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PREFERENCE AND CHOICE FOR MICRO PENSION SCHEME: EVIDENCE FROM ESTATE SECTOR IN SRI LANKA

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ABSTRACT

This study reports important information on the preference and choice of a micro pension scheme from estate sector employers in Sri Lanka. The contingent valuation method (CV) was used to elicit participants' willingness to pay for the hypothetical micro pension scheme. For product preferences, a conjoint analysis was conducted to study their relative importance and to discover the relationships between different attributes and the characteristics of the respondents. The results show that participants' interest in joining the micro pension scheme is 92% (SD=2.7%) overall and there was a significant relationship between the willingness to pay of respondent and their demographic and socio-economic characteristics. The findings vividly demonstrated the complexity of the preference context and pragmatic barriers for participation to uniform the pension scheme. Flexibilities in micro pension schemes will increase the access and affordability of the estate sector employers. Designing an appropriate delivery system through microfinance institutions is vital for financial inclusion of this segment. The results of this study may also have important implications for financial planning professionals.

INTRODUCTION

The financial inclusion or expanding the population with access to financial services is one of the priorities of developing countries (Amidzic, Massara, and Mialou, 2014). A growing body of literature on social security systems and financial markets in developing countries reveal opportunities for innovative pension strategies and designs. Micro-pension schemes have increased the attention on present day social security provision in rural contexts (Naaijkens, 2015). However, in the case of Sri Lanka, the micro-pension scheme has not yet been tested. In this vein, the main objective of this study is to examine the willingness to pay and preference for a micro-pension scheme among plantation (estate) sector[1] employers in Sri Lanka. It is hoped that the findings of this study will, be used to support the creation of a more efficient and realistic pension scheme. The study is motivated by the fact that Sri Lanka's plantation (estate) sector continues to be the least developed sector in Sri Lanka.

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The population of the estate sector (6.3 % of total population) mainly consists of Tamils of Indian origin[2] brought to Sri Lanka as workers in the estates during the British rule in Sri Lanka. The plantation sector, which falls under the management of 23 Regional Plantation Companies (RPCs), produces 36% of the country's tea and 37% of rubber. The sector is worth 7.7 billion; it is the largest employer in the country with 190,000 employees, and houses nearly a million in population in its estates (MPI, 2016). Plantation sector households have lower living standards than other sectors in Sri Lanka, due to poor quality housing, poor access to infrastructure services, social problems, lower household incomes, and few alternative livelihood opportunities. Plantation settlements are generally isolated and underserved. Over a million workers in tea estates continue to lead relatively isolated lives and face multiple deprivations. These factors have resulted in the out- migration of plantation communities to better served areas with improved livelihood opportunities, undermining the long-term sustainability of the sector, which may have adverse impacts on the national economy (UNDAF, 2012). However, successive governments and the RPCs, which were set up in 1992 after the privatization of the plantation sector, have attempted to improve the quality of life in this sector through physical,

[1] 'Estate' sector is defined as areas with plantations where there are 20 or more acres in land and 10 or more resident labourers.

[2] Household Income & Expenditure Survey 2012/2013

social and economic development of plantation settlements. Unlike in any other employment sector in Sri Lanka, the plantation worker enjoys a fully secured, guaranteed family employment. Any person born in the estate is entitled for employment from age 18-60. Various types of non-wage compensation are also provided to employees in addition to their normal wages or salaries (Shanmugaratnam, 1997). The RPCs are mandated to provide 300 days of the work for its workers regardless of affordability, yield, field out-puts, or weather. Estate employers also enjoy 20 days of paid leave?, 14 days paid sick leave benefits with gratuity, attendance bonuses, profit bonuses, profit share allowances. Funeral aid benefits and three-month paid maternity leave for female workers. Each person registered as a worker in the estates and their dependente enjoy the welfare benefits provided by the estates. Housing, health care, sanitation, water, and medical care are benefits afforded to the entire estate community. Maternity care, total custodial child care from ages 0 -5, vaccinations, allowances for milk powder, flour and riceare also part of the package they enjoy from time to time (Rajadurai, 2015). However, 70 percent of all employed persons in Sri Lanka work for more than 40 hours/week compared to the RPC male workers (50% of work force), who work only for 20 – 25 hours per week (4-5 hours a day) (Rajadurai, 2015). According to data on Sri Lanka Labour Force Survey (2015) revealed that the most economically inactive population (46.5%) remains in estates sector.

