
Academic Article

Attitudes, savings choices, level of knowledge and investment preferences of employees toward pensions and retirement planning: Survey evidence from Barbados

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ABSTRACT This study draws on data from an online survey of a cross-section of Barbadian employees who are members of either defined benefit or defined contribution schemes. The results were heavily consistent with those from the United Kingdom. Generally, employees lack the basic knowledge to manage their own pension plans and they often times treat issues pertaining to retirement with low priority. Furthermore, results show that an extremely high weighting is attributed to property and land as assets for retirement. One major finding that came out of the study was that there are cultural differences between the United Kingdom and Barbados, where in the United Kingdom there is an individualistic culture, in contrast to the collectivist culture of Barbados.

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INTRODUCTION

There has been growing interest among academics and practitioners alike to diligently find solutions to the seemingly inevitable pension crisis attributable to changing socio-economic factors such as increasing longevity, better health care, lower birth rates and absence of support from the extended family.^{1,2} In light of the above developments, many countries are, now more

than ever, realising the enormous financial burden such socio-economic developments are having on the sustainability of their economies. This is because pensions are increasingly becoming the chief expenditure item on their budgets.³ A pension is representative of a long standing obligation to retirees to support sustainability of their consumption in retirement. It is no wonder that scholars in this area have noted that there has been a significant shift from defined benefit (DB) pensions to defined contributions (DC) pensions.^{4–6} It is common knowledge that this shift from DB to DC

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schemes has placed greater responsibility on the pension holder (in terms of the capital and asset allocation surrounding their contributions), and this may result in inadequate or sub-optimal investment decisions.^{7,8} This argument underlies the notion of irrationality inherent in human thoughts and actions and goes against traditional economic perspectives. Other factors which may affect investment decisions have deemed to be more relevant, and include a range of behavioural biases. Some of the major behavioural biases identified in several studies include (but are not limited to) familiarity bias, *status quo* bias, endorsement effect, myopic loss aversion and mental accounting.

What is riskier between money market securities and government bonds? To many investment analysts or those marginally knowledgeable about investments, this is definitely an elementary question. However, researchers⁹ found that many individuals lack general knowledge surrounding finance and investment decisions to even correctly answer this question. These situations resulting from lack of knowledge highlight an urgent need for employees to become more educated about their investment decisions.

Moreover, there is significant evidence which supports those employees, especially those most prone to suffer at retirement (that is baby boomers) are not saving enough for retirement and often times do not invest in a pension plan.^{4,10} However, estimating how much to save to ensure a comfortable retirement is an extremely technical and difficult task.¹¹ Given the uncertainty of the future as it relates to necessary inputs and the high level of mathematics and Bayesian statistics, these calculations often prove difficult even for professionals. Despite the inherent difficulty in estimation, it is crucial that an individual sources the necessary information to understand and make informed decisions.

SIGNIFICANCE OF THE STUDY

This study seeks to fill the gap on the pensions literature in Barbados as it aims to examine the topic of pensions in Barbados, with particular emphasis on examining employee attitudes,

knowledge and investment performance of pension plans. As the DC schemes seem to be the way forward for pensions in Barbados, this study will include many prescriptions of the behavioural finance literature to aid in the analysis of the data. This study is further enhanced through practical lessons shared regarding the very recent switch from DB to DC schemes by organisations on the island. Additionally, this study will also provide a neutral view of the challenges faced by the pensions industry as it relates to the Barbadian perspective.

RESEARCH QUESTIONS

Several research questions were formulated in support of the main aim of the study. These are:

- (1) What are the most common sources of advice on which employees rely to make investment decisions regarding their pension scheme?
- (2) What are employees' general attitudes towards saving for retirement and their actual saving behaviours?
- (3) What is the level of knowledge that employees possess regarding investment decisions on the pension plan?
- (4) What are common forms of asset allocation strategies of the pension plans endorsed and used by employees as it relates to investment of plans contributions?

SELECTIVE LITERATURE REVIEW

There has been a worldwide trend away from DB schemes towards DC schemes which affords employees advantages such as enhanced flexibility over their asset mixes, and portability of their pensions in the event that they must change jobs.⁶ In light of the high rate of turnover in Barbados, the latter advantage is extremely beneficial. However, with such advantages comes heightened responsibility. Individuals are being forced to take full responsibility for their own retirement. Under a DC scheme, important decisions such as asset allocation of contributions and level of contribution rates are the responsibility of the individual.

In light of the limitations of traditional finance models such as the 'life-cycle model' prescribed to help households estimate optimal levels of savings, academics and practitioners alike worryingly conclude that individuals are saving too little towards retirement.^{4,5,10,12,13} Hurd and Zissimopoulos¹⁴ found that a majority of their sample (approximately 75 per cent) indicated that they were saving too little. Moreover, Laibson *et al*¹⁰ found that 76 per cent of their participants indicated that they should increase their level of savings for retirement. Bernheim¹⁵ also found that baby boomers were saving approximately 33 per cent of the basic amount necessary for sustainable retirement.

Other researchers^{13,16} have suggested that undersaving was as a result of misapplication of the traditional model which did not factor in behavioural and psychological biases inherent in human behaviour. People are said to display 'bounded rationality' whereby in order to analyse an excessive amount of information they often resort to mental shortcuts and heuristics, thus deviating from rational thinking.^{5,16} Furthermore, the level of knowledge to accurately execute the model may be lacking by individuals, which may lead to a total disregard of the model.

Recommendations from behavioural finance concerning retirement planning should help the bewildered individual, who is either reluctant to save or do not know how to save, achieve a steady savings pattern and a secured retirement.

Advice

According to Bodie,¹⁷ individuals repeatedly make the same investment mistakes because of insufficient knowledge, misleading advice, cognitive dissonance and reliance on incorrect data. This author severely criticises online Internet sources as providing highly unreliable information.

Individuals often consult a varying number of sources such as employers, friends and family, Internet, and newspapers before making decisions. Traditional finance posits that more information leads to better decisions being made.^{18,19} According to Duflo and Saez²⁰ friends play a

significant role in administering advice to each other.

Saving towards retirement

The inability of individuals to accurately predict and calculate their retirement needs may lead to sub-optimal saving levels.¹³ In a recent Retirement Confidence Survey²¹ conducted by Employee Benefit Research Institute in 2004 in the United States, findings revealed that 40 per cent of employees in the United States have never attempted to calculate their post-retirement income. In a study conducted by Lusardi,²² it was found that about a third of the employees 5–10 years before retirement had rarely thought about retirement planning whereas less than a third had frequently thought about retirement. These results may not be as surprising, as only a quarter of these individuals had ever attended educational seminars on planning for retirement.

Knowledge about retirement planning

Mitchell and Utkus²³ highlighted the large quantity of variables needed to accurately estimate an individual's retirement needs such as longevity, lifetime earnings, asset returns and tax rates. Furthermore, consistent with the works of Blake *et al*,²⁴ and Hibbert and Mowbray,²⁵ many of these variables are highly uncertain. Therefore, it is important that an individual be prudent in the estimation of their retirement needs.

