early and to riding the losses too long. According to Odean (1998b) the disposition effect is consistent with the notion that realizing profits allows one to maintain self-esteem while incurring losses. Zoghalami and Matoussi (2009) carried out a survey to identify the psychological biases that influences the investor behaviour using a multinomial logit model. The Univariate and Multivariate analyses showed that investors' behaviour in Tunisia was driven by various psychological factors such as precaution, under confidence, conservatism, under optimism and informational inferiority complex. Chandra and Kumar (2011) examined the extent to which psychological biases are responsible for individual investment behaviour using Principle Component Analysis. The results revealed some psychological axes, such as conservatism, under confidence, prudence, precautionary attitude and informational asymmetry which have an influence on investor decision making. Le Phuoc and Doan (2011) investigated the behavioural factors influencing individual investors' decisions at the Ho Chi Minh Stock Exchange using factor analysis. The results show that five behavioural factors such as herding, market, prospect, overconfidence -gamble's fallacy and anchoring -ability bias affect the investment decisions of individual investors.

Kahneman and Tversky (1972) developed the prospect theories to discuss various states of mind that may influence an investor's decision making process. Regret theory deals with the emotional reaction people experience after realizing they've made an error in judgment. Faced with the prospect of selling a stock, investors become emotionally affected by the price at which they purchased the stock. So, they avoid selling it as a way to avoid the regret of having made a bad investment, as well as the embarrassment of reporting a loss. Some investors avoid the possibility of feeling this regret by following the conventional wisdom and buying only stocks that everyone else is buying, rationalizing their decision with "everyone else is doing it" (Grable & Lytton, 1999b).

There is a tendency to place particular events into mental compartments and the difference between these compartments sometimes impacts behaviour more than the events themselves. This is known as mental accounting. An interesting example of mental accounting is best illustrated by the hesitation to sell an unprofitable investment that once had gigantic profits. During an economic boom and bull market, people get accustomed to healthy, albeit paper gains. When the market correction deflates investor's net worth, they're more hesitant to sell at the smaller profit margin. They create mental compartments for the gains they once had, causing them to wait for the return of that gainful period (Thaler, 1999). More so, social environment influence people's behavior by propelling conformity. Social influence has an immense power on individual judgment. When people are confronted with the judgment of a large group of people, they tend to change their wrong answers. They simply think that all the other people could not be wrong. Herd behavior may be the most generally recognized observation on financial markets in a psychological context. Even completely rational people can participate in herd behavior when they take into account the judgments of others, and even if they know that everyone else is behaving in a herd-like manner. Shiller, Robert, and John (1989b) show that even if people read a lot, their attention and actions appear to be more stimulated by interpersonal communications. Moreover, there are market factors which influence the behaviour of sentimental and rational investors in different ways. External factors such as market information, price fluctuations and stock trends influences investors' decision making. More empirical studies show that investment avenues, functioning institutions, investors' level of awareness, market conditions and demographic factors are among other factors that affect investors' behavior. Bhushan and Medury (2013) examined the awareness level and investment behaviour of salaried individuals towards financial products. He found that individual investors are reasonably aware of investing their money in traditional and safe financial products whereas the awareness level of new age financial products among the population is low. Geetha and Vimala (2014) identified the popular perception of individual investors towards selected investment avenues and the predominant factors which influence individuals to go for savings. They found out that changes in demographic factor such as age, income, education, and occupation influence the investment avenue preference. Acha (2012) examined the behaviour of teachers towards savings and investment and to understand the resultant economic behaviour and its implications. They employed Chi square and Regression analysis. They discovered that Individual characteristics of teachers such as age, gender, marital status, lifestyle and family characteristics such as monthly family income, stage of family life cycle and upbringing status emerged as determinants of their savings and investment behaviour. Jain and Kushboo (2012) examined the association of demographic factors on investment choices using Chi Square test and the results show that the demographic profiles and personality type of the investors is closely associated with investment choices. Investors with higher income group prefer to invest in real estate and females prefer to invest in old products. Females were conservative while investing and males were aggressive. In the same vein, Chakraborty (2012) analyzed the investment pattern, saving objective and preferences of individual investor's for various investment options available in India. They employed Chi -square, ANOVA, and factor analysis. The result showed that saving objective is influenced by demographic factors such as age, occupation and the income level of investors. Female investors tend to save more in a disciplined way than the male investors. It was concluded that women are risk averse indeed but save more than the male counterparts as the income level rises. Bahl (2012) carried out a study on the investment behavior among the working women in Punjab. They employed principal component analysis and discovered that working women invest their money in insurance plans. Kumari and Joseph (2014) investigated the influence of the financial literacy on individual investment decisions using Chi Square test. The found out that

