

The Influence of Saving Objectives on Saving: First Response Versus Any Response for Objectives

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This study examines in influence of saving motives constructed from Maslow's hierarchical theory of human needs on saving behavior, testing both the most salient objective and composite measures that include second through sixth responses, while controlling for other household characteristics, expectations, and attitudes. The 1998-2007 Survey of Consumer Finances datasets were used for the analysis. Having a retirement/security motive was the most salient motive, followed by the emergency/saving motive, while the love/family and the esteem/luxury motives were less common, and likely to be secondary choices. In the multivariate analysis based the first motive given, each motive had a significant effect on saving, but for the analysis based on combined responses, having basic needs, love/family, esteem/luxury, and no particular saving motive did not have significant effects on saving. In general, those who had saving motive for self-growth, emergency/safety, or retirement/security were more likely to save.

1. Introduction

People have limited resources available for them over a lifetime compared to their unlimited human needs or wants. This is the problem of scarcity that economics has posed one of the fundamental assumptions to approach the human beings' economic behavior. Under the restriction to use the economic goods, almost all kinds of trade-offs of one good against others would be made to overcome the discrepancy between the needs and the actual resources (McConnell & Brue, 2004). When it comes to trade-offs, time is not an exception. Inter-temporal consumption occurs based on time preferences, and one of the explicit ways to use it is through savings. As indicated, savings plays an important role in allocating the economically available resources when we need them (Canova et. al. 2005). What are the needs or wants that make people try to save and control present consumption for future satisfaction? There seems to be various reasons beyond basic physical needs or wants, behind the financial goals.

Although savings is a common method used to fulfill inter-temporal consumption by postponing immediate utility for average households, the studies on savings behavior, in particular, have not addressed savings motive (Claycamp, 1963; Davis & Schumm, 1987; Xiao & Noring, 1994). Thus, this research addresses the relation between savings goals and the actual saving behavior of households based on the lifecycle hypothesis and Maslow's theory of hierarchical human needs. The long-term project goal is to give related industry and the academic area help to develop specific treatment of savings strategies for each household depending on different types of saving goals and related variables used here to improve satisfaction of households. To achieve the goals, the proposed research will analyze the

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connection between household characteristics and types of savings goals. The objectives are identified: 1) to explore the types of savings goals based on the life cycle hypothesis and the Maslow's theory of human needs in hierarchy, 2) to examine which goals lead to saving behavior, and 3) to investigate differences in the likelihood of saving by each saving goal as well as households characteristics such as financial and socio-demographic variables.

2. Literature Review

2.1 Life cycle hypothesis

The lifecycle hypothesis introduced by Modigliani and Brumberg (1954) assumes that consumers try to maximize their utility by choosing an optimal consumption level over their lifetimes. The maximization of utility implies the achievement of smooth consumption and can be obtained by an inter-temporal consumption strategy (Ando & Modigliani, 1963). In particular, they assumed that people tend to make decision based on their level of spending related to one's economic resources which would be continuously changed over the lifetime (Deaton, 2005). Thus, households need to even out the differences in spending between each stage of life by building up assets before retirement with saving. On the other hand, if consumers have savings accumulated from past income, they can use it when they are short of current income (Bryant & Zick, 2006). The level of optimal saving and the determinants are not only based on consumption pattern but also consumers' demographic characteristics associated to household lifecycle pattern.

Many empirical studies of households saving have examined the influential factors related to saving decision of households such as the income, wealth, socio-demographic factors (age, marital status, education, households size, presence of child, expected retirement age), or attitude toward the financial matters (preference for risk, etc.) (Chang, 1994; Heffreran, 1982). Although the effect of each variable on saving behavior cannot be determined by this one theory, this theory gives us the perspective on the relationship between saving behavior and the possible influential factors: in particular, probability of saving decision of household can be affected by household various characteristics from demographic factors, economic factors, attitude toward financial matters factors, human capital factors, and the specific reasons that would lead to consumption and saving, saving goals, in this research.

2.2. Maslow's hierarchical theory of human needs.

Maslow (1954) proposed that various human needs can be captured in a hierarchical structure shaped of a pyramid with the most basic levels of needs for living at the bottom, and the need for more abstract desire apart from the daily living such as social recognition and self-actualization at the top (Maslow, 1954; Mathes, 1981; Norwood, 1999). Basically, this theory assumes two groupings of human needs: so called deficiency needs considered fundamental and basic for living, and so called growth needs: in the pyramid format, deficiency needs that include physical needs, safety and security needs, love and belonging needs, and esteem needs are located in the lower layers than growth needs which indicates cognitive needs, aesthetic needs, self-actualization needs, and self-transcendence needs. And each of these needs should be met to have the secondary or higher level needs from the lower level (Huitt, 2007; Maslow, 1971; Norwood, 1999). This theoretical frame work suggests the way of incorporating psychological discoveries of human nature into economic models of household saving: we can assume that perceived saving goals also can be organized in a hierarchical structure and households can move up this hierarchy as lower level motives are satisfied as Maslow's theory.

2.1. Savings goals

Savings has been usually seen as the excess of income over expenditure on consumption and considered the object of intense theoretical consideration (Keynes, 1936; Ando & Modigliani, 1963; Katona, 1975). Savings goals can be viewed as reasons or motives which lead households to save and can be measured with the question of “What is your most important reason for savings?” (Keynes, 1936; Xiao & Noring, 1994; Browning & Lusardi, 1996; Canova et al., 2005; Devaney et al., 2007) The topic has been explored from various perspectives in the fields of economics and psychology.

When it comes to the savings goals, Keynes (1936) is considered the first one to suggest savings goals as the explicit academic object (Canova et al., 2005). According to his study, there are eight kinds of goals which would lead individuals to refrain from spending out of their incomes: (1) Precaution to build up a reserve against unstable and unforeseen conditions in the future, (2) Foresight to provide for an anticipated future relationship between the income and the needs based on one’s life-cycle, (3) Calculation to enjoy interest, (4) Improvement to increase the standard of living, (5) Independence to have the sense of the power to do things, (6) Enterprise to secure a certain amount of money for investment, (7) Pride to bequeath money to heirs, and (8) Avarice to satisfy the pure miserliness. He also assumed that these savings goals change very slowly and are comparably so stable that they influence the propensity to consume over long period of time.