It is common knowledge that many individuals are characterized as being 'financially illiterate'.^{26–28} John Hancock²⁹ captured financial illiteracy of his participants as majority of his sample believed that money market securities were more risky than government bonds and that investment of all their income (labour and financial) in one asset, was of lower risk than a well-diversified portfolio of assets. What is the relationship between bond prices and long-run interest rates? This question was incorrectly answered by three out of every four participants of John Hancock's survey.⁹ Even more compelling is that approximately 66 per cent of his sample felt that money market funds included equity stocks. Research done by Gustman and Steinmeier³⁰ was even more alarming as only 50 per cent of employees

10 years before retirement could identify their plan type (DB versus DC). Moore and Mitchell³¹ emphasised the importance of retirement education as their study found that voluntary retirement savings rates of individuals in the United States increased after employers started educating staff about retirement planning.

Why is increasing savings so difficult? Suggestions to increase savings

Individuals have been described as exhibiting irrationality and a severe lack of self-control, as reflected in their financial decisions, such as saving for retirement.^{5,32–34} This circumstance is extremely evident in Choi *et al's* report³⁵ in which he found that in a subsequent 4-month review, a massive 86 per cent of employees with the intention to increase their saving failed to do so. Therefore, it highlighted the lack of willpower to save more. Venti¹³ suggested that individuals should inaugurate mechanisms to combat the lack of self-control tendencies, such as penalties for withdrawal from retirement savings in the pre-retirement period. Other mechanisms include automatic salary deductions or transfers to other saving accounts. Sheferin³⁶ suggested that employment of mental accounting can overcome the lack of self-control. Mental accounting is rooted within the prospect theory where individuals sub-divide their investments into many different accounts.

Another plausible reason for inability to save enough was brought forward by O'Donoghue and Rabin,³³ known as procrastination or inertia. This is where the individual lacks long-term focus and therefore repeatedly make short-term decisions that are in conflict with long-term goals, especially when there are short-term costs involved.

Status quo bias

It has been investigated and confirmed that individuals tend to keep their original pension plan structure from the point at which they joined the scheme over a substantive length of time. Samuelson and Zeckhauser³⁷ refer to this behaviour as the '*status quo bias*' from their 1987 TIAA-CREF study. Results confirmed that more

than 50 per cent of the plan's members retired with unchanged asset allocation strategies from inception.

Default investment funds

The DC type arrangement makes it imperative that participants of these DC schemes pay greater attention to their asset allocations and investment styles.^{38,39} It is a well-known fact among academics and researchers alike that asset allocation plays an integral role in determining investment performance.^{40,41}

According to Basu *et al*,⁴² DC participants who fail to make an active choice regarding their plan contributions would have them automatically placed in the default option. Similarly, Byrne and Harrison³⁹ established that many participants engage in what they term 'blind faith'. By law, there must be a default fund embedded in every stakeholder's DC scheme as an outlet for those investors who are lacking knowledge and experience, failing to make an active choice. Consequently, those investors view the default option as being sanctioned by the employer or pension provider and automatically accept that it is the best option.

METHODOLOGY

Sample

The participants in this study consisted of employees sampled across six large organisations from both financial and non-financial sectors operating in Barbados based on an online survey approach. The participants targeted for the survey had to be currently under a DB or DC pension scheme. These participants were employed in both the private and public sectors. Over 500 employees were targeted for the survey, but data was obtained for 134 participants, indicating a 26 per cent response rate. Of these 134 participants, 71 per cent were female and 29 per cent were male (see Table 1). The demographic characteristics for gender are not reflective of the overall population of the country as the population ratio is 0.94 male to 1 female.⁴³

Gender demographics on the working population in Barbados could not be sourced.

Table 1: Demographic profile

Demographics	Frequencies	%
<i>Gender</i>		
Male	39	29.1
Female	95	70.9
<i>Age (in years)</i>		
Under 24 years	17	12.7
25–34 years	46	34.3
35–44 years	39	29.1
45–54 years	23	17.2
55–64 years	8	6.0
<i>Income</i>		
Under \$3500	51	39.2
\$3501–\$5000	30	23.1
\$5001–\$7500	32	24.6
\$7501–\$10 000	8	6.2
Over \$10 000	9	6.9
<i>Type of scheme</i>		
Defined benefit scheme	44	33.1
Defined contribution scheme	61	45.9
Do not know	28	21.1

Majority of the participants were between 25–34 years of age (34 per cent) and working for monthly salary under 3500 (39 per cent). The organisational tenure for the sample ranged from 1 year to 43 years, with a mean of 7.77 years (SD = 8.26).

Design and instrument

The study adopted a survey research design to capture data on employees' views and knowledge of their pension schemes and related investment issues, and their investment preferences. This study is a modified version of Byrne⁴ which has been applied to the Barbadian context. An online survey instrument was developed based on a previously used survey questionnaire adapted from prior research.^{4,28}

The survey was divided into several sections. The first section of the survey instrument assessed whether participants had received investment advice regarding their pension scheme, and the extent to which they had received such advice from various sources including employers, financial advisors, their local bank or a financial institution, and friends or family. This section also captured information on their views on savings rates in light of the present research

evidence that people may not be saving enough for retirement.^{4,5} The second section measured participants' investment knowledge and level of financial literacy. The third section measured participants' investment preferences and factors influencing those preferences. The final part of the survey instrument sought to gather demographic information from participants including gender, age, salary and tenure.

This survey instrument was developed using an online web programme (SurveyMonkey). This online-based programme allows researchers to design and administer online surveys as well as collect responses and store them in a spreadsheet format so as to facilitate data analysis.

Data collection procedures and research ethics

To ensure that the survey instrument was suitable for data collection, the survey was pre-tested using 10 participants. These participants commented on the overall suitability and face validity of the questionnaire.

In order to access participants to facilitate data collection, managers of each selected company were contacted and informed about the nature and purpose of survey, and the relevance of their employees who were under specific pension schemes to the research. Managers who consented reviewed the survey instrument before sending out the web link containing the online survey via their Intranet systems. Their review ensured that the survey did not violate any forms of company protocol or data protection policies at their organisation. The survey was accompanied by a covering letter outlining the nature and purpose of study, and indicating that employees' participation in completing the survey would be greatly appreciated.

Data analysis techniques

Frequencies/percentages were conducted to examine the respondents' perceptions of investment advice and savings rates, investment knowledge, and investment preferences. Logistic regression and chi-square analyses were used to examine whether these perceptions (where they were measured on a categorical/nominal scale)

differ between females and males, between younger and older employees, between low-income and high-income employees, between those who received investment advice and those who did not receive investment advice. Independent samples *t*-tests were used to compare differences for gender, age, income and level of advice on continuous (Likert scaled) variables.

RESULTS

Quantitative findings from the employee survey

This section presents the quantitative data derived from employee online survey on issues dealing with advice, savings levels, knowledge and investment preferences outlined in the first four research questions of the study, mentioned in the introduction. Gender, age, income and level of advice were assessed to compare perceptions across different categories of workers. Logistic regression, chi-square tests and independent

samples *t* test results were presented in this section.