apart from gender, there is a relationship between demographic factors and the level of financial literacy possessed by the respondents. Chitra and Sreedevi (2012) analyzed the influence of seven personality traits which includes emotional stability, extraversion, risk, return, agreeability, conscientiousness and reasoning on the choice of the investment pattern using Chi Square test. They found out that Personality traits of the investors have impact decisions making and also influence the method of investment. The study also found that the influence of personality traits on the investment decision is more compared to that of demographic variables.

The review of literature shows that age, gender, and income are strong determinants of investment decisions. The literature also revealed that men tend to be less risk averse in their choice of portfolio selection compared to the female folks. This research however addresses the issue of individual investment decision making as well as how demographic factors such as age, education, occupation, family size, wealth status and gender affect their individual investment decision making in Benin metropolis of Edo state, Nigeria.

### 3. Data and Estimation Methodology

#### 3.1. Data

Preliminary scanning of various secondary data sources preceded primary data collection. The primary data investigation proceeded on the framed objectives of the present study. The research instrument consisted of a structured questionnaire which was used to collect first hand responses from individual investors in Edo state. This primary data has been put to further statistical analysis so as to find some useful information and generate inferences related to the objective of the study. The data was collected by the way of personal discussion for designing the questionnaires. Questionnaires were sent to approximately 230 respondents on the basis of convenience sampling. The responses obtained from the exercise were coded and analyzed. Questionnaires consisted of demographic information of individual respondent such as name, gender, age group, education, income group, occupation, family size. In line with the research topic, the study involves individual investors from selected areas in Benin metropolis, Edo State, Nigeria. The selected areas are Ugbowo, New Benin, Ring road, Ikpoba Hill, and Sapele Road.

Table-1. Descriptions of Variables

Variable code	Variable names	Descriptions
AGE	Age of the respondents	Age is the most investigated demographic factor among all. It is largely accepted that the risk behaviour of an individual depends on his/her age. Older individuals tend to be less risk tolerant than younger individuals, probably because older individuals have less time to meet their goals and objectives.
DOM	Where respondents are domiciled	A home or residence of the respondent. The place he lives also influences his investment pattern.
EDU	Educational attainment of the respondents	Education refers to facts, skills and knowledge that have been learned. The Level of education encourages an individual to assume higher level financial risk and investment opportunities. Similarly, other studies found that the increased levels of education are associated with an increased level of investment
FSIZ	Family size of the respondents	Family size includes being single, married, divorced and married with children as well. family size influences the nature and the amount of investment
F TYP	Family type of the respondents	Family type includes both nuclear and extended family. This also, to a significant extent influence the behavioural pattern of the individual investor
GEND	Gender of the respondents	Gender depicts both male and female. Research shows that gender has greater influence on the investment pattern of individual investors
IEXP	Investment experience of the respondents	Investment experience explains how long an investor has been trading in a particular place and on a particular stock
MAST	Marital status of the respondents	Marital status implies whether an investor is married, single or divorced. It is believed that married investors are more averse to high financial risk because they have more financial commitments and a larger number of dependents thereby affecting their investment pattern.
OCC	Occupation of the respondents	Occupation refers to the principal activity which someone engages in to meet requirements for their livelihood (Grable & Lytton, 1999b; Grable & Lytton, 1999a). An investor may be working in the private sector or the public sector or be self-employed.
INVA	Investment avenue selection of the respondents	This refers to the investment avenues available to the respondent and the investment choice of an individual investor.
REL	Religion of the respondents	Religion is a particular system of faith and worship eg Islam, Christian, Hindu e.t.c. religious believes influence investors performance
RSID	Residence of the respondents	Residence depicts where an investor lives or resides. It could be rural or urban which also determine the investor's choice of investment.
RAPP	Risk appetite of the respondents	Investors level of risk tolerance also affect his investment behaviour
SINFO	Sufficient information available to the respondents	Sufficient information refers to the avenues of information an investor is exposed to. Where and how his information sources educates him on a portfolio investment.
WEALTH	Wealth status of the respondents	Wealth refers to riches, valuable material possessions. The wealth of an individual investor determines the level of investment and his behaviour towards diversification of portfolios.