After Keynes’ study on savings and savings goals, savings goals have been treated as an object of theoretical assumption as indicated in many fundamental theories such as permanent income theory (Friedman, 1957) and life-cycle hypothesis of savings (Ando & Modigliani, 1963). They expanded the discussion to inter-temporal consumption model over lifelong decisions.

Horoika and Watanabe (1997) also pointed out savings goals from the life-cycle hypothesis and considered saving as a temporal imbalance between income and expenditure. Enjoying leisure, preparing for children’s education, marriage, their own retirement, and purchasing durable goods or house were categorized into each phase of life-cycle stages. Claycamp (1963) used respondents’ savings goals as independent variables such as savings for old age, inheritance or education for children, paying off debt, major purchase, and preparing for an emergency, to examine the ratio of each independent variable to all assets on a dollar basis. These studies viewed savings as having a precautionary purpose as well as bequest reason based on life-cycle hypothesis which makes researchers think about the limited life expectancy of individuals. In addition, Davis and Schumm (1987) found that motivation to save is associated with amount of savings and satisfaction. They directly investigated savings goals by measuring with two variables such as importance of savings, and rank of financial security concern relative to eight other concerns.

On the other hand, motivation to save is also explained by psychological approach associated with an assumption that tastes are not fixed and reflect the social customs. Dusenberry (1949) emphasized the influence of established social code around individuals that affects individuals’ likelihood of savings such as peer pressure. Shefrin and Thaler (1988) attempted to study the topic by suggesting the behavioral life-cycle hypothesis. They proposed that individuals’ different propensity to save in different categories of accounts is largely attributed to the mental accounting and self-control. According to them, people have instinct to be both a planner who is cautious about utility over the lifetime and doer who is concerned with the present. Thus, people show various propensities toward the savings and consumption behaviors. Browning and Lusardi (1996) proposed nine savings goals and eight of them extracted from Keynes’s: precautionary motive, life-cycle motive, inter-temporal substitution motive,

improvement motive, independence motive, enterprise motive, bequest motive, and down payment motive.

2.1. Empirical studies related to saving and saving goals

Yuh and Hanna (2010) analyzed factors related to objective household characteristics, using the 1992-2007 U.S. Survey of Consumer Finances datasets. They explicitly discussed reasons for not including attitudinal variables such as savings objectives. They found that some household characteristics were related to whether a household saved (spent less than income). They found that controlling for other household characteristics, the youngest households were somewhat more likely to save than middle aged households, which they explained by noting that the usual life cycle saving pattern that is the opposite, with middle aged households being most likely to save, can be explained by controlling for income. They did obtain some results contrary to predictions based on the life cycle model, for instance, households with health insurance were more likely to save than those without everyone covered by health insurance.

A number of studies have investigated the influence of saving motives on saving behavior, and other studies have investigated factors related to having particular saving motives. We summarize selected empirical studies in Table 1. Many of the studies used the saving motives questions in the U.S. Survey of Consumer Finances (SCF). In that survey, respondents are asked the following question: “Now I'd like to ask you some questions about your attitudes about savings. People have different reasons for saving, even though they may not be saving all the time. What are your most important reasons for saving?” Open ended responses are coded into over 30 categories. The categories for the 2007 SCF are shown in the Appendix. The first response is coded in variable X3006, and if a respondent had more than one response, the second one is coded in variable X3007, etc. As shown in Table 1, some researchers used the first response only, as presumably that is the most salient saving motive, and other researchers have combined responses, so, for instance, if a respondent gave a response coded as “retirement/old age” for the first, or the second, or the third, or the fourth, or the fifth, or the sixth response, that respondent would be considered to have a motive related to retirement.

Some studies have found saving motives to influence saving behavior (e.g., Hogarth & Angelov, 2003), and others have found no significant effect on saving behavior (e.g., Fisher & Hsu, 2012). Studies using saving motives as dependent variables have found that household characteristics have significant effects on whether respondents report specific saving motives.

2.2. Hierarchical structure of savings goals

Some researchers have proposed hierarchical structure of savings goals. Lindqvist (1981) suggested four levels of saving reasons and categorized savers into each level. According to the study, short-term financial goal is at the lowest level and precautionary purpose is at the second level. Buying expensive goods reason is the third, and the top level is for managing the accumulated wealth (Canova et al., 2005). Xiao and Olson (1993) also attempted to explain savings goals by incorporating Maslow's hierarchy theory using mental account. According to the research, mental account hierarchy consists of three parts; Account1 (checking and saving accounts, certificates of deposit, and money market accounts), which is at the lowest level that meets a family's basic and survival needs, Account2 (individual retirement accounts, Keogh plans, various saving plans, and other financial assets) in the middle that meets security needs, and Account3 (mutual funds, bonds, and stocks, excluding those in Accounts 1 and 2), the highest