The RPCs claim that economic viability of the tea industry is in insecurity due to the rising cost of production, and low productivity. The cost of production is already the highest in the world due to the heavy wage bill, and the industry is in a very challenging position to sustain. Plantation Companies currently do not offer or pay into a pension scheme of their workers (Rajadurai, 2015). Sri Lanka expanded their coverage of the pension system to informal sector workers include plantation (estate) sector through a voluntary pension scheme (VPS) introduced by the social security board of Sri Lanka. Prior experience with the coverage has not been encouraging among the estate sector and dropouts from the VPS is a vital problem of this scheme (Heenkenda, 2016). Employees Provident Fund (EPF) and Employees' Trust Fund (ETF) are the largest social security schemes in Sri Lanka enjoyed by the estate sector employers as a retirement benefit. Both employeesand employers are expected to make contributions of 8% and 12% of total earnings respectively each month for EPF schemes. The ETF is a purely contributory scheme by employers amounting to 3% of gross wages. The responsibility of ensuring regular ETF and EPF contributions are made to the relevant funds rests with the employers (Rannan-Eliya and Eriyagama, 2003). However, it cannot be considered a pension scheme as it is not an annuity. Therefore, an innovative pension scheme may have a huge potential for estate sector employers in Sri Lanka.

Micro Pension Schemes

Many recent studies have been conducted in several developing countries that focus on innovative pension schemes to old age social security. To ensure a sustainable pension system, innovation is needed. However,, in developing countries, the main policy issue is how to get participants in the informal sector to save and plan for retirement. Micro pension is an innovative pension scheme for retirement income offered to poor people working in the informal sector.

The micropension provision builds up assets designed as a defined contribution scheme. Micropensions are usually defined contribution schemes (DC) in which basically a long term voluntary savings product to accumulate annuity over a long period, in order to yield returns at a later date (Shankar and Asher, 2009). Micro-pension schemes must be self-sufficient and sustainable; universally accessible, especially for those workers in the informal sector; affordable, efficient and available throughout the country; equitable, pro-labour and pro-poor; well-regulated. These savings are typically managed by a professional fund manager and invested appropriately in financial/capital markets. At a pre-agreed withdrawal age (58 - 60 years), the accumulated balance can be withdrawn in a lump-sum, phased withdrawal, annuity or some combination of these methods (Arunachalam, 2007; Shankar, 2009; Uthira and Manohar, 2009).

The World Bank (1994) defined a three pillars of pensions systems, pillar one is publicly managed, unfunded defined benefit scheme. Pillar two categorized as privately managed, funded defined contribution scheme i.e earnings-related pensions. Pillar three is a voluntary retirement savings design. The micro pension refers to second and third pillars old age income security. There are four types of microfinance provisions. The first three are microcredit, microsavings and microinsurance. The fourth one is micropension, which allows sustainable financial inclusion for the pensioner in the case of poor people working in the informal sector. Microfinance financial products help the poor build wealth. Credit, savings, insurance, and pensions are key drivers of long term financial health among the poor. Micropension is a new opportunity for the poor with low transaction cost, capital accumulation, and low risk capital appreciation through pooling of resources and diversification, respectively.

The micro pension combines both the elements of a usual pension scheme and specific features of microfinance. In essence, micro-pension has the same purpose as traditional pension schemes. It draws on the same generally accepted practices as traditional pensions. However, the experience of micro-pension in low income markets has shown that there are many key differences between traditional and micro-pension products, (See Table 1). Apart from traditional pension schemes, micro-pension products have showed a special characteristic, which makes distribution naturally difficult. Specifically, a high level of post sales service is required year after year, which means higher costs of servicing clients. Also, commission structures have not afforded sufficient incentive either due to inordinately high costs (because of remoteness and lack of easy access to customers) and/or regulatory barriers. Micro pension is a relatively new phenomenon in developing countries; however, different countries have varying forms of micro-pension systems and there are some success stories. Micro pension schemes offered in India are amongst the successful pioneers. Development of Humane Action (DHAN) Foundation in India initiated a micro pension system in 2011. Critical success factor of the DHAN micro pension scheme is the extensive education on the pension product and financial future. This is combined with a high level of trust and interdependence that is integrated in an inclusive social development model. For them, other schemes, such as contributory schemes being introduced by the state governments and micro pensions through microfinance and other institutions are likely to be more suitable for low income segment (Asher, 2008).