Type of scheme

The results of the survey as depicted in Figure 1 revealed that majority of the sample (46 per cent) were enrolled in a DC scheme, whereas a third of the sample were enrolled in a DB scheme. Over 20 per cent indicated that they did not know the type of scheme in which they were enrolled.

Chi-square analyses examined whether the type of scheme varied significantly for gender, age, income and those who were advised on their pensions versus those who were not. The chi-square results shown in Table 2 indicated that there were no significant differences with respect to gender, age and level of advice (all *P*s>0.05). However, the results revealed that there was a significant difference between low-income and high-income persons, where high-income persons (41 per cent) were more likely than low-income persons (26 per cent) to be enrolled in a DB pension scheme (chi-square value = 8.415, *df*=2, *P*=0.02).

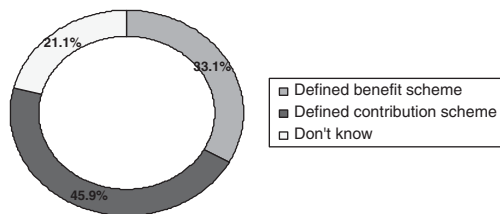


Figure 1: Level of enrolment in the various types of schemes.

Advice on pensions

Regardless of the type of pension plan, advice administered that is accepted by employees should result in better financial decisions. As the pension industry in Barbados is following the worldwide trend of shifting from the DB towards the DC type of schemes, education and advice will play an even more important role as

Table 2: Chi-square results regarding pension plan type

Is your pension scheme a defined benefit plan or defined contribution plan?

Answer options	Response (%)	Age	Gender	Income	Advice
Defined benefit scheme	33.1	$\chi^2=0.420$, <i>df</i> =2, <i>P</i> =0.811	$\chi^2=2.830$, <i>df</i> =2, <i>P</i> =0.243	$\chi^2=8.415$, <i>df</i> =2, <i>P</i>=0.015*	$\chi^2=1.894$, <i>df</i> =2, <i>P</i> =0.388
Defined contribution scheme	45.9				
Do not know	21.1				

Note: The variable age was split into two categories where less than 45 years indicate 'young persons' whereas 45 years and older indicate 'older persons'. The variable income was also split into two categories where under BDS\$5000 is considered low to middle income whereas BDS\$5000 and over is considered high income. Advice was also split between those who received advice and those who did not whereas gender represent females versus males. Based on chi-square analyses, only income may have an impact on the type of scheme enrolled.

**P*<0.05.

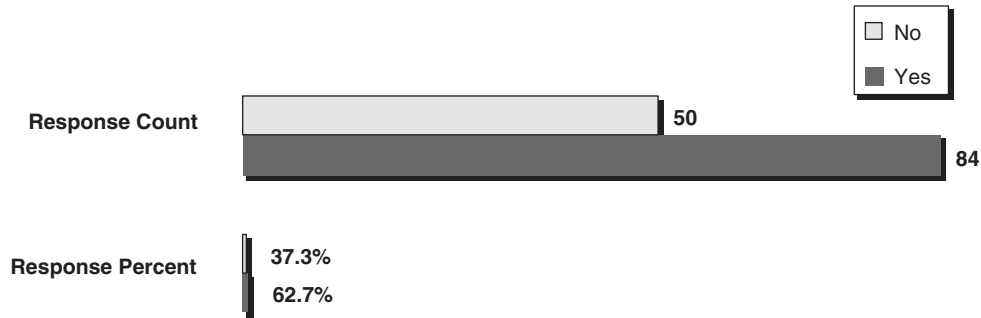


Figure 2: Level of advice received as indicated by sample.

Table 3: Logistic regression analyses predicting whether an individual receives advice on pensions

Variables	<i>B</i>	<i>S.E.</i>	<i>Odds ratio</i>	<i>P</i>
Gender (female=1)	0.11	0.42	1.11	0.80
Age (older/45 years and older=1)	0.08	0.47	1.09	0.86
Income (higher earner/\$5000 and over=1)	0.50	0.42	1.65	0.23
Constant	0.23	0.42	1.26	0.58

Note: To assess whether gender, age or income have any impact on investment advice received, the variable age was split into two categories where under 45 years indicates 'young persons' while 45 years and older indicates 'older persons'. The variable income was also split into two categories where under BDS\$5000 is considered low to middle income whereas BDS\$5000 and over is considered high income.

investment decisions will now be made at the individual level by the employee. The results from the survey in Figure 2 show that 63 per cent of the respondents indicated that they had received advice in their pension schemes.

Very recent research in the United Kingdom found that it is more likely for participants nearing retirement and/or those with a high level of earnings to have received advice.⁴ It was therefore necessary to see whether there were differences between older and younger persons, and low-earning persons and high-earning persons with regards to the level of advice received about their pension or retirement planning. Gender differences were also assessed in light of the view that males and females are likely to differ in their investment decisions under DC schemes.⁴⁴ Logistic regression results in Table 3 and follow-up cross-tabulation analyses indicated no significant differences with respect to gender (male = 64 per cent versus female = 61 per cent; $P > 0.05$), age (Under 45 years = 61 per cent versus 45 years and over = 68 per cent; $P > 0.05$) and income level (Under US\$5000 = 58 per cent

versus US\$5000 and over = 69 per cent; $P > 0.05$). The results suggest that all groups equally reported having received advice about their pension. This finding conflicts with the evidence put forward by Byrne (2007) and may be because of differences in culture between the previous UK and current Barbadian samples; this issue will be discussed in a later section.

From the group of persons who received advice on their pensions, Figure 3 displays that the most popular source relied on was the employer (Mean = 2.99), with 71 per cent of respondents indicating that they relied on advice from this source at least 'moderately'. The next popular source of advice was the member's investment/insurance company ($M = 2.83$), with 68 per cent indicating that they have relied on this source at least moderately; this was followed by 53 per cent who indicated that they relied on their independent financial advisor ($M = 2.64$) at least moderately. A small proportion of respondents indicated that they received advice from sources such as their bank/building society (20 per cent), TV/newspaper (33 per cent),

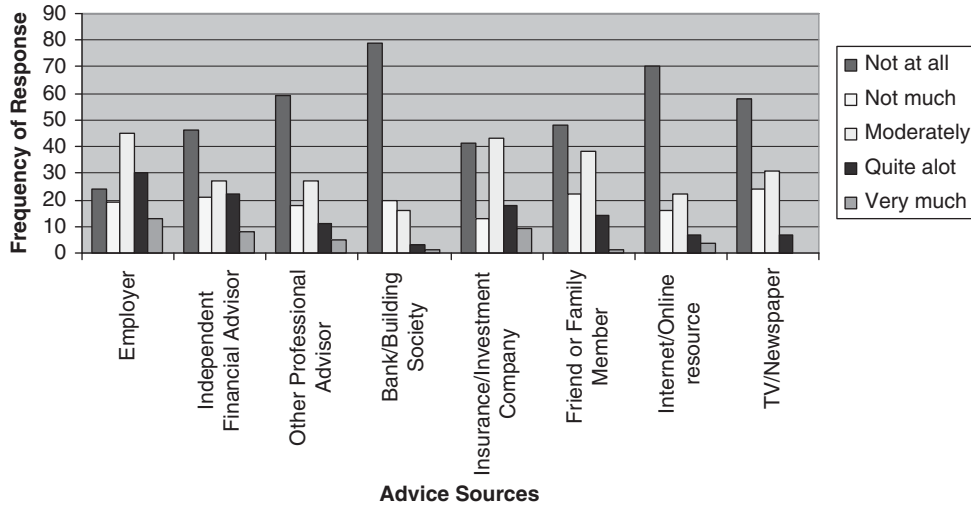


Figure 3: Sources of advice relied on by individuals within the sample.