level that meets a social and developmental needs. Also, families seemed to have different marginal propensities to consume from different mental accounts: marginal propensities to consume from Account 1 were the greatest, while Account3 showed the smallest marginal propensities to consume. This would reflect hierarchical financial needs. Xiao and Noring (1994) claimed that financial resources available to each household are shown as a determinant of level of savings goals: household with less family resources save mainly for daily expenses while higher income level household tend to save for advancing standard of living. In the middle income or net worth households save for emergency. According to them, saving goals are hierarchically organized from daily expenses at the basic level, emergency at the intermediate level, and retirement, children, and advancing at the highest level which is consistent with Maslow's hierarchy. Once households' resources increase, the motivation to save also changes from lower to higher one to satisfy higher level of needs. Wärneryd (1995) distinguished four motives for saving: saving as a continuous habit not related to any specific goal, precautionary motive, bequest motive, and profit motive, respectively. According to his study, one or more motives can be shared at the same time. Xiao and Anderson (1997) examined the motives for different shares of 12 financial assets, which were used as indicators of financial needs, such as checking accounts, saving accounts, money-market-account-type (MMA-type) checking accounts, savings bonds, cash value life insurance, employer sponsored savings plans, IRAs or Keogh plans, certificates of deposits, money market accounts, bonds, stocks, and trusts bonds on Maslow's theory. According to them, there are three levels of financial needs such as survival, security, and social/developmental needs; checking or savings accounts are associated with lower level of needs whereas bonds and stocks are related to higher level of needs. As family financial resources increase, households were more likely to pursue a higher level of financial needs. Canova, Rattazzi, and Webley (2005) identified 15 saving goals and divided them into three levels in hierarchical structure. At the bottom, there were more concrete goals such as savings for 'Purchase', 'Vacation' or Availability of money' whereas at the top there were abstract goals such as 'Self-esteem' and 'Self-gratification'. In the intermediate level, goals are linked between two levels and channel the more concrete towards the more abstract. These goals depended on three saving orientations: a way of 1) avoiding debt and of reaching a certain extent of security in life, 2) fulfilling desire for self-gratification like holidays and purchases, and 3) guaranteeing gratification during retirement period of life. DeVaney, Anong, and Whirl (2007) also incorporated the theory of hierarchy of human needs with savings goals. They examined the likelihood of movement from one level to higher levels as well as identified which factors affect the likelihood of movement as well as six level conceptual frame work of the hierarchical structure of goals from physiological, safety, security, love/societal, esteem/luxuries, to self-actualization. Some of designated socio economic variables had positive impact on this likelihood of the movement; income was positively associated with the likelihood of moving from no saving to saving for luxuries. Households with more risk take preference and longer time horizons preference were found more likely to move toward higher level of saving motives than those counterparts, respectively.

Based on the related studies above, the hypotheses of this research are:

Hypothesis1. Holding other things constant, households with specific saving goals would be more likely to save than households without any saving goal.

Hypothesis2. Holding other things constant, each saving objective would have different impact on the likelihood of saving.

Hypothesis 3. There would be differences in the rank of saving goals and the impact on the likelihood of saving between the saving goal chosen as the foremost important reason to save and all the goals chosen up to the sixth reason.

Methodology

3.1. Data

This study used data from 1998, 2001, 2004 and 2007 Survey of Consumer Finances (SCF) for the analysis. This triennial survey is conducted by the Federal Reserve Board of Governors to offer reliable and detailed information on the broad financial circumstance of U.S. households: the data, in particular, contain information regarding savings behavior and perception such as saving experience and reason for saving represented as an interest in this research. The data analyzed for this study contain 17,684 households (4,305 in year 1998, 4,442 in year 2001, 4,519 in year 2004 and 4,418 in year 2007), which are appropriately weighted. The percent of the households reporting saving behavior were pretty stable over the 1998, 2001, 2004, and 2007 SCFs (Bucks, Kennickell, & Moore, 2006; Bucks, Kennickell, & Moore, 2009).

3.2. Dependent variable

The dependent variable is whether households are savers or not, constructed from the answer to the question “Over the past year, would you say that your spending exceeded your income, that it was about the same as your income, or that you spent less than your income?” In SCF, saving can be defined as the differences between income and spending or as the change in wealth over a certain time period (Browning & Lusardi, 1996; Fisher & Montalto, 2010). A binary variable was coded as 1 if the respondents answered spending was less than income, otherwise it was coded as 0. Using this variable, we could estimate the saving decision of households over the past year.

3.3. Independent variables

Independent variables are saving goal variables and socio-economic variables selected based on the lifecycle hypothesis and Maslow’s theory of human needs in hierarchy. According to the lifecycle hypothesis, households tend to even out their consumption level over the lifetime by using consumption and saving strategies. In this sense, some of the saving goals could be explained by the lifecycle hypothesis such as saving for emergency or saving for retirement. The rest of the saving goals were understood based on Maslow’s theory of human needs that approaches the saving goals with a multi-layered structure as general human needs are organized and the likelihood of movement from lower level to higher level of needs in a hierarchy. Thus, the given saving reasons in SCF can be grouped as saving goals for basic needs, saving for love/societal needs, saving for esteem/luxuries, or saving for self-growth besides saving for emergency and for retirement.

Socioeconomic variables included demographic characteristics (head’s age, racial/ethnic group, presence of child, work conditions), human capital (education, health status), attitude toward financial management (risk tolerance, preference for length of the planning horizon, expectation on inheritance, having foreseeable expense), and economic status (annual household income, homeownership) all of which would affect households’ different saving behavior.

3.3.1. Savings goals

As previously discussed, respondent’s answers to a question about reasons for saving were coded by the SCF staff into 34 categories of motives. The Appendix shows the question

posed to respondents and the categories used by SCF staff for the open ended responses provided by respondents. For this study we classified those motives into six types of saving goals following Devaney et. al (2007), Lindqvist(1981), Katona(1975), and Xiao and Noring (1994): saving for basic needs, saving for emergency and safety, saving for retirement and security, saving for love/family needs, saving for esteem/luxuries, and saving for self-growth. Table 2 shows how saving motives shown in the Appendix were combined. A binary variable was coded as 1 if the respondents answered they have certain specific saving goals, otherwise it was coded as 0.

The bottom in a hierarchy indicates the most basic needs for saving as physiological needs from a structure of human needs such as food, water, and warmth (Maslow, 1971). This category of saving goal is named 'Saving for basic needs' which represents saving for daily expenses such as ordinary living expenses/bills(29), paying taxes(30), buying durable households goods/appliances/home furnishing(16), and meeting contractual commitments(27) (Boeree 2006; Devaney et al., 2007; Katona 1975; Xiao & Noring, 1994). For contractual commitment, contract can exert a power as a regular saving for the future in order not to spend money right away and allocate a certain amount of money for the uncertainty such as buying installment and insurance, also known as a contractual saving suggested by Katona (1975).