Table 1. Differences between micro pension and traditional pension schemes

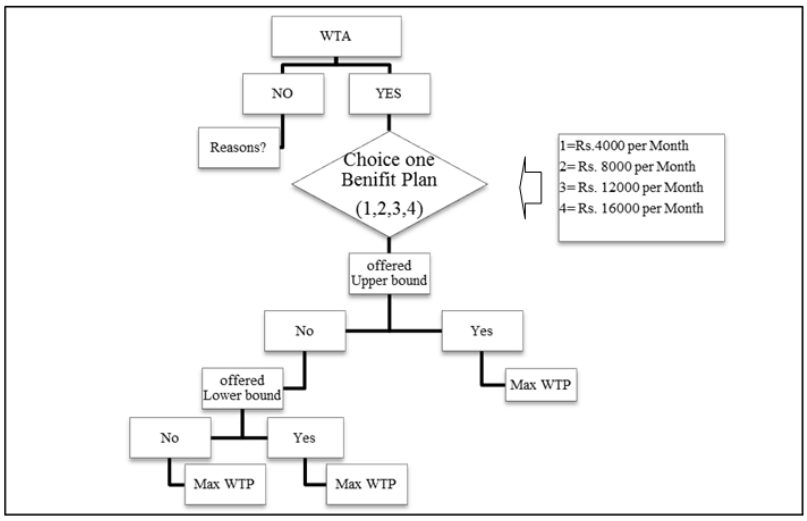
Key area	Traditional Pension Scheme	Micro Pension Scheme
Proximity	The pension fund manager is closer to customers.	Customers are usually far removed and less accessible.
Awareness	Awareness is higher among customers so convincing customers for renewal is rarely required	Convincing customers for renewals is a routine part of the work and has to be done periodically
Preparedness to fulfill contractual obligations	Customers are more prone to fulfilling their contractual obligations (prompt payment of contributions due, etc.).	Customers are not highly aware of the importance and consequences of nonfulfillment.
Post-affiliation work	Significant reduction in amount of work for agent in subsequent years	No significant reduction in amount of work for agent in subsequent years.
Number and value of transactions	Lower number of transactions but both the total value and the unit transaction value are higher.	Larger number of transactions though each transaction is of lower value.
Periodicity of Transfers	Regular and periodic collections.	Weekly or monthly premium collections.
Collection of Transfers	Easy collection of transfers through an electronic or other systematic means.	Mainly door-to-door premium collections. E-payment is at infancy stage
Transaction Costs	Overall lower transaction costs. Transaction costs can be standardized.	Overall higher transaction costs. Transaction costs are difficult to standardize.
Administration Fees	Larger amounts mean that even smaller commissions can be sufficient because of low volume of work.	Such small premiums that even uncapped commissions can be insufficient due to large volumes of unanticipated work.
Intervention of intermediaries or third parties	Intermediaries or third parties tend to be responsible for sales in the initial year.	Intermediaries or third parties are mainly responsible for the entire customer relationship for several years after the initial sales.
Customer Contact	Primarily via correspondence or phone and sometimes in person.	Mainly in person.
Claims Handling	Simplified by greater accessibility of customers, their education and their understanding of insurance.	Complicated due to lesser accessibility and greater remoteness of customers, lesser education and lesser understanding of insurance.

Source: Adapted from http://www.pensiondevelopment.org/

Table 2. Monthly Pension benefits plans and bid values

VPS (Rs.1000 per Month)		Monthly Pension benefits (Amount)											
		Scenario 1 Rs. 4000			Scenario 2 Rs. 8000			Scenario 3 Rs. 12000			Scenario 4 Rs. 16000		
Age	Premium	Initial Bid	Lower Bound Bid	Upper Bound Bid	Initial Bid	Lower Bound Bid	Upper Bound Bid	Initial Bid	Lower Bound Bid	Upper Bound Bid	Initial Bid	Lower Bound Bid	Upper Bound Bid
18	40	160	144	176	320	288	352	480	432	528	640	576	704
25	60	240	216	300	480	432	528	720	648	792	960	864	1056
35	150	600	540	750	1200	1080	1320	1800	1620	1980	2400	2160	2640
45	440	1760	1584	2200	3520	3168	3872	5280	4752	5808	7040	6336	7744
55	1800	7200	6480	9000	14400	12960	15840	21600	19440	23760	28800	25920	31680

Note. This example (five age groups only) is an extract from the illustration handout which was used in survey briefing sessions



Note: WTJ is willingness to join for Micro pension scheme and WTP is willingness to pay for Micro pension scheme.