Internet/online resource (32 per cent), and friends and family members (42 per cent) at least moderately. Byrne,⁴ too, found that relatively few respondents had relied on the Internet/online resources for pension advice even in light of the fact that the UK government was seeking to develop an online pensions planning tool. This situation is similar to that in Barbados where there is already an online pensions planning/projection tool in existence. It is thus surprising to witness such a small number of persons relying on this resource.

Independent samples *t*-tests were employed to examine whether the extent to which the various sources were relied on differed significantly based on gender, age and income (see Table 4). The *t*-test results indicated no significant differences between males and females, between older and younger persons, and between low-income and high-income persons (all *P*s>0.05).

Savings levels

There is an array of disturbing evidence suggesting that employees are not saving sufficient to ensure a comfortable retirement. In light of the aforementioned DB to DC shift, employees need to pay greater attention to their level of savings to ensure that they do not out live their assets. To determine what levels of savings are adequate, it is important for employees to

estimate how much money they need to save towards retirement. However, the results shown in Figure 4 from the survey indicated that approximately 65 per cent of the sample had not tried to estimate their required level of savings for retirement or have attempted but were unable to calculate it. This discovery is consistent with Byrnes⁴ who also indicated that majority of respondents had failed to calculate their required level of savings for retirement.

Chi-square analyses were done to examine whether these responses differ significantly between those who have received advice and those who have not. Gender, age and income were analysed to determine whether these variables impacted on an individual's initiative to calculate how much is needed for retirement. In Table 5, the Barbadian sample revealed that both gender and age did not have any impact on whether or not an individual would calculate retirement needs.

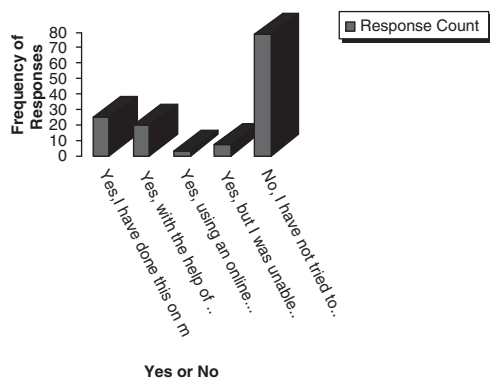
However, level of income seems to play an important role in the desire to calculate the necessary amount of savings for retirement, as the results showed that those in the higher income bracket (33 per cent) were more likely than those in lower income brackets (10 per cent) to report that they have tried to calculate it on their own (chi-square value = 17.371, *df* = 4, *P* = 0.002). Furthermore, majority of

Table 4: Sources of pensions advice relied on by respondents

To what extent did you rely on the advice about your pension from the following sources:

Sources	Not at all (%)	Not much (%)	Moderately (%)	Quite a lot (%)	Very much (%)	AvG score
Employer	14.5	14.5	36.1	27.7	7.2	2.99
Independent financial advisor	28.2	17.9	23.1	23.1	7.7	2.64
Other professional advisor	41.1	13.7	30.1	11.0	4.1	2.23
Bank/building society	60.6	19.7	15.5	2.8	1.4	1.65
Insurance/investment company	21.3	10.7	40.0	20.0	8.0	2.83
Friend or family member	37.3	20.0	29.3	12.0	1.3	2.20
Internet/online resource	51.4	16.7	18.1	8.3	5.6	2.00
TV/newspaper	45.2	21.9	23.3	9.6	0.0	1.97

Note: AvG score=average score based on a five-point scale (1=Not at all – 5=Very much).

**Figure 4:** Calculation of retirement needs by the sample.

those in the lower income bracket (72 per cent), compared to 37 per cent of those in higher income bracket, indicated they had never tried to calculate their required savings levels for retirement.

Respondents were also asked specific questions on their saving behaviour and preferences. Figure 5 revealed that more than half of the respondents reported that they should be saving in excess of 10 per cent for retirement with 28.4 per cent indicating that their savings rate should be above 15 per cent. However, slightly in excess of one-quarter of the respondents reported that a savings rate of 9 per cent or less would be sufficient for a comfortable retirement. Furthermore, approximately 11 per cent simply did not have any idea about their required level of savings for retirement.

Advice, gender, age and level of income could impact on the levels of savings/contributions by

employees regardless of plan type.⁴ However, chi-square analyses revealed that none of these variables have significantly impacted on the Barbadian employees' level of savings/contributions in their plans (see Table 6).

As regards to whether respondents believed that they were saving enough for retirement, results revealed that just over half (52 per cent) of the respondents indicated that they were presently saving too little towards retirement as shown in Figure 6. Conversely, only a mere 19 per cent of respondents indicated that they believe they are currently saving the correct amount for retirement whereas close to one-third (30 per cent) of respondents specify that they did not even know whether they were saving an adequate amount for retirement.

Moreover, employees in the lower income bracket reported that they were saving too little towards retirement (57 per cent) or did not know whether they were saving enough (36 per cent) relative to those in the higher income bracket, with 43 per cent and 18 per cent, respectively (chi-square value = 19.946, $df=2$, $P<0.001$).

Figure 7 highlights that out of the group that felt they were saving too little towards retirement, 57 per cent indicated that the reason for insufficient savings was that they had other financial priorities. A further one-fifth of respondents indicated that they were not earning enough in order to increase savings. Although Barbadians appear to be somewhat interested in their financial matters; it is worth noting that following through on a plan of action often

Table 5: Chi-square results regarding the calculation of retirement needs

Have you ever tried to calculate how much you need to save for retirement?

Answer options	Response (%)	Age	Gender	Income	Advice
Yes, I have done this on my own	18.7	$\chi^2=6.325$, df=4, P=0.176	$\chi^2=4.016$, df=4, P=0.404	$\chi^2=17.371$, df=4, P=0.002*	$\chi^2=7.366$, df=4, P=0.118
Yes, with the help of an advisor	14.9				
Yes, using an online resource/Internet	2.2				
Yes, but I was unable to work it out	5.2				
No, I have not tried to do this	59.0				

*P<0.05.