The second level of saving goal category is 'Saving for emergency and safety'. This includes unexpected emergencies (25), illness(24), unemployment(23), or investment reasons to get interest or to be diversified(26). Basically all these are based on the safety needs, the second level of human needs in Maslow's hierarchy theory as well as the life cycle hypothesis. Needs for freedom from fear can be pointed out as a core of this goal and can also be understood as a precautionary saving goal for a buffer stock against unforeseen conditions in the future Keynes (1936). This goal also includes buying own house (11) and to move a house(9) which satisfy the two needs such as financial safety and physical safety, the shelter (Rodriguez & Devaney 2006; Xiao & Noring 1994). Cash management like to save (33), do not wish to spend more (40), wise/prudent thing to do (91), liquidity/to have cash available on hand (92) also contributes to strengthening the financial security. The cash management is associated with the disciplinary characteristics toward the money management. When financial safety needs deals with protection against accidental events, emergency, in the unforeseen future, financial security needs refers to protection against expected aftermath of retirement, no more regular money income.

The third saving goal, saving for retirement and security, consists of saving for retirement/old age (22), for the future (32), and for having extra income (90). All these selected reasons into the saving for security reflect the risk-averse attitude toward income fluctuation and an allocation to reduce the financially diverse difficulties even after the retirement (Keynes, 1936). Particularly, reason for the future implies broader meaning of protection not only emergency but also retirement.

The fourth level is 'Saving for love/societal needs' about specific expenses to take care of family or children such as just for the children or family(3), education for children or grandchildren(1), own or spouse's education(2), to have children or family(6), wedding and other ceremonies(5), funeral(17), and Christmas gift(41), (Copeland 2002; Fisher & Montalo 2010; Yuh et al., 1998). Maslow's third level of human needs, belonging needs for love with family or with friends, can be applied to this saving purpose.

The fifth level is 'Saving for esteem/luxuries' associated with self-esteem needs in Maslow's theory. According to his theory, individuals are eager to get respect or recognition from others while they interact with and influence on each other, and therefore behaviors of

households can be interpreted under the social context. In this sense, the fifth saving goal is composed of the categories of the respondents' answers associated with this view point: purchase of cottage or second home for own use(12), buy a car, boat or other vehicle(13), home improvements/repairs(14), to travel/take vacations(15), to get ahead or to advance standard of living(28), and to maintain lifestyle(wealth preservation)(93). Not a functional purpose of goods or services they want, but they also look for an additional purpose like social meaning of the goods. There are certain goods and services which would attain socially acknowledged symbols beyond the functional usage. Culture households are influenced by gets them to share symbols and value the products differently from other culture. In general, consumption, a series of process on acquiring, using, and disposing, of certain goods and services can raise their self-esteem or a sense of satisfaction in the social context (Silverstein & Fiske, 2003; Truong & McColl, 2011). This human needs depends on other people's recognition or a kind of social respect. In this sense, reference group, the direct cultural influence to household consumers, could play an important role to affect them in defining themselves who they are and in determining the products they desire. Therefore, the saving goals for these luxury products could be accounted for by Maslow's self-esteem needs.

The last saving goal, self-growth, concentrates on one's effort to reach their potential regarding individual lifetime achievement apart from household level such as to purchase their own business(21), to enjoy life(20), and to charitable or religious contributions(18). These are not a simple needs or readily achievable goal for one period of the time but a more personalized desire over the life time, which would be accomplished by spending necessary expenses or by purchasing graspable goods immediately. People might not clearly point to this abstract goal but this would contain one's personal value toward their life. Saving for this reason illuminates one's will to keep their theory of life more unimpaired and to spread out it over a period of time such as happiness or achievement (Boeree 2006; DeVaney et al., 2007), which is explained as self-actualization needs in Maslow's theory. To sum, all these different levels of saving categories reflect not only the needs to protect households from uncertainty about the future originated from the basic risk averse attitude of human needs, but also personal desire influenced by social symbols and by their own value beyond the functional usage of spending money by planned materialization as saving behavior (Wärneryd, 1989).

3.3.2. Socio-economic variables

Besides six types of saving motive variables, socio-demographic variables, human capital variables, financial attitude variables, economic variables, and time trend variables were also used as independent variables in this research. Socio-demographic variables used in this study were composed of head's age, Racial/ethnic group, presence of child, and work conditions are used in this category. Age and racial/ethnic group were measured as categorical variables whereas both the presence of child and work conditions were measured as binary variables. If respondents answered there is a dependent child living together, a binary variable was coded 1, otherwise it was coded 0. For work condition variable, a binary variable was coded 1 if the head is retired and it was coded 0 otherwise. Human capital variables include education attainment and perceived health status of the head. Both variables were measured as categorical variables. Household financial attitude variables related to households' preference for financial planning and mental accounting consist of risk tolerance and preference for length of the planning horizon, both were measured as categorical variables. For economic variables of households which can be the constraints to make saving decision for households, annual income measured as a categorical

variable, homeownership measured as a binary variable, and an expectation on inheritance also measured as a binary variable, were used for the analysis. Time trends variable is also considered as independent variable to investigate the differences in saving decision by survey years. The reference year was 1998.

3.4. Analysis

Frequencies for all variables were calculated by using adjusted sampling weights to represent nationwide sampling estimates. To analyze the influence of independent variables on dependent variable which was dichotomous, logistic regression analysis was implemented. Logistic regression is considered useful in examining the likelihood of presence or absence for saving experience based on values of a set of predictor variables. For each categorical variables, the odds ratio can be interpreted as the ratio of the odds of saving for the given category relative to reference category, controlling for other independent variables (Rha et al., 2006). For descriptive results, weighted analyses averaged across all give implicates were performed. The logistic regressions were not weighted, as suggested by Lindamood, Hanna, and Bi (2007). For our logistic regression analyses, the repeated imputation inference (RII) techniques were used in the final version of this paper, RII procedures will be used in order to obtain more valid inference based on the variance estimates (Montalto & Sung, 1996; Montalto et al., 2000; Rubin, 1987). However, it is unlikely that the main results will change (c.f., Lindamood, Hanna, & Bi, 2007), as each of the motive variables in the logistic regression based on the first response were very significant, and the three motive variables that had significant effects in the logistic regression based on combined responses were also highly significant.