Figure 1. Flow diagram of estate sector employers willingness-to-pay outcomes

Fundamentally Indian and Bangladesh models have operated on the Grameen principles. The micro pension scheme in Bangladesh, suggests possibilities of using microfinance institutions to extend coverage in a limited manner on a voluntary basis (MacKellar, 2009). Under the Grameen Pension Scheme (GPS), all borrowers from Grameen Bank with a loan over a specified amount contribute a small sum each month for a period of ten years. The amount is compounded and returned as a lump sum after ten years. Another success story is from Ghana. The People's Pension Trust Ltd in Ghana provides the pension product to workers in the informal sector through large existing groups, associations, and communities and people can save daily, weekly or monthly with flexible deposits, done by mobile phone or otherwise through existing communities and groups (Naaijkens - 2015). Pension coverage for informal sector is a key policy issue and look for alternative pension schemes. For examples, Chile provides a government subsidized and co-sponsored scheme. China implemented a scheme characterized by compulsion, minimum income guarantees and micro life insurance products, Kenya introduced a voluntary defined contributory scheme and South Africa's informal sectors workers are covered by the public pension system (Hu and Stewart, 2009). The new pension system can be created using international experience for Sri Lankan estate sector employees.

MATERIALS AND METHODS

A survey questionnaire was developed to investigate the Estate Sector employers' WTP for micro pension scheme in the Nuwara Eliya district, Sri Lanka. The households were chosen through a simple random sampling technique. The election registration list was used as the sampling frame with the total sample size being 750 employers. The study on the willingness to pay is often done using hypothetical questioning. We used face-to-face interview methods with a structured questionnaire schedule for data collection. Before each interview session, a brief education session for explaining how pension scheme works was conducted. Furthermore, an illustrated handout was used to educate and explain core concepts of pension and to explain the benefits and implementation procedure with micropension attributes. The surveys were conducted by trained university graduates together with local enumerators to interact with estate employers, clarifying any doubts to minimize non-response rates and judging their sincerity. Questioned about their willingness to participate in the Micro Pension Scheme is starting off with a closed ended question "Yes" and "No".

Measurement of Variables and Method of Analysis

The contingent valuation method (CV) is used to elicit individual's WTP for the hypostatical micro pension scheme. The hypostatical micro pension scheme has a lower and upper bound value; this study used initial or stating values as existing premium structure of the voluntary pension scheme (VPS) introduced by the social security board of Sri Lanka. The maximum premium amount and the minimum amount were used to construct the bid value range. The lower bound coincided with the existing VPS contract premium value minus 10 percent load. The upper bound was equal to the VPS premium value plus 10 percent load. The upper (lower) bound of the WTP thus reflects the minimum (maximum) offer price that households gave in response to the willingness to pay question. In this study, we used the one and half bound dichotomous choice format by following up questions for the purpose of the statistical efficiency and reliability (Saleem, Coble, Hudson, Miller, Hanson and Sempier, 2008). Under this design respondents were first asked to select one contract and instructed to consider each contract as if it were the only choice available. Monthly pension benefit plans (scenarios) were designed based on the official poverty line at the time of the survey (January 2016): it was Rs. 3961 at national level (Nuwara Eliya district was 3995). This fractional number was rounded as Rs.4000 for first benefit plan. Second benefit plan was created by doubling the official poverty line amount (Rs.8000) and third and final benefit planes were 3 times (Rs.12000) and 4 times (Rs.16000) of official poverty line amount respectively. Initial bid value was formed using the actuarial principles of the voluntary pension scheme. This pension scheme provides a monthly pension benefit as Rs. 1000 minimum amount. Then above four possible pension benefit plans, moving to applicable bid, each respondent was asked if s/he is willing to pay an upper bound contract, and then offered a follow-up question. If s/he said "yes" to the first bid, a follow-up question was then offered.