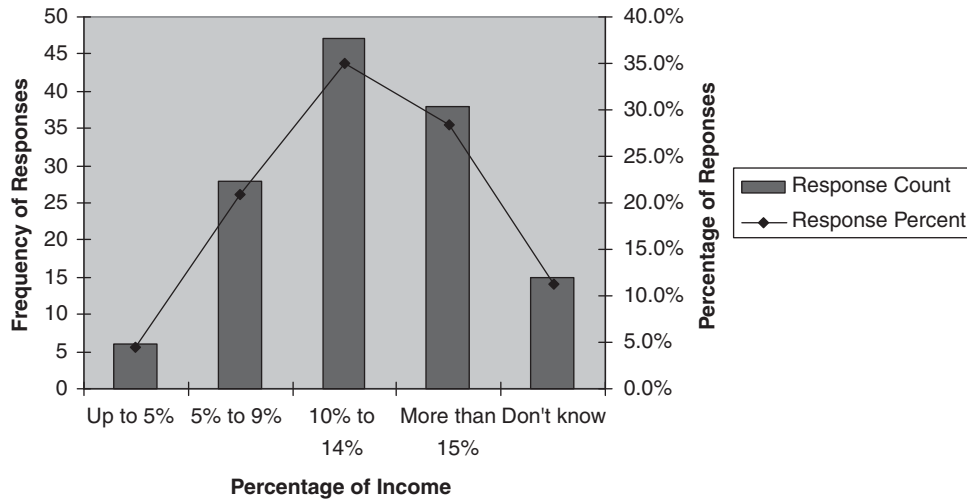


Figure 5: Required levels of savings to ensure a comfortable retirement.

requires self-control. Of the respondents saving too little, 15 per cent stated that they plan to increase their savings in the future. Choi *et al*³⁵ found that individuals severely lacked the willpower to follow through on their intentions to save more. Furthermore, only a trivial portion (1.4 per cent) indicated distrust towards pensions.

Comparative research done by Byrne⁴ found that of those indicating that they were saving too little (N=69), 56 per cent opted to have their contributions unchanged in the future. This is consistent with the *status quo* bias as expressed by Samuelson and Zeckhauser.³⁷ However, the evidence from the Barbadian sample contradicts such findings as 64 per cent of those saving too little convey that they would increase their contributions in the future. Within many occupational pensions there is the additional voluntary contribution option that allows

employees to easily and frequently make alterations to their contribution rate. Again, self-control, procrastination and inertia are crucial determinants in the formula of whether these intentions will materialize. Less than one-third of the respondents said that they would maintain the same level of contributions in the future whereas a marginal 7 per cent are clueless as to what they will do to their contribution rates.

Level of knowledge and investment issues

Majority of the respondents (52 per cent) conveyed that they were moderately knowledgeable about financial matters as indicated in Figure 8. This is consistent with the findings of Byrne.⁴ Just over one-fifth of the respondents expressed that they were fairly knowledgeable with a comparative proportion

Table 6: Employees' views regarding their level of savings for retirement

Given your desired level of income in retirement, do you think:

Answer options	Response (%)	Age	Gender	Income	Advice
You are saving too much	0.0	$\chi^2=2.551$, df=2, P=0.279	$\chi^2=1.793$, df=2, P=0.408	$\chi^2=19.946$, df=2, P<0.001***	$\chi^2=3.979$, df=2, P=0.137
You are saving too little	18.7				
You do not know if you are saving enough	51.5				
Do not know	29.9				

***P<0.001.

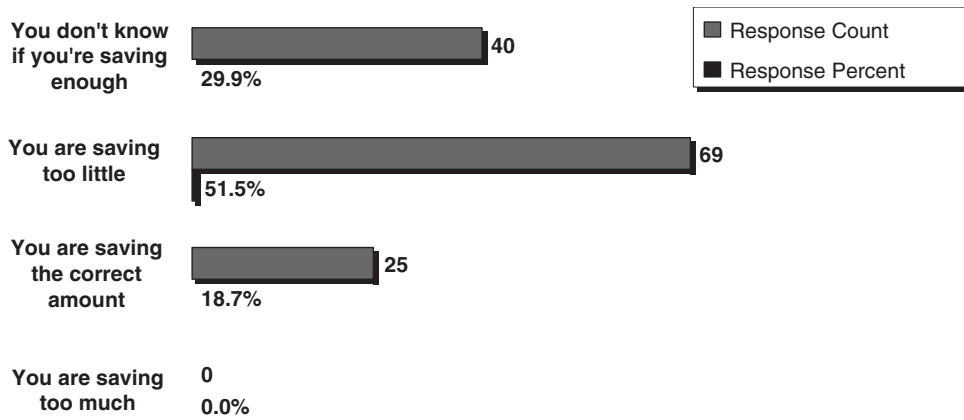


Figure 6: Employees views on their levels of savings. Deeper analysis using chi-square, informed that gender, age and level of advice do not have any bearing on the beliefs of employees regarding whether they are adequately saving for retirement as indicated in Table 5. On the other hand, income was found to significantly affect these beliefs, as employees in the high-income category (39 per cent) were more likely to report that they are saving enough for retirement compared to those in the lower income bracket (7 per cent).

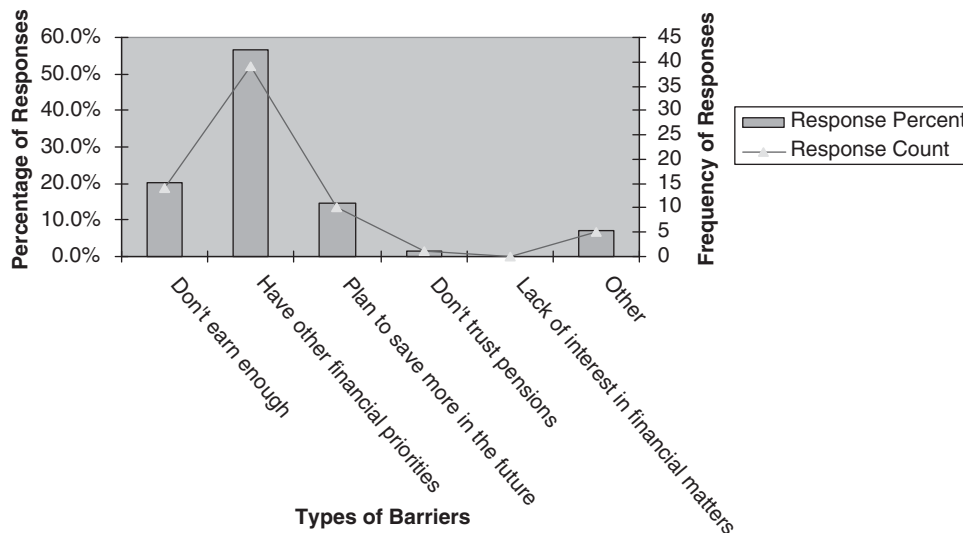


Figure 7: Main barriers to saving enough for retirement.

(20 per cent) indicating that they were either not very knowledgeable or not at all knowledgeable. Only 5 per cent of the respondents conveyed that they were very knowledgeable.

