

表5 AI、RTの訓練確率に与える影響

	勤め先訓練		自己啓発	
	(1)	(2)	(3)	(4)
女性	-0.035 (0.002)	-0.014 (0.002)	0.001 -0.002	0.006 (0.002)
正規(基準)				
パート・アルバイト	-0.186 (0.002)	-0.185 (0.002)	-0.060 (0.002)	-0.058 (0.002)
派遣社員	-0.174 (0.004)	-0.180 (0.004)	-0.005 -0.004	-0.007 (0.004)
契約社員+嘱託	-0.108 (0.003)	-0.111 (0.003)	-0.011 (0.003)	-0.011 (0.003)
小学・中学	-0.070 (0.003)	-0.057 (0.003)	-0.064 (0.002)	-0.059 (0.003)
高校(基準)				
専門学校・短大・高専	0.063 (0.002)	0.054 (0.002)	0.076 (0.002)	0.072 (0.002)
大学・大学院	0.075 (0.002)	0.065 (0.002)	0.157 (0.002)	0.154 (0.002)
AI	no	yes	no	yes
RT	no	yes	no	yes
観測数	374,468	374,468	374,468	374,468
Pseudo R2	0.133	0.135	0.100	0.103

注:各推計は産業ダミー、従業員規模ダミー、新卒ダミーを含んでいる。

付表 1(a) 基本統計量(有業者・就業希望無業者)

N=427,558

		Mean	Std. Dev.	Min	Max
	女性	0.499	0.500	0	1
雇用形態	正規(基準)	0.611	0.488	0	1
	パート・アルバイト	0.183	0.387	0	1
	派遣社員	0.024	0.152	0	1
	契約社員+嘱託	0.043	0.204	0	1
	その他+不詳	0.015	0.122	0	1
	無業者	0.124	0.330	0	1
	教育	小学・中学	0.076	0.266	0
高校		0.469	0.499	0	1
専門学校・短大・高専		0.233	0.422	0	1
大学・大学院		0.211	0.408	0	1
不詳		0.012	0.108	0	1
年齢階層		年齢	40.6	11.271	15
	15-19	0.011	0.104	0	1
	20-24	0.079	0.269	0	1
	25-29	0.112	0.315	0	1
	30-34	0.134	0.340	0	1
	35-39	0.136	0.342	0	1
	40-44	0.127	0.332	0	1
	45-49	0.129	0.335	0	1
	50-54	0.130	0.336	0	1
	55-59	0.145	0.352	0	1

付表 1(b)基本統計量(有業者)

N=374,468

	Mean	Std. Dev.	Min	Max	
女性	0.464	0.499	0	1	
雇用形態ダミー	正規(基準)	0.697	0.460	0	1
	パート・アルバイト	0.209	0.407	0	1
	派遣社員	0.027	0.162	0	1
	契約社員+嘱託	0.050	0.217	0	1
	その他+不詳	0.017	0.130	0	1
	教育ダミー	小学・中学	0.070	0.255	0
高校(基準)		0.468	0.499	0	1
専門学校・短大・高専		0.228	0.419	0	1
大学・大学院		0.222	0.416	0	1
不詳		0.011	0.107	0	1
年齢階層ダミー	年齢	40.8	11.242	15	59
	15-19	0.010	0.099	0	1
	20-24(基準)	0.078	0.269	0	1
	25-29	0.111	0.314	0	1
	30-34	0.130	0.336	0	1
	35-39	0.133	0.339	0	1
	40-44	0.127	0.333	0	1
	45-49	0.133	0.339	0	1
	50-54	0.133	0.340	0	1
	55-59	0.145	0.352	0	1
従業者規模ダミー	1~9人(基準)	0.138	0.345	0	1
	10~29人	0.136	0.343	0	1
	30~99人	0.159	0.366	0	1
	100~299人	0.136	0.343	0	1
	300~499人	0.056	0.230	0	1
	500~999人	0.061	0.240	0	1
	1000人以上	0.189	0.391	0	1
	官公庁など	0.118	0.322	0	1
	不詳	0.007	0.084	0	1
継続就業年数ダミー	継続就業年数	11.47	10.677	0	44
	0~4年	0.382	0.486	0	1
	5~9年	0.169	0.374	0	1
	10~14年	0.120	0.325	0	1
	15~19年	0.108	0.310	0	1
	20~24年	0.069	0.253	0	1
	25~29年	0.062	0.241	0	1
	30~34年	0.050	0.218	0	1
	35~39年	0.033	0.177	0	1
	40年以上	0.008	0.089	0	1
	新卒	0.235	0.424	0	1
期待密着度	11.73	8.409	0.0	32.8	