If s/he said "no" to the first bid, a lower bid was given and her/his willingness to pay was reconfirmed before the follow-up question was asked. This follow-up question was open ended. If s/he said "no" to the upper bound bid, then s/he would be asked to how much s/he is willing to pay. If s/he said "yes" to the lower bound bid then s/he would be asked to mention the maximum that s/he is willing to pay. Under this elicitation procedure, one potential limitation of contingent valuation method is related to the bias which may come from the starting point of the bid. In this study, this bias is reduced by using an open ended follow-up question (McCarthy, 2003). Figure 1 describes the structure of CV bid design. The analysis for willingness to pay for micro pension scheme employed a Logit regression model to estimate probabilities. The choice experiment conjoint analysis was used to evaluate and determine consumer preferences for certain product attributes of micro pension. Finally, examining the relationships between the socioeconomic characteristics of respondents and their product choice behavior is vital for developing product design. The basic description and the definition of explanatory variables used in the analysis are presented in Table 3. Likert items are the most common response formats used in perception and attitude scales. This study, attitudes towards retirement planning, trust of private sector financial institutions and employers preference for play a role of employer in pension provision mechanism factor measured and identified with 3+ items per each factor. Response category span a 5-point range of responses, (1 = strongly agree to 5 = strongly disagree). Likert scale values converted to binary dummy variable using "transform" tool of SPSS version 18.0.

RESULTS AND DISCUSSION

This sectionsummarizes the descriptive characteristics of sample households. In Table 4, the results revealed that 92 percent of the respondents expressed their willingness to participate in the hypothetical micro pension scheme and 8 percent were unwilling to accept due to their various reasons.
The age distribution shows that the majority of respondent employees were slightly matured; the average age of employees being 32 years, and every employer had completed

some level of formal education. Almost 80 percent of respondent employers' average has 7 years of schooling and the other 20 percent include 8-10 years. A majority (64%) of participating respondents declared that their health status as fall sick on seldom. This study also revealed that the majority of the households have large family sizes with an average of 6 individuals and range from 3 to 8 persons. The average monthly gross income was 23585. The mean value of Functional Financial literacy is 58 out of 100-scale index. Amongst the respondents, 69% have savings habit and the majority (54%) is generating additional sources of income. The respondents who accumulated considerable (67%) social capital, it could be noted that majority participants intensity of networks among people.

Table 3. Description of independent variables and hypothesized relationship

	Variables		Explanation	Measurement	Expected sign
Socioeconomic and demographic characteristics	Age	AGE	Age of the respondent	Age in years	
	Gender	GEN	Sex of the respondent	1=Male, 0 = Female	-
	Marital status	MES	Respondent civil condition of being married or Single	1 = Married 0= Single	+
	Education level	EDU	Educational attainment of the respondent	Number of years of schooling	+
	Health status	HEL	Respondents' general perception of their personal health.	1= Seldom fall sick 0=Otherwise	+
	Family size	FAM	Number of household members	A continuous quantitative measurement	-
	Income	INC	Gross Monthly income of the respondent	Income in SL Rs.	+
	Financial literacy	FFL	knowledge on concepts of inflation, interest rates	A continuous quantitative measurement index	+
	Microfinance Experience	MIE	Affiliation or experience on microfinance activities (or ROSCA)	1 =Yeas 0=No	+
	Savings Behavior	SAB	Usage of formal financial products	1 =Yeas 0=No	+
	Income diversification	IND	Additional sources of income	1 =Yeas 0=No	+/(-)
	Social capital	SCP	reciprocity trust and networking behavior	A continuous quantitative measurement index	+
Behavioural intention	Attitudes	ATT	Attitudes toward retirement planning	1 =Positive 0=Negative	+
	Trust of private sector	TRP	Trust of the private sector financial institutions	1 =Trust 0= Otherwise	+
	Role of Employer	INE	Involvement of plantation company to pension scheme	1 =Yes 0= No	+/(-)
	Mobile phone ownership	MPO	Mobile phone ownership	1= owns a mobile phone 0= does not own a mobile phone	+
	Usage of Technology	SMS	SMS uses to communicate	1=Use 0= does not use	+

The majority (78%) respondents had positive attitudes towards retirement planning and average employers (55%) have preferred to trust the private sector financial institutions. Estate employers reported that the majority (69%) believed that the employer has a role to pension provision. A majority of respondents (85%) have mobile phones while 59 percent of them use SMS or text messaging as a mode of communication. The response pattern of the four monthly pension benefits revealed that the only 12 percent preferred to scenario 1 while 9 percent were 41-40 age group and 3 percent from 31-50 age groups. The scenario 2 was highly attracted among the age group of 31-40 (12%) years and 41-50(10%) group while 18-30 group was 8 percent preferences. The scenario 3 was also highly attractive? among the age group of 31-40 (15%) years and other were choices 9 percent each. The scenario 4 dominated by age between 18-30 years about 16% from the total. Age group 31-40 confirmed 9 percent to be willing to pay to scenario 4. Results reveal that the youngest are more attractive to a high level benefit plan. A respondent in age group 18-30 was willing to pay 424- 1010 per month and the age group 31-40 fell in the range of 534 to-2540. The group of 41-50 obtained a value range of 1324 -5696. Compared to the currently operative premium structure of the existing government voluntary pension scheme, majority respondents' willingness to pay was exceeding the VPS premium structure limit and there is more possibility to improve the benefit of pension scheme through premium price.