### 3.2. Estimation Methodology

The estimation method used in this study involves the multinomial logit model which provides the opportunity to trace the effect of variables of different measurement scales on nominal scale dependent variables (Brooks, 2008). The coefficients are interpreted as the log transformation of the odds ratio in favor of the dependent variable (Brooks, 2006; Gujarati, 2004). Other attendant tests associated with the multinomial logit model are the Pseudo R<sup>2</sup> and the likelihood Ratio Chi<sup>2</sup> tests which test for the goodness of fit of the multinomial logit specification (Brooks, 2006).

The empirical model used can be specified as follows:

$$\begin{aligned}
 SINFO_i &= \alpha_{i0} + \alpha_{i2}AGE_i + \alpha_{i2}FSIZ_i + \alpha_{i3}GEND_i + \alpha_{i4}MART_i + \alpha_{i5}EDU_i + \alpha_{i6}OCC_i + \alpha_{i7}REL \\
 &\quad + \alpha_{i8}WEALTH_i + \alpha_{i9}FTYP_i + \alpha_{i10}RSID_i + \alpha_{i11}DOM_i + u_i \\
 IEXP_i &= \beta_{i0} + \beta_{i2}AGE_i + \beta_{i2}FSIZ_i + \beta_{i3}GEND_i + \beta_{i4}MART_i + \beta_{i5}EDU_i + \beta_{i6}OCC_i + \beta_{i7}REL + \beta_{i8}WEALTH_i \\
 &\quad + \beta_{i9}FTYP_i + \beta_{i10}RESID_i + \beta_{i11}DOM_i + u_i \\
 INVA_i &= \varphi_{i0} + \varphi_{i2}AGE_i + \varphi_{i2}FSIZ_i + \varphi_{i3}GEND_i + \varphi_{i4}MART_i + \varphi_{i5}EDU_i + \varphi_{i6}OCC_i + \varphi_{i7}REL \\
 &\quad + \varphi_{i8}WEALTH_i + \varphi_{i9}FTYP_i + \varphi_{i10}RSID_i + \varphi_{i11}DOM_i + u_i \\
 RAPP_i &= \theta_{i0} + \theta_{i2}AGE_i + \theta_{i2}FSIZ_i + \theta_{i3}GEND_i + \theta_{i4}MART_i + \theta_{i5}EDU_i + \theta_{i6}OCC_i + \theta_{i7}REL + \theta_{i8}WEALTH_i \\
 &\quad + \theta_{i9}FTYP_i + \theta_{i10}RSID_i + \theta_{i11}DOM_i + u_i
 \end{aligned}$$

Where  $SINFO_i, IEXP_i, PINV_i, RAPP_i$  indicates that individual behaviour of the  $i^{th}$  respondent is proxied by the availability of sufficient information, investment experience, portfolio investment selection preference and risk appetite of the  $i^{th}$  respondent. On sufficient information, the availability of education to persons in younger generations tend to expose them to the ease of access to information unlike those of the older generations considering that education itself evolves over time as well.

## 4. Presentation and Analysis of Empirical Results

The purpose of this section is to present the summary analysis of variables and estimated results of the multinomial logit models. Univariate data was generated from the questionnaire upon which inferences were drawn for the multinomial logit equation. Consequently, the multinomial logit models are estimated with the aid of the maximum likelihood method of estimation and the log-odds ratio are interpreted towards tracing the impact of demographic variables on of individual investor behaviour.

**Table-2.** Descriptive summary of ages and family size of respondents.

	Age	Famsiz
Mean	35.35	3.408284
Std. Dev.	9.693675	2.543465
Median	34	3
Variance	93.96734	6.469217
Skewness	0.3861829	0.7243132
Kurtosis	2.543977	2.776672

On the summary analysis of the ages and family size of the respondents, it is observed that the mean age is 35 years approximately while the standard deviation of the respondents' ages stood at 9.69 years. The median age stood at 34 and the distribution of the ages appear roughly normal as the skewness stood at 0.39 approximately and the kurtosis stood at 2.54 approximately. The average family size is 3 persons while the standard deviation stood at 3 persons as well approximately. The distribution of the family size is also normal as the skewness measure stood at 0.72 approximately and the kurtosis stood at 2.78 approximately.