期待残存勤続年数	-1.73	8.353	-42.9	35.0
----------	-------	-------	-------	------

付表2 年齢階層別勤め先訓練

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	
女性	-0.042 (0.018)	-0.013 (0.007)	-0.022 (0.006)	-0.065 (0.006)	-0.053 (0.006)	-0.036 (0.006)	-0.023 (0.006)	-0.012 (0.006)	-0.027 (0.005)	
雇用形態	正規(基準)									
	パート・アルバイト	-0.246 (0.017)	-0.227 (0.007)	-0.215 (0.006)	-0.174 (0.006)	-0.164 (0.006)	-0.149 (0.007)	-0.165 (0.007)	-0.145 (0.006)	-0.117 (0.005)
	派遣社員	-0.214 (0.022)	-0.192 (0.012)	-0.193 (0.009)	-0.169 (0.010)	-0.157 (0.010)	-0.146 (0.013)	-0.131 (0.015)	-0.104 (0.018)	-0.079 (0.017)
	契約社員・嘱託	-0.080 (0.036)	-0.114 (0.010)	-0.122 (0.008)	-0.076 (0.010)	-0.106 (0.010)	-0.084 (0.011)	-0.078 (0.011)	-0.098 (0.009)	-0.056 (0.008)
教育	小学・中学	-0.077 (0.024)	-0.045 (0.015)	-0.024 (0.014)	-0.027 (0.012)	-0.046 (0.012)	-0.052 (0.013)	-0.089 (0.012)	-0.066 (0.008)	-0.053 (0.006)
	高校(基準) 専門学校・短大・高専		0.109 (0.008)	0.057 (0.007)	0.044 (0.006)	0.043 (0.006)	0.037 (0.006)	0.044 (0.006)	0.051 (0.007)	0.041 (0.007)
	大学・大学院		0.148 (0.010)	0.098 (0.007)	0.069 (0.007)	0.064 (0.007)	0.057 (0.007)	0.071 (0.007)	0.060 (0.007)	0.030 (0.007)
観測数	3,670	29,380	41,428	48,706	49,738	47,718	49,762	49,795	54,268	
Pseudo R2	0.138	0.126	0.120	0.115	0.131	0.146	0.164	0.167	0.150	

注:すべての推定式は継続就業年数・従業者規模・産業・職業ダミーを含む。

厚生労働科学研究費補助金（政策科学総合研究研究事業）
分担研究報告書総括研究報告書
少子化研究会

研究代表者 青木 玲子 一橋大学 経済研究所 教授
研究分担者 池永 肇恵 一橋大学 経済研究所 准教授

研究要旨 平成20年4月から平成21年3月までの間に計12回開催し、少子化という多角的な議論が必要なトピックに対して、経済理論、制度設計、政策立案、国際比較を中心に活発な議論を行った。

A. 研究目的

「少子化」を研究対象としてモデル構築や統計解析を行うには、まず少子化現象がどのようなメカニズムで生起するのか、その結果が経済社会にどのような影響を与えうるかを整理する必要がある。これらの観点から、本研究会では、多様な分野の研究者から協力を得て、研究会の運営を行った。

B. 研究方法

主任研究者と分担研究者で議論の上、本研究を遂行するのに必要な知見を得るために研究者を選定し、研究報告を依頼した。研究会は幅広い分野の研究者の参加を得て、報告者による1時間の報告と1時間の討論を行うことで理解を深めた。

C. 研究結果

少子高齢化をめぐる多様な側面、主に、家族形成、女性の結婚・出産、就業形態、持続可能な社会保障制度などについての研究報告を得て議論した。

第一に、家族形成について2つの報告を得た。1つは出産に代わる家族形成としての養子制度について、アメリカの養子制度を歴史的に概観し、養子に対する需要と供給を実証分析した報告を受けた。もう1つは、親子間の同居の理論的考察に加えて日本の高齢者のパネルデータから親子間の同居についての決定要因についての実証分析を得た。