4. Results

4.1. Descriptive Results

Table 3 shows the frequency of each saving goal variable by survey year for the first choice model (Model 1) and the combined model (Model 2). For 1998 through 2007, “no particular reason for saving” was less than 1%, and “can’t save” ranged from 3% to 5%. Of those who had saving goals, saving goal for retirement and security (40% in Model 1 and 51% in Model 2) are the most frequent reason both in the first choice model and in the combined model, whereas the least frequent reason was saving for self-growth in the both models (1% in Model 1 and 2% in Model 2). Saving for emergency and safety was ranked in second, and saving for love and family was third. The consistency of retirement/security, emergency/safety, and love/family motives being the first to the third ranked saving goals suggests there is a stable desire by people to maintain households and family members to be safe and to reduce uncertainty. There are differences in ranks between the fourth and the fifth in the two models: in the first choice, frequency of saving for esteem/luxuries was smaller than that of saving for basic needs while the opposite results we obtained in the combined model. This difference represents saving for esteem/luxuries was considered not that important reason for saving compared to the reason for basic needs, but widely conceived as a worthwhile goal.

Table 4 shows the percent of households who saved for those with particular saving motives. Among all households, 57% saved, and for the first response, only those with a motive for saving for retirement and security had a higher than average rate of being savers (66%). Only 51% of households with no particular saving motive saved, and 22% of households who answered the saving motive question by stating that they could not save actually did spend less than income. With all answers combined, those who had a saving for retirement and security

motive for any response and those with saving for self-growth motive for any response had the highest rate of being savers, with 66% and 65%. For the other saving motives based on combined responses, only saving for emergencies and safety had a higher than average rate of being savers. According to Maslow's theory, only a small portion of people have and achieve this self-growth need which is at the top of the hierarchy structure, and our results (Table 4) show this, as only 2% of households had this motive. The relative influence of each saving goal on saving behavior will be examined in the multivariate analysis part in Table 5.

4.2. Multivariate Results

Results of the two logistic analyses, Model 1 and Model 2, on the determinants of the probability of saving, are presented in Table 6. When we use 'can't save' as reference category for saving goal variables in the first motive only model, all saving motives were found positively significantly related to the dependent variable, the probability of saving. That is, households with any kind of saving goals were more likely to save than those who state they cannot save. 'Saving for self-growth' was the most influential goal leading households to save, and the emergency and the retirement goals followed. 'No saving motive' was not statistically related to chance of saving compared to 'can't save' households.

On the other hand, in the combined motive model, each saving motive was compared to not having that motive. Only the three saving motives such as saving for emergency/safety, saving for retirement/security, and saving for self-growth were found to be significant related saving motives. All three were positively related to the probability of saving. Among the three saving goals, the saving for self-growth was the highest influential saving goals that would increase the likelihood of saving. Households with saving goal for self-growth had predicted odds of saving 1.5 times as high as counterparts without that goal, holding other things constant. Judging from the coefficients and the odds ratio, the influence of saving goal for self-growth was featured prominently in leading saving goals on saving decision to households both in the first choice model and in the combined model and saving for self-growth.

On the one hand, those who answered saving for retirement/security represented as saving for retirement/security and saving for emergency/safety, suggest that we would still save for the essential functions of households; to keep their family safe and secure from the unexpected outcomes, and many of the households seem to be motivated to save for preventing something unstable that would cause variation of consumption level as indicated in the lifecycle hypothesis (Claycamp, 1963).

Apart from the saving goal variables, there were socio-economic status variables found statistically influential on the probability of saving, which are the same in the both models. Some of the results are similar to results reported by previous researchers (e.g., That is, the influential variables were same as in the both two models although the relative influences of each variable were different. Some of them such as income, preference for length of the planning horizon, and perceived health status were discerned to have even more influential power to explain the variability of the probability of saving decision than the saving goal variables: income was found to have the highly positive impact on the likelihood of saving: generally higher income households were more likely save than household with income less than \$10,000. Longer planning horizon had a positive impact on the probability of saving decision, except the 'next year' category in the first motive model. Household with healthier heads were more likely to save for the future than poor health conditioned heads in that health status of household heads would be associated with their socioeconomic chances and objective condition for managing their health over the lifetime as a human capital.

For risk tolerance, those willing to take more risk tended to save more than risk averse households. This appears to be somewhat confusing result since saving is widely considered as one of the safest ways in investment. However, risk tolerance could be associated with other characteristics of households such as education level or income level; the households with taking more risks could have more interest in investment and would have more money income to invest on more complicated and diverse portfolio. A certain portion of saving would be relatively smaller than other parts of their investment portfolio but the absolute portion of the money in saving would be just larger than that of the reference group, which would lead to the above results. Households with homeownership tended to have more probability to save since they didn't need to pay for mortgage whereas both expectation on inheritance and having foreseeable expense were not significantly related to the saving decision contrary to the general expectation (Hogarth & Anguelov, 2003; Rha et al., 2006). Besides these variables, there was another result fairly different from general expectation; education attainment was not significantly related to the saving decision to households. To sum, racial/ethnic group, age, presence of children, retirement of household heads, perceived health status, risk tolerance, preference for the length of the planning horizon, income, and homeownership were the significantly related variables besides the saving goal variables to the probability of saving decisions of households.

Many of the other independent variables had results similar to those found by Yuh and Hanna (2010). All these possible explanations and the results from the analysis reflect the particular pattern of the lifecycle commonly applied to households, although it is notable that effect of age and saving seems ambiguous depending on the studies (Browning & Crossley, 2001; Browning & Lusardi 1996; Chang 1994; Johnson & Widdows 1985; Yuh & Hanna, 2010).