### 4.1. Multivariate Analysis of the Effect of Demographic Factors on Individual Investors' Behaviour

In this section the impact of demographic variables on investment behaviour is estimated in the Table 3. According to the results for dependent variables are availed towards proxing investment behaviour. On commencing with Investment Avenue, the regression results show that the selected demographic variables do not have individual statistical significance as far as impacting on the investment avenue score of the respondents is concerned. However the overall fit is quite good given the r-square of 23.32% and an F-statistic of 1.92 which has corresponding probability value of 0.011 and signifies overall statistical significance at the 5% level.

On investment experience, it is seen that the age, occupation of the respondent, level of education, religion, wealth and area domiciled have profound impacts on the investment experience of the respondent. Older respondents tend to have lower scores on investment experience and this is buttressed by the negative impact coefficient of age which stands at -0.01 and it statistically significant at the 5% level. Students tend to have higher investment experience scores significantly as the average score rose by significantly at the 5% level by 0.26 in the event that the respondent is a student. Oddly graduates and non-graduates have statistically higher experience scores compared to other educational level categories but the former is higher of the two with an incremental coefficient of 0.23 while corresponding to the later is an incremental coefficient of 0.17. On the role of religion in boosting investment experience, it is seen that those who are traditional worshippers have statistically significant incremental coefficient of 0.46 at the 5% level. Expectedly the poor have declining investment experience with the incremental coefficient corresponding to the poor being -0.80 but oddly it is also noticed that though the incremental coefficients corresponding to middle and upper class are statistically insignificant they are both negative suggesting that even respondents in the upper and middle class also record declining investment experience.

Table-3. Estimation of the impact of demographic variables on investment behavior.

Variables	Investment avenue score	Average Investment experience score	Average Risk appreciation score	Average Sufficient information score
Age	0.0058889 (0.884)	-0.0068436 (0.039)**	0.0709893 (0.084)*	0.0029575 (0.665)
Family Size	-0.283794 (0.135)	0.0090255 (0.558)	0.031547 (0.869)	-0.0296202 (0.354)
Occupation				
Civil Service	0.247558 (0.771)	0.487772 (0.481)	0.4309967 (0.615)	0.3294126 (0.023)**
Professional	-0.835623 (0.407)	0.0073239 (0.929)	-0.9034317 (0.375)	0.5414113 (0.002)***
Student	1.149127 (0.425)	0.2609866 (0.027)**	1.091467 (0.452)	-0.0985877 (0.684)
Level of Education				
Graduate	0.3098806 (0.772)	0.2279279 (0.010)**	-1.705027 (0.116)	0.7206735 (0.000)***
Non-Graduate	0.3136206 (0.783)	0.1721544 (0.065)*	-2.314451 (0.045)**	0.8952685 (0.000)***
Pgd	-0.4258915 (0.725)	0.1229341 (0.214)	-1.671154 (0.173)	0.4366116 (0.034)**
Undergraduate	-0.3415789 (0.843)	-0.062652 (0.656)	-2.860398 (0.102)	0.8256724 (0.005)***
Religion				
Muslim	1.52553 (0.252)	-0.0309057 (0.775)	0.9455773 (0.481)	-0.2338419 (0.298)
Traditional	-2.12368 (0.381)	0.4627366 (0.020)**	-0.201613 (0.934)	0.0907639 (0.824)
Family Type				
Nuclear	0.4503012 (0.726)	0.1048985 (0.316)	0.0810123 (0.950)	-0.1236719 (0.567)
Gender				
Male	-0.7716139 (0.156)	0.0609012 (0.170)	-0.1712963 (0.754)	0.0532794 (0.561)
MARITAL STATUS				
Married	-0.1323605 (0.905)	0.0042499 (0.962)	0.1816268 (0.871)	0.2580045 (0.169)
Single	-1.170756 (0.359)	-0.0757217 (0.466)	1.225243 (0.342)	0.1886892 (0.381)
Type of Residence				
Private	1.298355 (0.175)	-0.000023 (1.000)	1.045269 (0.278)	0.3484334 (0.032)**
Public House	0.2354237 (0.852)	0.0873943 (0.396)	0.1750204 (0.891)	0.4896353 (0.023)**
Other Public House	4.814284 (0.106)	-0.2632284 (0.277)	-1.91209 (0.523)	0.9468903 (0.060)*
Wealth				
Middle Class	1.298355 (0.202)	-0.1251845 (0.115)	0.2703981 (0.783)	0.1398761 (0.394)
Poor	0.2354237 (0.234)	-0.8069388 (0.001)***	2.702752 (0.363)	0.3342726 (0.501)
Upper Class	4.814284 (0.315)	-0.0104996 (0.858)	-1.178627 (0.106)	0.2485318 (0.042)
Domicile				
Semi Urban	-1.463273 (0.600)	-0.8025914 (0.001)***	2.635205 (0.349)	0.3348713 (0.476)
Urban	-0.474283 (0.868)	-0.8226538 (0.001)***	2.917259 (0.312)	0.5752249 (0.233)
_Cons	7.596091 (0.066)*	2.857784 (0.000)***	3.892432 (0.348)	0.3005168 (0.664)
Summary Measures and Diagnostics				
R-square	0.2332	0.2406	0.1438	0.2537
Adjusted R-square	0.1116	0.1202	0.0080	0.1353
F-stat	1.92	2.00	1.06	2.14
Prob. F-stat	0.0113**	0.0075***	0.3984	0.0036***