Further inspection was performed using chi-square analyses to determine effects of gender, age, income and advice on the level of knowledge employees possess about retirement. The results displayed in Panel A of Table 7 revealed that advice, age and gender did not impact on the level of knowledge employees have regarding their retirement. However, income significantly impacts upon the level of knowledge employees tend to have about their retirement. Chi-square results revealed that employees in the lower income bracket (22 per cent) are not very knowledgeable about retirement issues as compared to those in the higher income bracket (2 per cent). Furthermore, those individuals within the higher income bracket (37 per cent) are more likely to be fairly knowledgeable about retirement issues relative to those in the low-income bracket (16 per cent). All of the respondents who said they were very knowledgeable about retirement issues (13 per cent) were from the category of high-income earners (chi-square value = 26.294, $df=4$, $P<0.001$).

To further assess the level of knowledge, employees were asked to answer question regarding rudimentary aspects of investment. The findings were in conflict with the results in the preceding paragraph. Less than one-half of the respondents correctly answered the question related to the calculation of compound interest regarding the length of time it takes an investment's value to double based on a 7 per cent annual return. This was even more surprising, as this should be a familiar aspect of simply managing an individual's long-term savings.⁴ Under chi-square analyses, both income and advice appeared to have no effect on whether employees correctly answered the question involving compound interest calculations (see Panel B of Table 7). However, males (60 per cent) were more likely to produce the correct answer to the compound interest question (that is 10 years) as compared to females (32 per cent). Also, females were more likely to be unsure of the length of time it takes for the investment to double (37 per cent) when compared to males (13 per cent; chi-square value = 10.711, $df=4$, $P=0.030$).

An even lower proportion of respondents (28 per cent) were able to correctly indicate the inverse relationship between long-term interest

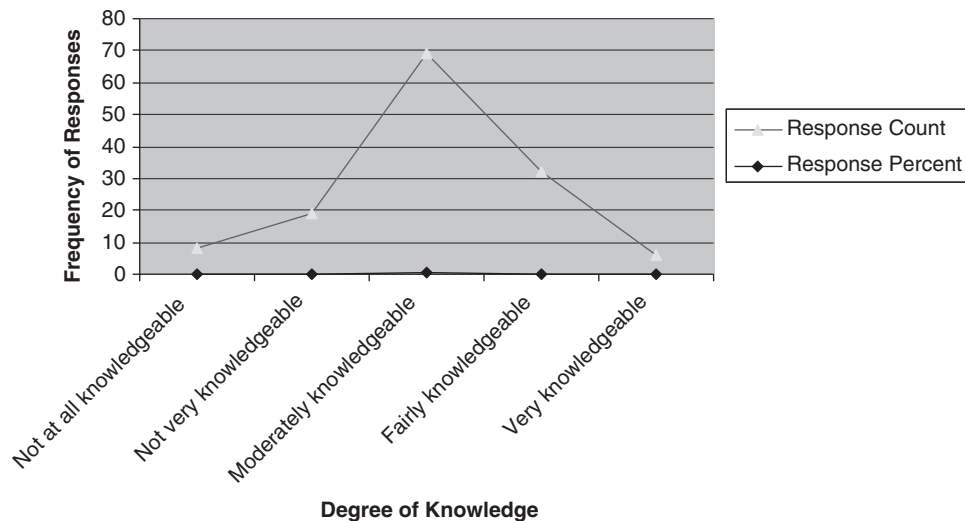


Figure 8: Level of knowledge of financial issues by respondents of the sample.

Table 7: Level of knowledge on investment matters

Answer options	Response(%)	Age	Gender	Income	Advice
<i>Panel A: How knowledgeable are you about investment matters?</i>					
Not at all knowledgeable	6.0	$\chi^2=7.993$, df=4, P=0.092	$\chi^2=3.066$, df=4, P=0.547	$\chi^2=26.294$, df=4, P<0.001***	$\chi^2=6.289$, df=4, P=0.179
Not very knowledgeable	14.2				
Moderately knowledgeable	51.5				
Fairly knowledgeable	23.9				
Very knowledgeable	4.5				
<i>Panel B: If an investment earns a return of 7 per cent per year, roughly how long do you think it will take for the value of that investment to double:</i>					
5 years	3.0	$\chi^2=10.252$, df=4, P=0.036*	$\chi^2=10.711$, df=4, P=0.030*	$\chi^2=9.014$, df=4, P=0.061	$\chi^2=1.784$, df=4, P=0.775
10 years	39.6				
15 years	22.4				
20 years	5.2				
Do not know	29.9				

* $P < 0.05$; *** $P < 0.001$.

rates and the value of bonds. The majority of respondents (43 per cent) incorrectly indicated that if long-term interest rates rise, the value of the bonds would increase with just over one-quarter conveying that they don't know what would happen to the value of the bonds or that the value would remain unchanged. Chi-square analyses shown in Table 8 showed that advice, age and gender had no role in employees' ability to correctly answer the question. However, income significantly impacted the employees' ability to correctly answer the question regarding the relationship between interest rates and the value of bonds. The results showed that employees in the high-income bracket (37 per cent), as compared to those in the low-income bracket (22 per cent) were more likely to state that the value of the bond would fall, if long-term interest rates rise. The results further showed that employees in the low-income bracket (31 per cent), as compared to those in the high-income bracket (6 per cent) were more likely to state that they do not know about the relationship between long-term interest rates and the value of bonds (chi-square value = 11.681, df = 3, $P = 0.009$).

As shown in Figure 9 close to three-quarters of the respondents indicated that they would like to make the investment choices/contributions

regarding their plans themselves, whereas slightly in excess of one-quarter of respondents preferred to have someone else perform this task.

Further inspection based on chi-square analyses (see Panel A of Table 9) informed that individuals aged 45 and over (88 per cent) relative to those under age 45 (70 per cent) preferred to make the decisions themselves, whereas employees under age 45 (30 per cent) relative to those aged 45 and older (13 per cent) prefer to have someone else make the decision for them (chi-square value = 4.041, df = 1, $P = 0.044$). The remaining variables income, gender and advice had no impact on employees' preferences surrounding the decision-making of their schemes.

In Barbados, 63 per cent of the respondents indicated that the investment funds/contributions in their scheme was the result of a default option set by the scheme whereas the remaining 37 per cent indicated that it was an active choice made by them (see Figure 10).

Chi-square analyses highlighted in Panel B of Table 9 revealed that gender, income and level of advice did not significantly impact on employees' responses to this issue. However, the results revealed significant age differences which conflicts with the previous paragraph as employees under

Table 8: Employees knowledge as it relates to the relationship between the value of bonds and long-term interest rates

If long-term interest rates were to rise, what effect do you think this would have on the value of a pension fund invested in bonds (fixed-income securities)

Answer options	Response (%)	Age	Gender	Income	Advice
Value of the pension fund will rise	43.3	$\chi^2=3.045$, df=3, P=0.385	$\chi^2=2.744$, df=3, P=0.433	$\chi^2=11.680$, df=3, P=0.009**	$\chi^2=0.575$, df=3, P=0.902
Value of pension fund will fall	27.6				
Value of the pension fund will remain the same	8.2				
Do not know	20.9				

**P<0.01.

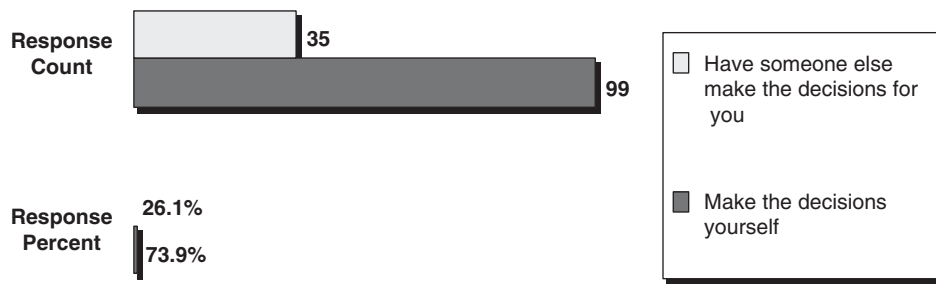


Figure 9: Preference regarding the making of choice/contributions regarding the pension scheme.