第二に、女性の結婚・出産行動についての実証分析の報告を3つ得た。1つはパネルデータを用いて労働市場が女性の結婚や出産行動に対してタイミングの違いはもたらすものの、長期的な影響は与えないとの結果を出しており、1つは教養娯楽価格の低下は子育て費用の相対的上昇により出産を抑制することを示唆している。さらに韓国についての研究で、韓国では根強い社会慣行もあり、結婚が女性の就業に抑制的に働くとの実証分析も示

された。

第三に、就業形態に関して2つの報告を得た。1つは、ITやワーク・ライフ・バランス政策と生産性の関係について分析したものであり、WLB制度が充実している企業ほど、またIT整備が充実している企業ほど、生産性や利益率が高くなる傾向が認められた。もう1つは、アメリカの若年層のパネルデータを用いて個人の属性や環境と起業の決定要因が示された。

第四に、持続可能な社会保障制度について3つの報告を得た。1つは個票データの分析を通じ、企業年金における従業員の年金選択要因を明らかにしたものである。1つはイギリスの医療制度についての説明であり、日本の問題についても有益な示唆を得た。さらに、政策的観点を中心に、出産・子育て、子どもの教育を促進する年金制度についての報告も受けた。

その他、教育における世代間問題やオーストラリアの子育てサービスについての報告も行われた。

D. 考察

日本については、仕事と家庭の両立支援や次世代育成について類似の政策が打ち出されて来たが、個人を追跡するパネルデータが不十分なこともあり、十分な政策評価分析の蓄積が行われていない。

また、少子化問題は様々な背景があるのと、因果関係の特定が困難であるため、データの収集・処理、解釈等において、批判に耐える確たる実証が必要となる。

E. 結論

出生率と労働投入との関係を考察するにあたり、家族形成行動、世帯情報、消費行動、地域差などをコントロールすることが重要であることが示された。

F. 健康危険情報
該当しない。

G. 研究発表
該当なし。

H. 知的財産権の出願・登録状況
(予定を含む。)
該当しない。

平成 21 年度 少子化研究会 スケジュール

(平成 19 年からの通算)

第 18 回

日時: 2009 年 4 月 8 日 (水)

場所: 一橋大学経済研究所 共同研究室 3(3 階)

報告者: 谷口和歌子氏 (筑波大学大学院ビジネス科学研究科)

タイトル: 「Corporate-Sponsored Pensions and Employee Choice of Annuities in Japan」

第 19 回

日時: 2009 年 4 月 14 日 (火)

場所: 磯野研究館 第 2 研究小集会室

報告者: 近藤絢子氏 (大阪大学)

タイトル: 「Female Labor Market Conditions and Family Formation」

第 20 回

日時: 2009 年 5 月 22 日 (金)

場所: 一橋大学経済研究所 共同研究室 3(3 階)

報告者: 櫻井宏二郎氏 (専修大学経済学部)

タイトル: 「IT、ワーク・ライフ・バランスと生産性」

第 21 回

日時: 2009 年 6 月 9 日 (火)

場所: 一橋大学経済研究所 共同研究室 1(3 階)

報告者: Rhema Vaithianathan 氏 (University of Auckland)

タイトル: 「The NHS as an Insurer」

第 22 回

日時: 2009 年 7 月 1 日 (水)

場所: 経済研究所 3 階共同研究室(3)

報告者: 久富善之氏 (一橋大学名誉教授)

タイトル: 「世代間問題と教育」

第 23 回

日時: 2009年7月23日(木)

場所: 経済研究所 3階共同研究室(1)

報告者: 安達貴教氏(東京工業大学)

タイトル: 「A Life-Cycle Model of Entrepreneurial Choice: Understanding Entry into and Exit from Self-Employment」

第24回

日時: 2009年10月22日(木)

場所: 経済研究所 3階共同研究室(1)

報告者: 湯川志保氏(大阪大学)

タイトル: 「余暇の選択と出産」

第25回

日時: 2009年11月27日(金)

場所: 経済研究所 3階共同研究室(1)

報告者: 森口千晶氏(一橋大学経済研究所)

タイトル: 「アメリカにおける養子制度の発展と日米比較の試み」

第26回

日時: 2009年12月17日(木)

場所: 経済研究所 3階共同研究室(1)

報告者: Jungmin Lee氏(Florida International University)

タイトル: 「Asian Age Reckoning: Marriage and Female Labor Supply」

第27回

日時: 2010年3月3日(水)