Correlation with income

The WTP in terms of monthly payments, study estimated the monthly WTP expressed as a percentage of monthly income. The results revealed that most employers in the estate sector were willing to pay more than 1 percent of their monthly income for the micro pension sachem. As can be seen in Figure 2, 50 percent of the sampled population stated willingness-to-pay a level of 3.5 percent of their monthly household income for a micro pension scheme. All respondents agreed to pay about 1 percent and 20 percent of respondents agreed to pay more than 5 percent of their monthly income for a retirement benefit.

Factors influencing employers' willingness to participate (WTP) decision

Table 7 shows the results of the binary Logit regression revels that the factors influencing employers' willingness to participate (WTP) decision. The results indicated that there was a significant relationship between the WTP of respondents and the demographic and their socio-economic characteristics. Age factor has a negative influence on the acceptance of the micro pension scheme and significant at 5% level. Marginal effects imply that, a one year increase in a employers' age would lead to a 0.2% reduction in the probability of willing to participate in the micro pension scheme.

Table 4. Descriptive characteristics of sample households

	Variables		Percent (%)	Mean	Standard Deviation
	Willingness to participate (WTP)			0.914	0.274
		Yes	92		
		No	08		
Socio□demographic characteristics	Age			32.52	9.235
	Gender			0.24	0.14
		1=Male,	80		
		0 = Female	20		
	Marital status			1.54	0.58
		1 = Married	72		
		0= Single	18		
	Education level	Number of years of schooling		7.20	2.8
	Health status	1= Seldom fall sick	64		
		0=Otherwise	36		
	Family size	A continuous quantitative measurement		6.2	2.35
	Income	Income in SL Rs. / Month		23585	5841
	Financial literacy	A continuous quantitative measurement index %		58	11
	Microfinance Experience				
		1 =Yeas	67		
		0=No	33		
	Savings Habit	1 =Yeas	69		
		0=No	31		
	Income diversification	1 =Yeas	54		
		0=No	46		
	Social capital	A continuous quantitative measurement index %		67	18
Behavioural intention	Attitudes	1 =Positive	78		
		0=Negative	12		
	Trust of private sector	1 =Trust	55		
		0= Otherwise	45		
	Role of Employer	1 =Yes	69		
		0= No	31		
	Mobile phone ownership	1= Owns a mobile phone	85		
		0= Does not own a mobile phone	15		
	Usage of Technology	1=Use	59		
		0= does not use	41		

Table 5. Response pattern of the four monthly pension benefits by employers

Age Group	Monthly Pension benefits (Amount)				Percentage	N
	Scenario 1 Rs. 4000	Scenario 2 Rs. 8000	Scenario 3 Rs. 12000	Scenario 4 Rs. 16000		
18-30	-	8	9	16	33	195
31-40	3	12	15	9	39	260
41-50	9	10	9	-	28	180
Percentage	12	30	33	25	100	635

Table 6. The mean WTP value was estimated by age group

Age Group	Monthly Pension benefits (Amount)							
	Scenario 1 Rs. 4000		Scenario 2 Rs. 8000		Scenario 3 Rs. 12000		Scenario 4 Rs. 16000 above	
	Lower Bid Mean value (Std. dev)	Upper Bid Mean value (Std. dev)	Lower Bid Mean value (Std. dev)	Upper Bid Mean value (Std. dev)	Lower Bid Mean value (Std. dev)	Upper Bid Mean value (Std. dev)	Lower Bid Mean value (Std. dev)	Upper Bid Mean value (Std. dev)
18-30	-	-	424 (21)	520 (39)	640 (65)	784 (67)	829 (23)	1010 (34)
31-40	535 (120)	720 (73)	1000 (123)	1280 (34)	1580 (234)	1897 (156)	2120 (75)	2540 (45)
41-50	1324 (72)	2210 (87)	3114 (102)	3672 (171)	4892 (44)	5696 (121)	-	-

The coefficient of the variable "gender" was positive and statistically significant at 1% level. The results revealed that the male respondents had the likelihood of increasing the 4.1% in the willing to participate in the micro pension scheme. Marital status coefficient had positive and significant at 10% level suggesting that married respondents have increased probability of 8.5% for willingness to accept decision. In the case of health status, estimated coefficient value was negative and statistically significant at 5% level.