5. Conclusion

5.1. Summary

In this research, the primary focus was to uncover the influential saving motive factors constructed both from the lifecycle hypothesis and Maslow's theory of human needs in hierarchy which lead households to save. The importance of saving motive variables on the probability of households saving was found in the first motive model as well as in the combined motives model. In the first motive model, each saving motive was statistically positively related to the probability of saving compared to households which can't save while having no particular saving motive was not statistically influential. The results support that household saving behavior is positively affected by the designated saving goal which are organized not only by the classic economic theory on saving but also by the hierarchical theory on saving. Therefore, the supposed hypotheses 1 and 2 were found to be supported. In the combined motive model, relative influences of saving goal on the saving chances were more closely figured out. Among the six types of saving goal, saving for self-growth, saving for emergency/safety, and saving for retirement/security were discovered to be significantly influential goals to saving decision. In this sense, the supposed hypotheses 2 and 3 were partly supported. In particular, unlike the other two significantly related saving motives which have been commonly examined in many saving studies based on the lifecycle hypothesis, the self-growth goal has received comparatively little attention in household saving studies unlike the other saving goals such as retirement/security or emergency/safety which have been commonly examined in many saving studies based on the lifecycle hypothesis, so it seems more reasonable to interpret this goal based on another theory such as Maslow's theory regarding hierarchical saving structure. This seem to support a suggestion by Wärneryd (1995, 1999) on hedonic aspects of saving, which emphasized the study

on saving from a more individualistic point of view on its process and the significance. This would mean that classical approach relies on consumption restraint perspective for the future consumption and for a stable household management. This rather holistic and functional point of view appears to confine the discussion to the passive role of saving (Canova et al, 2005; Wärneryd, 1999). As strong influence of self-growth motive saving is captured above, saving can be also seen as a method to encourage households to consider their future pleasure (Canova et al, 2005; Loewenstein & Prelec, 1993). That is, significant influence of saving for self-growth motive on the probability of saving reflects households' perception on saving based on their own willingness to save for their more individualistic desire and pleasure rather than on a sense of duty just for uncertainty of future to support a family.

5.2. Limitations

There are several limitations in this research. The measure of saving decision analyzed in this research is depending on a simple dichotomous indicator for whether households spent less than income or not. This would make us focus on the ability to save of household not on the actual saving behavior. The independent variables used here would tell us that the possibility or likelihood of saving for households. Thus, this study suggests the need for further research for better insight into detailed saving behavior of households, which actually happened using other data. Still, there are many aspects of saving behavior of households and its determinants related to saving motives that we have not dealt with here. Since the proposed saving goals would open the possibility of various role of saving not actively dealt in the classic theory, many other theoretical backgrounds could be used to understand various aspects of saving behavior not only based on Maslow's hierarchical human needs. So further related studies will be expected to reflect these limitations and investigate how saving motivation influences saving intentions and actual saving behavior based on more various theoretical backgrounds.

5.3. Implications for financial planners, consultants, and policy makers

This research demonstrates the relationship between saving goals grouped by Maslow's hierarchy of needs, controlling for other factors, on the likelihood of saving decision. For educators, the results of this study can be used to educate future financial planners, consultants, and policy makers in related areas. By being aware of feature of savings goals from the study, educators are also able to develop study materials to their students such as case study and financial scenarios concerned with strategies. For practitioners in financial counseling and planning, they can use the results for better understanding of their clients and for designing strategies for them. These results may also be useful in designing public policies to encourage increases in saving.

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Appendix: Saving Motive Question in 2007 Survey of Consumer Finances Codebook

(#1-#6 in order reported by respondent) [variables X3006, X3007, X7513, X7514, X7515, X6848

Now I'd like to ask you some questions about your attitudes about savings. People have different reasons for saving, even though they may not be saving all the time. What are your most (#4) important reasons for saving?

IF R SAYS THEY DON'T/CAN'T SAVE ASK: If you were saving now, what would be the most important reason you would have to save? Probe: What else?

TREAT "SAVING" AND "INVESTING" THE SAME.

1. Children's education; education of grandchildren
2. Own education; spouse/partner's education; education -- not known for whom
3. "For the children/family", n.f.s.; "to help the kids out"; estate
5. Wedding, Bar Mitzvah, and other ceremonies (except 17)
6. To have children/a family
9. To move (except 11)
11. Buying own house (code "summer cottage" in 12)
12. Purchase of cottage or second home for own use
13. Buy a car, boat or other vehicle
14. Home improvements/repairs
15. To travel; take vacations; take other time off
16. Buy durable household goods, appliances, home furnishings; hobby and recreational items; for other purchases not codable above or not further specified; "buy things when we need/want them"; special occasions
17. Burial/funeral expenses
18. Charitable or religious contributions
20. "To enjoy life"
21. Buying (investing in) own business/farm; equipment for business/farm
22. Retirement/old age
23. Reserves in case of unemployment
24. In case of illness; medical/dental expenses
25. Emergencies; "rainy days"; other unexpected needs; for "security" and independence
26. Investments reasons (to get interest, to be diversified, to buy other forms of assets)
27. To meet contractual commitments (debt repayment, insurance, taxes, etc.), to pay off house
28. "To get ahead;" to advance standard of living
29. Ordinary living expenses/bills
30. Pay taxes
31. No particular reason (except 90, 91, 92)
32. "For the future"
33. Like to save
40. Don't wish to spend more
41. To give gifts; "Christmas"
90. Had extra income; saved because had the money left over -- no other purpose specified
91. Wise/prudent thing to do; good discipline to save; habit
92. Liquidity; to have cash available/on hand
93. "Wealth preservation"; maintain lifestyle
- 1. Don't/can't save; "have no money"
- 7. Other
0. Inap. (only for X3007, X7513, X7514, X7515, X6848)