Table 9: Employees preferences as it relates to exercising their choices or settling for the default option

Answer options	Response (%)	Age	Gender	Income	Advice
<i>Panel A: As regards the investment choices/contributions for your pension scheme, do you prefer to:</i>					
Make the decisions yourself	73.9	$\chi^2=4.041$, df=1, P=0.044*	$\chi^2=0.896$, df=1, P=0.344	$\chi^2=0.422$, df=1, P=0.576	$\chi^2=0.622$, df=1, P=0.430
Have someone else make the decisions for you	26.1				
<i>Panel B: As regards the investment funds in/contributions to your pension the result of: Age gender income advice</i>					
An active choice you made	38.8	$\chi^2=5.075$, df=1, P=0.024*	$\chi^2=1.496$, df=1, P=0.221	$\chi^2=2.786$, df=1, P=0.095	$\chi^2=0.022$, df=1, P=0.883
A default option set by the scheme	61.2				

*P<0.05.

45 years of age (44 per cent) were more likely to report that their investment/contributions were the result of an active choice made by them, compared to employees 45 years and over (22 per cent). Whereas those 45 years and over (78 per cent) were more likely than younger employees/under 45 years (56 per cent) to report that their investment/contributions were the

result of a default option set by the scheme (chi-square value = 5.075, df = 1, P = 0.024).

When respondents were asked how often they review their investments/contributions to their pension plan, 46 per cent of respondents indicated that they review their pension annually with 9 per cent doing so more than once annually. Additionally, just over one-quarter of

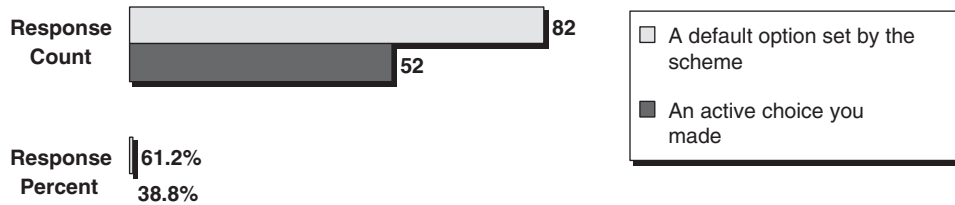


Figure 10: Active versus default option

Table 10: Frequency of reviewing pension plans

How often do you review the investments in/contributions to your pension fund?

Answer options	Response (%)	Age	Gender	Income	Advice
More than once a year	9.0	$\chi^2=2.039$, df=5, P=0.844	$\chi^2=2.938$, df=5, P=0.710	$\chi^2=8.682$, df=5, P=0.122	$\chi^2=6.254$, df=5, P=0.282
Every year	46.3				
Every 2–3 years	6.0				
Every 5 years	1.5				
Very occasionally (less than once every 5 years)	10.4				
Never	26.9				

employees in the sample indicated that they indicated that they never reviewed their investment period whereas 18 per cent review their result every 2–5 years. Chi-square analyses shown in Table 10 showed that advice, income, age and gender did not significantly impact whether employees chose to review their pension plans.

Respondents were asked how often they change their investments/contributions to their pension plan, more than half (55 per cent) indicated that they had never changed their investments/contributions to their pension plan. Just over a fifth of the respondents (22 per cent) indicated that they review their investment/contributions at least every year. Chi-square analyses shown in Table 11 revealed that advice, income, age and gender did not significantly impact whether employees chose to change their investment/contributions to their pension plans.

Figure 11 displays that most of the respondents (44 per cent) indicated that they were unsure about what the options are in their pension scheme, whereas just over a quarter reported that the options were about right. Chi-square analyses revealed that advice, income, age and gender did

not significantly impact employees' responses to this question.

Respondents were asked to indicate the level of appropriateness of various asset classes for saving for their retirement. Figure 12 shows that the most popular asset classes highlighted by the employees were property (Mean = 4.35) and own a home (Mean = 4.13), where 75 per cent and 76 per cent of respondents, respectively, found these asset classes to be 'very appropriate'. Comparable results were indicated for government (Mean = 3.96) and corporate bonds (Mean = 3.53) where 52 per cent and 47 per cent of employees, respectively, indicated that these asset types were 'fairly attractive'. Again comparable results were seen for local company shares (Mean = 3.55) and employer's stock (Mean = 3.32) where 42 per cent and 39 per cent of employees, respectively, indicated that these asset types were 'moderately attractive'. Barbadians are characterised as being risk averse, therefore it was not surprising that a 'familiarity bias' would present, causing overseas stock (Mean = 3.15) to be 'moderately attractive' by just over one-third of the respondents. However, what was surprising was that cash (Mean = 3.18)

Table 11: The frequency at which employees change the investments in/contributions to their pensions

How often do you change the investments in/contributions to your pension fund?

Answer options	Response (%)	Age	Gender	Income	Advice
More than once a year	1.5	$\chi^2=10.640$, df=5, P=0.059	$\chi^2=1.766$, df=5, P=0.881	$\chi^2=4.455$, df=5, P=0.486	$\chi^2=6.180$, df=5, P=0.289
Every year	22.4				
Every 2–3 years	7.5				
Every 5 years	0.7				
Very occasionally (less than once every 5 years)	12.7				
Never	55.2				

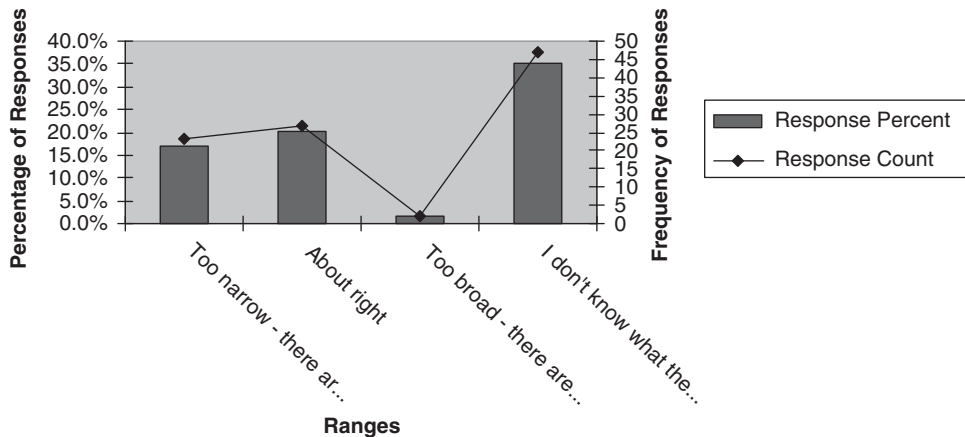


Figure 11: Employees' views on the range of investment options within their plan.