場所: 経済研究所 3階共同研究室(1)

報告者: 丸山士行氏(University of New South Wales)

タイトル: 「Transition to Parent-Child Coresidence: Parental Needs and the Strategic Bequest Motive」

第28回

日時: 2010年3月9日(火)

場所: 磯野研究館 第2研究小集会室(1階南側)

報告者: 丸山士行氏(University of New South Wales)

タイトル: 「Competition and Price Subsidy in the Australian Childcare Industry」

第 29 回

日時: 2010 年 3 月 19 日(金)10:30~12:00

場所: 経済研究所 3 階共同研究室(1)

報告者: Alessandro Cigno 氏 (University of Florence, CESifo, CHILD and IZA)

タイトル: 「How to avoid a pension crisis. A question of intelligent system design」

Corporate-Sponsored Pensions and Employee Choice of Annuities in Japan

Abstract

This paper studies individual annuity choice in Japanese DB corporate pension plans with the utility-based measure of annuity value. Using the data set which contains information on individual employee backgrounds, we find a significant impact of annuity value, risk-sharing within families, and precautionary savings on individual choice of annuity. Also, the result indicates that individual preferences for annuity would be enhanced by improving worker knowledge of pension benefits and their financial literacy. We find no evidence that house purchase and educational expenditure for children, which are generally thought to be primary reasons for choosing a lump-sum in Japan, has a negative impact on annuity choice. From our findings, individual annuity decisions are rational although there is much to be done to improve individual preferences for annuity to supplement their post-retirement income.

Keywords: Annuity puzzle, defined benefit pensions, social security

Corporate-Sponsored Pensions and Employee Choice of Annuities in Japan

Introduction

Low fertility rates, extended longevity and an aging population are growing concerns for modern Japanese society as it sustains a pay-as-you-go public pension system. A demographic imbalance of working and retired populations endangers the stability of a publicly administered retirement plan due to rapidly depleting reserves. As a result, post-retirement income sources that supplement public pension benefits are strongly needed.

Corporate pension plans cover about one half of the entire full-time working population in Japan, sometimes providing lifetime annuity, making it an important supplementary income source. While many US and European companies have shifted from the defined benefit (DB) scheme to defined contribution (DC) pensions, the majority of Japanese employers maintain DB pensions as their primary corporate sponsored pension plans. As a result, private DB pensions continue to play an important role in securing post-retirement income sources for many Japanese workers.

However, the actual benefits of corporate pensions differ greatly depending on whether a retiree takes pension allowances in the form of a lump-sum or annuity. According to a survey conducted by the Pension Fund Association, the ratio of retiring Japanese workers who chose to take all of their benefits as a lump-sum, which they could otherwise have taken as an annuity, rose from 43 percent in 2000 to 59 percent in

2006.

What drives Japanese employees to prefer a lump-sum payout to a more beneficial annuity? Since Yaari (1965) pointed out that lifetime annuities offer a valuable means to minimize the risk of outliving one's retirement wealth, economists have paid great attentions to factors that might cause the disparity between the economic theory and unpopularity of annuity products in the real world. Despite rich contributions that deal with the "annuity puzzle" in an individual annuity market, there exists little literature that have empirically studied annuitization choice in corporate sponsored pension plans. Furthermore, almost no studies have been conducted on the annuity puzzle which is similarly found in Japan, due mainly to lack of appropriate data.

Testing rationality of employee choice of payout options in corporate pension plans and a clear understanding of factors affecting the choice is crucial to further strengthen the role of corporate pension systems for the Japanese workforce. In order to address these issues, we set hypotheses, conduct data analysis, and draw some policy implications. The paper is organized as follows: Section 2 provides a brief overview of the causes of the "annuity puzzle" and of related empirical literature. Section 3 discusses implementation of lifecycle measure of annuity value. Section 4 describes the data, sample selection, and assumptions for the analysis. Hypotheses and analysis results are presented in Section 5, and Section 6 provides the conclusion.

Literature Review

Literature on individual choice of annuity originates with Yaari's (1965) study,

which argues individuals without bequest motives always choose to annuitize all of their wealth if the annuity market is actuarially fair. Despite this clear finding, the phenomenon of individual annuity markets being small in most countries is called the “annuity puzzle” and has attracted great attention among economists.