Table 1

Studies Using Saving Motives as Independent or Dependent Variables

| Study | Independent or Dependent | Dataset | First response or any response? | Main results related to saving motives |
|-----------------------------------|--------------------------|--|---------------------------------|--|
| Fisher & Hsu (2012) | Independent | 2007 SCF | Any response | No specific saving motives was related to saving |
| Devaney, Anong, & Whirl (2007) | Dependent | 2001 SCF | Any response | The probability of movement from lower to higher level of saving motive was affected by demographic variables. |
| Rha, Montalto, & Hanna (2006) | Independent | 1998 SCF | Any response | Likelihood of saving higher for those with retirement, precautionary, and/or purchase motive, but lower for those with future/own education motive. Motive related to children not significant. |
| Canova, Rattazzi, & Webley (2005) | Dependent | Questionnaire | Any response | Fifteen goals and the links between goals in a hierarchy were identified. Concrete goals (purchase, holidays and money availability) are at the bottom of the hierarchy while abstract goals (self-esteem, self-gratification) are at the top. |
| Hogarth & Anguelov (2003) | Independent | 1998 SCF | First response | Likelihood of saving higher if respondent gave some saving objective, compared to none. |
| Xiao & Fan (2002). | Dependent | 1998 SCF and survey of Chinese workers | Any response | Retirement most frequent motive in U.S. sample, but saving for one's children most frequent in Chinese sample |
| Wärneryd | Independent | Questionnaire | Any | Four motives for saving such as saving as a continuous |

| Study | Independent or Dependent | Dataset | First response or any response? | Main results related to saving motives |
|------------------------|--------------------------|--------------------|---------------------------------|---|
| (1995,1999) | | | response | habit not related to any specific goal, precautionary motive, bequest motive, and profit motive, were found to affect the amount of money saved. According to the study, one or more motives can be shared at the same time. |
| Xiao & Anderson (1997) | Dependent | 1989 SCF | N/A | There are three levels of financial needs such as survival, security, and social/developmental needs; checking or savings accounts are associated with lower level of needs whereas bonds and stocks are related to higher level of needs. |
| Xiao & Noring (1994) | Dependent | 1986 SCF | Any response | 65% listed more than one saving motive, most common motive was for emergencies, higher income and those over 44 most likely to have a retirement motive. |
| Xiao & Olson (1993) | Independent | 1983 SCF, 1986 SCF | Any response | Mental account hierarchy which consists of the three parts such as Account1(basic needs at the lowest level), Account2(security needs in the middle), and Account3(social/development needs at the top), are related to marginal propensities to consume of households. |

| Study | Independent or Dependent | Dataset | First response or any response? | Main results related to saving motives |
|------------------|--------------------------|-----------|---------------------------------|---|
| Lindqvist (1981) | Independent | Interview | Any response | Five types of saving reasons such as socio-economic variables, attitudes, expectations, economic activity, and economic satisfaction have different effects each saving type such as bank saving, stocks and bonds, repayments of debt, and the money the household withdraw from bank. |

Table 2

| Motive | Category |
|-------------------------|------------------------------|
| No saving | 31 |
| Basic needs | 16, 27, 29, 30 |
| Emergency and safety | 9,11,23,24,25,26,33,40,91,92 |
| Retirement and security | 22, 32, 90 |
| Love/family | 1,2,3,5,6,17,41 |
| Esteem/luxuries | 12, 13,14,15,28,93 |
| Self-growth | 18,20,21 |

Table 3

| Saving Goal Variables by Survey Year | | | | | |
|---|-------------|-------------|-------------|-------------|--------------|
| Year | 1998 | 2001 | 2004 | 2007 | total |
| Saving for Basic needs (first choice) | 5.26 | 5.03 | 3.60 | 5.99 | 4.96 |
| Saving for Basic needs (any response) | 10.63 | 8.88 | 5.69 | 10.90 | 9.00 |
| Saving for Emergency and safety (first choice) | 27.48 | 29.31 | 30.52 | 28.98 | 29.09 |
| Saving for Emergency and safety (any response) | 42.06 | 42.78 | 43.20 | 43.89 | 42.99 |
| Saving for Retirement and security (first choice) | 40.23 | 38.65 | 39.00 | 41.05 | 39.72 |
| Saving for Retirement and security (any response) | 52.91 | 49.91 | 49.40 | 51.86 | 51.00 |
| Saving for Love/family (first choice) | 15.73 | 16.74 | 17.35 | 14.69 | 16.13 |
| Saving for Love/family (any response) | 29.80 | 29.52 | 30.19 | 28.85 | 29.59 |
| Saving for Esteem/luxuries (first choice) | 5.15 | 3.96 | 4.48 | 5.42 | 4.75 |
| Saving for Esteem/luxuries (any response) | 14.46 | 12.88 | 12.97 | 15.39 | 13.91 |
| Saving for Self-growth (first choice) | 0.63 | 1.05 | 0.65 | 0.34 | 0.67 |
| Saving for Self-growth (any response) | 1.76 | 2.23 | 1.72 | 1.28 | 1.75 |

| Saving Goal Variables by Survey Year | | | | | |
|--|-------------|-------------|-------------|-------------|--------------|
| Year | 1998 | 2001 | 2004 | 2007 | total |
| No particular savings motive (first choice) | 0.58 | 0.31 | 0.44 | 0.25 | 0.40 |
| Can't save (first choice) | 4.94 | 4.96 | 3.97 | 3.28 | 4.28 |

Table 4**Percent Saved for Each Saving Motive**

| Motive | Percent Who Saved | |
|------------------------------------|--------------------------|---------------------|
| | First Response | Any Response |
| Saving for basic needs | 45.84 | 52.37 |
| Saving for emergency and safety | 55.29 | 57.95 |
| Saving for retirement and security | 65.85 | 65.51 |
| Saving for love/family | 52.64 | 56.80 |
| Saving for esteem/luxuries | 50.37 | 56.19 |
| Saving for self-growth | 57.84 | 65.02 |
| No particular savings motive | 50.63 | 50.63 |
| Have no money; can't save | 21.82 | 21.82 |
| All households | 56.92 | 56.92 |