Note: \*indicates 10% statistical significance, \*\*indicates 5% statistical significance, \*\*\*indicates 1% statistical significance, values in ( ) are probability values.

Older respondents though scoring low on investment experience have a greater affinity for risk taking as older respondents have their risk appreciation score rising incrementally by 0.07 significantly at the 10% level. Non-graduates also appear to have a comparatively lower affinity for risk taking as their risk appreciation score declines by -2.31 significantly at the 5% level. All other variables record statistically insignificant impact on the degree of risk appreciation of the respondent. The fit of the risk appreciation score equation is quite low standing at 14.38% and the adjusted r-square being 0.8% and corroborating the poorness of the fit is the F-statistic which posts a value of 1.06 and a probability value of 0.3984.

While age and family size have no significant impact on the sufficient information score, it is observed that civil servants and professionals have their sufficient information scores rising by 0.33 and 0.54 respectively. The level of education of the respondents goes a long way in equipping the respondents with adequate information as the incremental coefficients for graduates stood at 0.72, for post graduate students 0.43 and for undergraduates 0.83 but as it turns out even non-graduates also have access to sufficient information with an incremental score of 0.90. Of all the proxies of investment behaviour, the access to sufficient information responds to the type of residence of the respondent. The results show that respondents who reside in private residence have the sufficient information score rising incrementally by 0.35, while for those in public houses 0.49 and for those in other forms of public houses the figure stood at 0.95. The fit of the sufficient information score equation is quite sound as the F-test for overall significance posts a statistic of 2.14 and a probability value of 0.0036 which shows that the overall regression is significant at the 1% level. The r-square shows that 25.37% of the systematic variation in the sufficient information score is explained by the regressors and after adjusting for degree of freedom the adjusted r-square shows that 13.53% is the explained variation.

#### 4.2. Implications of Findings

Featuring prominently among the demographic factors with regards to its significant impact on individual investor behaviour are the educational level, the occupation and marital status of the respondents. It is clear that persons in the civil service according to the results have higher affinity for taking risks than persons in other occupations and these same category of persons, persons in the civil service, show more tendency to access information bordering on their investments. However these same persons, persons in the civil service as well as those in professional practice, have the tendency to record just moderate levels of experience in investing. Providing some justification for this discovery are the findings of [Burman, Dur, and Van \(2012\)](#) who are of the view that with an increase in the tenure of civil servants and as a result of their beliefs that their services are merit goods they tend to take on more risky stances and this could be reflected even in the investment behaviour of individual investors who turn out to be civil servants. The findings of this study as well as those of [Burman et al. \(2012\)](#) fly in the face of those of [Tucker \(1988\)](#) who concluded that persons in the civil service tend to be less motivated to take risks compared to entrepreneurs in the private sector.

On the role of education in individual investor behaviour, this study arrives at the finding that education does not really matter as far as investment experience is concerned. This is due to the fact that both graduates and non-graduates do not differ in their limited investment experience. This shows that education does not really account significantly for suitable individual investor behaviour and this is due to the fact that educational attainment in this part of the world is only but a rationing mechanism for assigning jobs to school leavers and does not necessarily imply entrepreneurial advance ([Todaro & Smith, 2009](#)). Finally it is seen that the marital status of persons also count towards the investment experience of the persons under consideration and this is anchored on the view of [Barber and Odean \(2001\)](#) that marriage has the effect of stifling beneficial individual investor behaviour and hence divorcees or single person are better poised to be active individual investors.