The annuity puzzle is explained by an actuarially unfair annuity market due to adverse selection and load factors (Mitchell et al., 1999; Finkelstein and Poterba, 1999), bequest motives (Bernheim, 1991; Inkman et al., 2007), precautionary savings for out-of-pocket medical expenditures (Turra and Mitchell, 2004), the role of risk sharing within families (Kotlikoff and Spivak, 1981; Brown and Poterba, 2000), and the existence of pre-annuitized wealth in the form of public pension and corporate sponsored pensions (Bernheim, 1991; Dushi and Webb, 2004).

Among existing literature on the annuity puzzle, to the best of our knowledge, there are only three studies that deal with individual choice of annuity in corporate pension plans. The first is Hurd et al. (1998), who analyzed employee choice of pension cash-outs in the U.S. using Health and Retirement Study (HRS) data. They found that workers with low income tend to cash-out pension capital at the time of job change and retirement although cash-out behavior was seen less often than expected. The second is by Brown (2001), who introduced a risk dependent measure of annuity value in analyzing intended annuitization of DC pension capital in HRS data. The third, Buetler and Teppa (2007), was the first to analyze real annuitization behaviors using administrative data of Swiss occupational pension plans provided by plan sponsors. All these studies revealed employee preferences for a lump-sum payout is persistent

although the latter two contributions found annuity choice is also influenced by utility based annuity value.

As for Japan, almost no analysis on the “annuity puzzle” is found due to lack of comprehensive data sets similar to HRS. The only comparable study in Japan is Kaneko (1999), who analyzed the middle-aged employee savings behavior of lump-sum payment using simple demographic characteristics such as age, education and income level. Kaneko finds that employees under 50 have a higher probability of saving a lump-sum payout, concluding that these workers have saving motives for future home purchase and educational expenditures for their children.

The data set we use in this study contains information on individual intentions of annuitizing their DB pension capital, individual characteristics and socio-economic backgrounds. This paper contributes to the existing literature in that it tests rationality of annuity choice in corporate pension plans, focusing on the influence of liquidity constraints, precautionary savings, and risk sharing within families on annuitization, which was made possible by rich information on individual backgrounds.

Lifecycle Model and Annuity Equivalent Wealth

To analyze the demand for annuity in corporate pension plans, we use a measure of annuity value called annuity equivalent wealth (AEW), developed by Brown and Poterba (2000) and Brown (2001). By estimating the influence of AEW on individual annuity choice, we test the rationality of their choice.

An individual who has wealth at retirement (W_0), public pension (S_t), corporate

pension (A_t) decides consumption (C_t) for each period under non-negativity constraint on wealth. The individual's wealth evolves as follows.

$$W_{t+1} = (W_t - C_t + S_t + A_t)(1+r)$$

In our analysis, because of lack of information on wealth at retirement (W_0), we assumed individuals have no wealth other than corporate pension capital, an assumption also used by Buetler and Teppa (2007). As a result, wealth at retirement (W_0) equals zero if an individual chooses annuity, otherwise equals the amount of lump-sum payment.

Under the above constraint, individuals decide consumption in each period to maximize value function $V_t(W_t)$ which is the discounted value of utility from consumption.

$$V_t(W_t) = \max \sum_{t=0}^{T-age} \frac{P_t u(C_t)}{(1+\rho)^t}$$

$u(C_t)$ denotes utility from consumption, P_t denotes surviving probability until period t , ρ denotes individual discount rate.

The maximum ages for consumption are assumed to be 112 for males, and 116 for females based on the 19th mortality table released from Ministry of Health, Labour and Welfare in Japan in 2000. Surviving probability in each period (P_t) is also based on the same mortality table.

The value function above satisfies the following recursive Bellman equation.

$$V_t(W_t) = \max u(C_t) + \frac{P_{t+1}}{1+\rho} V_{t+1}(W_{t+1})$$

If individuals have options of annuity or lump-sum for their corporate pension capital, utility (V^*) gained when their wealth (W^*) is fully annuitized is larger than the utility (V) gained when they choose to take full lump-sum. As a result, with additional wealth ΔW which the individual has to receive to reach the same utility V^* , annuity equivalent wealth is expressed as follows.

$$AEW = \frac{W^* + \Delta W}{W^*}$$

In calculating AEW, we assumed the CRRA (constant relative risk aversion utility function, interest rates (r) and individual discount rates (ρ) for each period to be 3 percent, and coefficient of relative risk aversion to be 0.2.