Table 5

Logistic Regressions for Saved, by Saving Motives and Household Characteristics and Preferences, First Motive Only, and for Combined Motive

| | First Motive Only | | | Combined Motive | | |
|----------------------------------|-------------------|--------|------------|--|--------|------------|
| | coefficient | Sig. | Odds ratio | coefficient | Sig. | Odds ratio |
| First saving motive (Can't save) | | | | Combined motive (compared to not having that motive) | | |
| No particular savings motive | 0.9722 | 0.0007 | 2.644 | 0.3041 | 0.2648 | 1.355 |
| Basic needs | 0.8497 | <.0001 | 2.339 | 0.0794 | 0.2298 | 1.083 |
| Emergency and safety | 0.9864 | <.0001 | 2.681 | 0.2627 | <.0001 | 1.300 |
| Retirement and security | 0.9705 | <.0001 | 2.639 | 0.2092 | <.0001 | 1.233 |
| Love/family | 0.8876 | <.0001 | 2.429 | 0.0788 | 0.0631 | 1.082 |
| Esteem/luxuries | 0.7718 | <.0001 | 2.164 | -0.0777 | 0.1461 | 0.925 |
| Self-growth | 1.2165 | <.0001 | 3.375 | 0.3801 | 0.0034 | 1.462 |
| Racial/ethnic group(white) | | | | | | |
| Black | -0.2318 | <.0001 | 0.793 | -0.2244 | 0.0001 | 0.799 |
| Hispanic | -0.0410 | 0.5622 | 0.960 | -0.0420 | 0.5532 | 0.959 |
| Asian and other | 0.1624 | 0.1026 | 1.176 | 0.1522 | 0.1248 | 1.164 |
| Household age(<30) | | | | | | |
| 30-39 | -0.2727 | <.0001 | 0.761 | -0.2810 | <.0001 | 0.755 |
| 40-49 | -0.2317 | 0.0006 | 0.793 | -0.2363 | 0.0005 | 0.790 |
| 50-59 | -0.2546 | 0.0004 | 0.775 | -0.2529 | 0.0005 | 0.777 |
| 60-69 | -0.1100 | 0.1856 | 0.896 | -0.1112 | 0.1814 | 0.895 |

| | First Motive Only | | | Combined Motive | | |
|---|-------------------|--------|------------|-----------------|----------|------------|
| | coefficient | Sig. | Odds ratio | coefficient | Sig. | Odds ratio |
| 70 and over | 0.1469 | 0.1155 | 1.158 | 0.1267 | 0.1739 | 1.135 |
| Presence of children (non=0) | | | | | | |
| Have children | -0.2734 | <.0001 | 0.761 | -0.2847 | <.0001 | 0.752 |
| Retired head(not yet=0) | | | | | | |
| Already retired | -0.2080 | 0.0013 | 0.812 | -0.2127 | 0.0010 | 0.808 |
| Human Capital Variable | | | | | | |
| Head's education(less than high school diploma) | | | | | | |
| high school diploma | 0.1529 | 0.0344 | 1.165 | 0.1662 | 0.0209 | 1.181 |
| some college or AA degree | 0.0675 | 0.3742 | 1.070 | 0.0747 | 0.3244 | 1.078 |
| not grad degree | 0.1234 | 0.1307 | 1.131 | 0.1220 | 0.1339 | 1.130 |
| grad degree | 0.1808 | 0.0378 | 1.198 | 0.1759 | 0.0428 | 1.192 |
| Perceived Health status(poor health) | | | | | | |
| head excellent health | 0.6525 | <.0001 | 1.920 | 0.6628 | <.0001 | 1.940 |
| head good health; | 0.4557 | <.0001 | 1.577 | 0.4684 | <.0001 | 1.597 |
| head fair health | 0.3759 | <.0001 | 1.456 | 0.3950 | <.0001 | 1.484 |
| Financial Attitude Variables | | | | | | |
| Risk tolerance(no risk) | | | | | | |
| Sub risk | 0.2039 | <.0001 | 1.226 | 0.2174 | <.0001 | 1.243 |
| above average | 0.3716 | <.0001 | 1.450 | 0.3714 | <.0001 | 1.450 |
| average | 0.2170 | 0.0118 | 1.242 | 0.2246 | 0.0092 | 1.252 |
| Preference for length of the planning horizon(next few month; 0.3month) | | | | | | |
| next year(0.3-1year) | 0.1640 | 0.0113 | 1.178 | 0.1810 | 0.0051** | 1.198 |

| | First Motive Only | | | Combined Motive | | |
|---|-------------------|--------|------------|-----------------|--------|------------|
| | coefficient | Sig. | Odds ratio | coefficient | Sig. | Odds ratio |
| Next few year(1-3years) | 0.2323 | <.0001 | 1.262 | 0.2516 | <.0001 | 1.286 |
| Next 5 to 7 years | 0.4692 | <.0001 | 1.599 | 0.4931 | <.0001 | 1.637 |
| Longer than 10years | 0.6516 | <.0001 | 1.919 | 0.6648 | <.0001 | 1.944 |
| Expectation on inheritance | | | | | | |
| No expectation | 0.0971 | 0.0683 | 1.102 | 0.0978 | 0.0662 | 1.103 |
| Foreseeable expense in the next 5 to 10 years | | | | | | |
| Not have | -0.00709 | 0.8532 | 0.993 | -0.0112 | 0.7707 | 0.989 |
| Economic Variables | | | | | | |
| Income(less than \$10,000) | | | | | | |
| \$10,000-\$24,999 | 0.1704 | 0.0388 | 1.186 | 0.1791 | 0.0292 | 1.196 |
| \$25,000-\$49,999 | 0.5864 | <.0001 | 1.798 | 0.5953 | <.0001 | 1.814 |
| \$50,000-\$99,000 | 1.0767 | <.0001 | 2.935 | 1.0887 | <.0001 | 2.970 |
| \$100,000 or more | 1.8108 | <.0001 | 6.116 | 1.8125 | <.0001 | 6.126 |
| Homeownership(non-homeowner) | | | | | | |
| homeowner | 0.2481 | <.0001 | 1.282 | 0.2639 | <.0001 | 1.302 |
| Time Trend Variable | | | | | | |
| Year(1998) | | | | | | |
| Year 2001 | 0.0424 | 0.3980 | 1.043 | 0.0495 | 0.3230 | 1.051 |
| Year 2004 | -0.0608 | 0.2231 | 0.941 | -0.0401 | 0.4222 | 0.961 |
| Year 2007 | -0.0551 | 0.2738 | 0.946 | -0.0376 | 0.4550 | 0.963 |
| Intercept | -2.1714 | <.0001 | | -1.5987 | <.0001 | |