Participants who seldom fall sick have a 19% decline in the likelihood of participating in the scheme than those that fall sick frequently. The variable, Family size, carries a higher significant level with a negative sign implying that respondents with lesser number of members in their family tended (3.5%) to participate in the scheme than the respondents having more family members. Income factor has a positive influence on the participation in a pension scheme.

Table 7. Factors influencing employers' willingness to participate (WTP) decision

	Variables	Coefficients	Marginal effects
Socioeconomic demographic characteristics	Age	-0.00457**	-0.0020**
	Gender	0.01557***	0.0410***
	Marital status	0.07581*	0.0851*
	Education level	0.6320	0.7120
	Health status	-0.1236**	0. 1912**
	Family size	-0.5245***	-0.0347***
	Income	0.1435**	0.2567**
	Financial literacy	0.1456***	0.1250***
	Microfinance Experience	0.4758*	0.0920*
	Savings Behavior	.01234**	0.0989**
	Income diversification	0.8971	0.4578
	Social capital	0.7581	0.5682
Behavioural intention	Attitudes	0.9785**	0.8544**
	Trust of private sector	.05426	.04231
	Role of Employer	0.5681*	0.4757*
	Mobile phone ownership	0.7514*	0.0847*
	Usage of Technology	0.7845**	0.0786**
	Constant	32.1425**	
	Number of observations	635	
	Pseudo R 2	0.178	

Notes: *significance level - 0.1; **significance level = 0.05; ***significance level =0.01

Table 8. Employers preference of micro pension attributes and percentage

Attributes	Levels	Utility	Averaged importance (%)	Preference (%)
Pension Product	Pension and EPF Combine Plan	6.891	20.22	82
	Pension and EPF Separate Plan	-6.891		18
Pension Plan	Group related individual plan	5.814	14.45	92
	Private plan	-5.824		8
Pension plus plan	Pension with health insurance	6.389	18.18	60
	Pension with life insurance	-6.389		40
Delivery Choice	Company / Workplace	6.231	21.56	17
	Microfinance Institute	7.056		61
	Post office	6.389		22
Annuitization Method	Monthly pension	4.542	12.27	84
	Lump sum payment	-4.542		16
Premium Frequency	Monthly	5.324	13.32	86
	Weekly	-5.342		14

Table 9. Utility and Averaged importance (%) of Respondents by Age

Attributes	Levels	Age Group		
		18-30	31-40	41-50
Pension Product	Pension and EPF Combine Plan	5.21	3.85	4.63
	Pension and EPF Separate Plan	5.21	3.85	4.63
	Averaged importance (%)	16.24	17.45	14.56
Pension Plan	Group related individual plan	4.65	3.78	4.87
	Private plan	4.65	3.78	4.87
	Averaged importance (%)	13.11	11.25	17.42
Pension plus plan	Pension with health insurance	4.36	3.29	2.91
	Pension with life insurance	4.36	3.29	2.91
	Averaged importance (%)	20.12	23.34	13.4
Delivery Choice	Company / Workplace	4.26	5.23	4.21
	Microfinance Institute	5.97	4.52	2.56
	Post office	4.58	3.57	5.38
	Averaged importance (%)	22.13	19.45	24.18
Annuitization Method	Monthly pension	3.94	3.26	2.7
	Lump sum payment	3.94	3.26	2.7
	Averaged importance (%)	17.23	16.32	12.14
Premium Frequency	Monthly	4.36	3.99	2.48
	Weekly	4.36	3.99	2.48
	Averaged importance (%)	11.17	12.19	18.3

Source: Field Survey- 2016

This shows that an increase in the income of respondents is strongly associated with the increase (25%) in participating in the scheme. With regards to respondent financial literacy score has a positive relationship with the willingness to participate. This implies that an increase (12%) in the level of financial literacy of the employers will increase the participation in the scheme. Experience on microfinance activates is a positive influence on the probability of employers WTP with 1% significant level.