As for public pension (S_t), we estimated each individual's two-pillar benefits in the Japanese pay-as-you-go public pension scheme. In Japan, the first pillar offers a fixed amount benefit, and the benefit from second pillar is proportional to annual income in the working years. In the estimation, due to lack of information on individual history of annual income, we used average income history by gender and by educational attainment from national wage statistics, "Chingin Kōzō Kihon Tōkei Chōsa" released from Ministry of Health, Labour and Welfare in 2002. We estimated the second pillar benefit based on the income history and conversion factor which is different by the individual's birth year. We assumed the individual's participation period for the pension scheme to be the maximum 480 months.

According to Brown (2001), mortality risk, risk aversion, fraction of total wealth that is pre-annuitized, and marital status are the primary factors which determine AEW. In our analysis, we used different mortality tables by genders, which make AEW determined by different mortality risk faced by genders. Fraction of pre-annuitized wealth would also determine AEW. On the other hand, due to lack of information on individual risk aversion, we assumed the coefficient of relative risk aversion to be the same for all individuals. Also, because we focused on individual utility and neglected interaction between couples, marital status would not be a source of variation of AEW. The different main factor from Brown (2001) we assumed is availability of lifetime annuity in corporate pension plans. Unlike the US and many European countries where lifetime annuity is offered in most DB pension plans, many Japanese plan sponsors offer terminal annuity. Although terminal annuity offers benefit to individuals in the form of preferable conversion rate compared to market interest rate, the term of annuity would be a certain source of variation of AEW. Ultimately, AEW we calculate would be determined by gender, fraction of pre-annuitized wealth, and availability of lifetime annuity.

Data

The data source used for this study is the *Survey on Employer Sponsored Fringe Benefits 2002*,¹ which was conducted by the Japan Institute of Life Insurance. The original data collection targeted full-time workers employed in small to medium-sized

¹ Author's translation of *Kigyō no fukuri kōsei seido ni kan suru chōsa 2002*.

private firms. The data set contains individual characteristics of 1,802 full-time employees, both male and female, with extensive information on their pension eligibility status, available corporate retirement plan types as well as chosen plans. The final sample used in this study consists of 864 employees with valid responses to all the necessary variables. Summary statistics for the variables used in the analysis are presented in table 1 for the extracted sample.

In estimating amount of annuity which individuals receive after retirement, we converted anticipated amount of lump-sum payment into annuity using discount rate of 5.5%, which is most commonly used by Japanese small to medium-sized corporate pension plans. Among 864 samples, 184 individuals were able to explain the details of their annuity option, including whether they were offered lifetime annuity or terminal annuity, and the term of the annuity if offered terminal annuity. For individuals who answered they were offered both lifetime annuity and terminal annuity, we assumed that the amount of lump-sum payment was divided equally to provide these annuities. On the other hand, for 680 individuals without knowledge of the annuity, we assumed they were offered 10-year terminal annuity. We considered 10-year annuity to be the most common annuity option offered by small to medium-sized private firms, depending on national statistics of retirement benefit "Shūro Jōken Sōgō Chōsa", released from Ministry of Health, Labor and Welfare in 2002. The amount of annuity was calculated based on the information above for all individuals.

Hypotheses

For the first step, this study examines the impact of AEW on individual choices of a lump-sum payout or annuity in employer-sponsored corporate pension. The AEW measures the utility gain in dollar terms by determining how much additional wealth would need to be given to an individual without annuities to make him as well off as if he had annuities. If an employee choice of annuity or a lump-sum is determined rationally, AEW has a positive impact on annuity choice.

We then examine the validity of other factors, which was found to have impact on employee choice of annuity in previous studies. The findings permit us to identify some factors impeding individual choice of annuity plans. Specifically, the following five hypotheses are set and tested.

Hypothesis 1: Employees who have received information on their corporate retirement benefits from employers are more likely to choose annuity.

A rational decision cannot be made by an employee without appropriate information on pension annuity and the entailing merits. Mitchell (1988) points out the possibility that the lack of information impedes individuals from making appropriate decisions on annuity choices. Few individuals included in the data set used in this study were able to explain the details of their corporate pension plans. Accordingly, the variable on whether employees received information from employers on their private retirement programs is used as a proxy for the level of corporate pension knowledge.