## 5. Summary, Recommendations and Conclusions

### 5.1. Summary

This study investigates the role of demographic factors on individual investor behaviour in Edo state Nigeria with emphasis on these five areas vis-a-vis Ugbowo, New Benin, Ring road, Ikpoba Hill, and Sapele Road and more specifically this study seeks to investigate the impact of demographic factors on the access to information by individual investors, risk appetite of individual investors, portfolio investment selection by individual investors and investment experience of individual investors. With these specific investor behaviors this study sets out a theoretical framework based on the role of demographic factors such as age, wealth, religion, occupation, family size, gender, marital status, education attainment, family type, residence of respondents and the area where respondents are domiciled. Four multinomial logit equations are estimated to detect the role of these demographic factors on individual investor behavior to capture the four objectives. The results from the study showed that the educational level, the occupation and marital status of the respondents are the main determinants of the individual investor behaviour. The results agree that respondents in the civil service and in professional practice had more access to information and were willing to take up portfolios with high risk.

On the role of education in individual investor behaviour, this study arrives at the finding that education does not really matter as far as investment experience is concerned as being a graduate does not distinguish them from non-graduates as they both have limited knowledge of investment. Finally it is seen that the marital status of persons also count towards the investment experience of the persons under consideration as marriage has the effect of stifling beneficial individual investor behaviour and hence divorcees or single person are better poised to be active individual investors.

### 5.2. Recommendations

Based on the findings the study, the following recommendations are made:

- i. Civil servants and those in the professional practice are poised to be risk loving and this can be exploited by policy makers seeking to spur investment in Nigeria by ensuring that civil servants are given further incentive to further encourage risk taking. Civil servants should be given special attention while ensuring that their earnings provide a veritable source of capital for investing while the government sets out policies towards encouraging their investment via targeted subsidies, selective tax waivers and special interventions aimed at raising the capital base of investing civil servants.
- ii. Curriculum and instructional reforms have to be embarked upon in Nigeria universities to ensure that graduates have the necessary technical know-how necessary to spur them in their investment and enable them have profound knowledge of investments and investment procedures. This is to ensure that the education which graduates spend at least 4 years amassing does not amount to a waste and mere academic exercise with little or no potential towards wealth creation in the country. Such reforms should include:

- a. Ensuring that the curriculum in Nigerian universities are in tune with the realities of the Nigerian business environment and society
- b. Introducing and laying emphasis on pragmatic disciplines capable of raising the psychomotor abilities of graduates in addition to their cognitive abilities – this is necessary towards ensuring that graduate appreciate the practical aspects of their discipline and not become mere opportunistic academics.
- c. Encouraging start-ups among young graduates by supplying them the necessary incentives such as finance and training towards enabling them become employers of labor and not seekers of scarce jobs.
- iii. While investor behaviour among married couples may be stunted due to the activities of raising a family, the synergistic effects of two business oriented home makers can be the difference. However in the case of single parents, divorcees or single persons effort should be made to ensure that they productively engaged towards availing investment opportunities since these category of persons are better poised to be active individual investors.
- iv. Further research should be carried out on the nature of identifying the close relationship between demographic factors and investment behaviour of individual investors. The point is that this proposal, on the one hand, can help individuals to take different issues into considerations before taking investment decisions, and on the other hand, make investment advisors be more effective when offering different investment alternatives to individuals in order to ensure that its customers have positive impression about the investment experience and ultimately, to make its financial and investing techniques effective in practice.

### 5.3. Conclusions

The study concludes that demographic variables intervene in the investment style of investors. However, the profound significant variables are the occupations and marital status of investors, whilst education plays a poor role in spurring individual investment. The later conclusion is anchored on the fact that educational institutions in the country are fast becoming centers for educational attainment with dismal levels of human capital. It behooves the educational and macroeconomic policy makers to boost the human capital quality stemming from educational institutions across the country. It is also pertinent that macroeconomic policies aimed at boosting investment consider the expansionary effect of targeting civil servants and those in professional practice by providing them with investment incentives as these categories of persons have a much higher affinity for risk for investment purposes.

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