This could imply that employers with experience on microfinance activates demonstrate higher (9.2%) demand for the participating of the scheme. The factor of savings behavior that shows a positive sign and being statistically significant at 5% level increase the savings behavior leads to a (9.8%) increase in probability of willingness to participate in the scheme. We also examined the effect of behavioral intention factors on the WTP of respondents. Findings suggested that attitudes, trust on the private sector, role of employer, Mobile

phone ownership, and usage of technology are significant variables and positively influence of the WTP, but the variables of trust of private sector aren't significant on the WTP of the respondents. The marginal effects results indicate that a higher altitude increases (85%) the willingness of respondents to participate in the scheme. Role of employer for pension provision such as responsibility for enrolling employees is a significant factor associated with the willingness to participate and employer's encouragement is leads to a (47%) increase in probability of willingness to participate in the scheme. Respondents have a mobile phone and uses for short messaging service to commutation will increase the participating of the scheme with 8 % and 7% respectively.

Preference and Choice for Micro Pension Scheme

Understanding clients' needs and wants is vital in financial product design and marketing. This section assesses the relative importance of different features of a micro pension scheme. According to insurance literature many attributes can generate to test for employees' pension preferences. In this study, we select six most important product characteristics i.e. Pension product, pension plan, pension plus plan, delivery choice, annuitization method and premium frequency. The pension product attributes which is evaluated at two levels. It includes preferring a micro pension scheme and EPF combine plan or a pension and EPF separately enjoying plan. The majority of the employers (82%) preferred to join a micro pension sachem and EPF separately enjoying plan rather than combine plan. In the pension plan choice, employers were asked one question regarding their preference premium frequency. Group related individual plans (92%) are more attractive than private plans (8%) offered to individuals among the estate sector employers. The survey then asked their preferred most suitable pension plus plan, when given the choice between pension with health insurance and pension with life insurance, estate employers substantial amount (60%) choose the micro pension plus choice with health insurance plan. The survey then asked their preferred most suitable and convinces institution for insurance delivery. The majority of employers highlight (61%) that the microfinance institutes in the area was the most suitable organization structure for work as stakeholder in the pension supply chain. However, some employers prefer post office network (22%) and 17 percent reported that their attached plantation companies play a role to pension provisions.

Regarding the features suitable annuitization method for a micropension plan, monthly pension sachem was the most preferred (84%) annuitization method among the estate sector. On average, employers derive approximately 84% of their preference from a monthly premium collection method. Some employers preferred (16%) a weekly premium frequency method also. From the analysis (Table 8), with regard to the features highlighted, the delivery choice ranks first (21.56%) and influences more the pension product (20.22%), pension plus plan (18.18%) and the pension plan (14.45%) were more important attributes in micro pension scheme. Premium frequency (13.32%) and Annuitization method (12.27%) take low rank among the estate employers preference. The results show that the most important delivery choice is microfinance institute. It's implied that people would like to work on relationship-based finance service. The second most important attribute is the pension product, the popular preference was pension and EPF combine plan. Pension plus plan was ranked third and it's include pension with health insurance plane was popular feature among the respondents. Moreover, fourth rank was pension plan; Group related individual plan was very prevalent feature among the employers. Common payment of premiums frequency was monthly based. Despite the least important attribute, estate sector employers were more likely that monthly payment, rather than a lump sum. The study also examines the relationships between micro pension product preferences and employers age. Respondents' utility and relative factor importance scores by age group are presented in Table 9. Significant differences were found in the utility scores and relative factor importance scores of the method attribute among different age groups of respondents. Further post hoc tests indicated that concern on pension product was much stronger preferences in age group 31-40 than other groups. Interest on pension plan was very high in 41-50 ages cluster and 31-40 ages group was very much considers on pension plus plan compare to other respondents. Delivery Choice was most attractive attribute among the respondent age of 18-30 and 41-50. About the annuitization method attribute was much stronger prefer in 18-30 age bracket. Respondents of age 41-50 were significant influenced by premium frequency method compared to other respondents.

Conclusion

This paper reports the results of a contingent valuation survey that elicits estate sector employers' willingness to pay (WTP) for a micro pension scheme and employers' preferences for pension plan attributes. The micro pension is an old age financial security scheme for bottom of the income pyramid in the society. There is robust evidence suggesting that this type of pension scheme is well accepted and the potential demand for a micro pension scheme is very high among the estate sector employers. The results indicated that there was a significant relationship between the WTP of respondent and the demographic and their socio-economic characteristics. Conjoint analysis also provides useful insight into employers' preferences for attribute levels of a micro pension scheme. This can help financial products designers to create micro pension scheme that closely fit estate sector employer' demands and in this way they can be more successful in the market. The new pension system can be created using international experience for Sri Lankan estate sector employees and have to peovide opportunities to join a similar to a micro-pension provision.

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