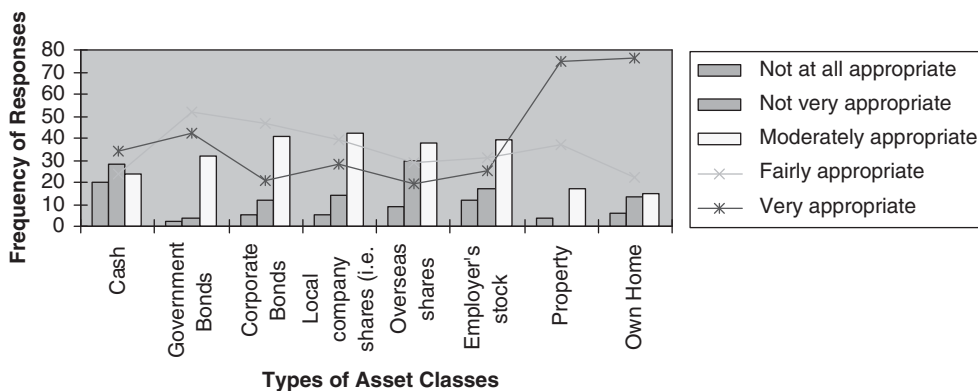


Figure 12: The level of appropriateness of the various asset classes for retirement.

was highly undesirable as an asset class for retirement.

Independent samples *t*-tests were conducted to examine whether the level of appropriateness attached to the various sources differed significantly based on gender, age, level of advice

and income. In terms of gender, there was a significant gender difference on level of appropriateness attached to respondents' own home as an asset class ($t=2.22$, $P=0.03$), where females ($M=4.28$) were more likely to highlight that their own home was a more appropriate

asset class for saving for retirement when compared to males ($M=3.76$). In terms of income level, there were three categories of asset classes on which there were significant differences between low-income and high-income persons in terms of level of appropriateness attached. Those employees in the higher income were more likely than those in lower income to report that 'overseas shares' ($M=3.43$ versus $M=2.99$; $t=2.03$, $P=0.04$) and 'local company shares' ($M=3.85$ versus $M=3.37$; $t=2.52$, $P=0.01$) were highly appropriate asset classes for saving for retirement. However, those in the lower income category ($M=3.40$) placed a higher level of appropriateness on 'cash' as an asset class for retirement than those in the higher income category ($M=2.83$) ($t=2.18$, $P=0.03$). The results revealed that there were no other significant differences in terms of gender, age, income and level of advice.

The choice of investments within one's pension fund plays a crucial role in the performance of the fund and the returns to be gained from that fund. The results indicated that 61 per cent of the respondents used the performance track record of the investment to decide whether to include it into their fund. This extrapolation of past results to make such a decision can yield misleading projections of the future as information presented may be based on 'cherry picking' by the analyst. The second most popular answer was that the choice was based on the advice of a financial advisor as 17 per cent of respondents chose this option, whereas a further 10 per cent indicated that the legal fees and charges play a crucial role in the choices they make. Brochures and marketing information was the least relied upon as only a trivial 2 per cent

convey this as being influential on their investment choices. Under chi-square analyses, displayed in Table 12 gender, income, age and advice appeared to have no effect on what factors employees regarded as influencing the choices of investment for their funds.

KEY CONCLUSIONS AND RECOMMENDATIONS FOR PRACTITIONERS

Overall the study revealed a number of important findings. Firstly, despite that the vast majority of employees proclaimed that they received advice on pensions and retirement planning, Barbadian workers appear to lack the basic fundamental knowledge needed to make pertinent, effective decisions surrounding their pension plans.^{4,26,28} Secondly, employees seem to have relied heavily on the 'advice' from the employers. This may have been attributed to the cultural differences between the United Kingdom and Barbados. The United Kingdom's culture is predominantly individualistic, whereas the culture in Barbados is more collectivistic, and therefore, there would be massive information about financial and investment matters being shared among friends, family and work colleagues across all categories of individuals.

The results also revealed that a majority of employees had not tried to calculate how much money is needed for their retirement especially among those who are low-income earners. One explanation may be that calculation of an individual's retirement needs may be a daunting task as it inherently involves many uncertain variables.²³⁻²⁵ Moreover, Barbados' current environment is characterised by increasing taxes coupled with rising inflation; these

Table 12: Factors influencing the choice of investment in employees' pension fund

<i>Which factor most influences your choice of investments for your pension fund?</i>					
<i>Answer options</i>	<i>Response (%)</i>	<i>Age</i>	<i>Gender</i>	<i>Income</i>	<i>Advice</i>
Level of charges and fees	9.5	$\chi^2=6.416$, df=4, $P=0.170$	$\chi^2=3.180$, df=4, $P=0.528$	$\chi^2=5.312$, df=4, $P=0.257$	$\chi^2=3.679$, df=4, $P=0.451$
Investment performance	61.9				
Recommendations of my advisor	16.7				
Brochure/marketing information	2.4				
Other	9.5				

increments in prices compete for the employee's salary. As a pension is not an immediate priority, 'low utility' is attributed to retirement planning.¹⁶

Despite relatively high levels of ignorance on the part of employees, majority chose the appropriate level of savings needed for a comfortable retirement (that is in excess of 10 per cent). Furthermore, it seems puzzling that even though they knew of the required rate of savings, over a half of the respondents conveyed that they were saving too little towards retirement. There are many behavioural explanations that clarify these deviations such as the *status quo* bias. Again, those individuals in the low-income category were those conveying inadequate savings levels whereas those earning more indicated that they were saving enough towards retirement. The most popular reason put forward by respondents who were undersaving was that they had other financial priorities. As aforementioned, pensions are generally considered as being low priority, and only become relevant near retirement.

Majority of those employees who said that they were undersaving indicated that they would increase their contributions in the future. However, intentions have often not materialized owing to lack of self-control, inertia and procrastination.^{5,13,33,34}

Finally, employees in Barbados confirmed that property is regarded as the most valuable asset to secure for retirement. Owning a home or land is seen as a major accomplishment for many and especially in Barbados, with the scarcity of this valuable resource and the current building boom, prices are continuously rising. Byrne⁴ suggested that this affiliation with property may be the result of the familiarity bias on the part of employees.

Recommendations

A key recommendation for practitioners which is derived from findings above is that employers should do more in educating their employees on different aspects of their pensions and in areas of financial management such as retirement planning, credit management, budgeting and

salary management. Moreover, it is recommended that investment and insurance companies play a greater role in informing individuals of the types of options they offer and go a little further by alluding to the options most suitable for various segment groups. Another important recommendation for practitioners is the need to educate persons about the importance of having a pension that is adequate to meet their post-retirement needs, especially among those who are in the low-income brackets.

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