

# EXPANDING RETIREMENT SAVINGS TO INFORMAL SECTOR WORKERS: A LITERATURE REVIEW

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## Introduction

Within twenty five years from now, elderly population (60+ years old) in Indonesia is expected to increase twice the proportion of elderly people in 2015, from 9.0 percent of total population (23 million) in 2015 to 19.9 percent (63.3 million) by 2045 (BPS-Statistics Indonesia, 2018). Coupled with the fact that life expectancy at birth is also increasing, from 72.51 years old in 2015 to 75.47 years old in 2045, indicates an emerging needs of social insurance system aims to maintain decent basic living standards when elderly population encounter the reduction/loss income during retirement years. The country has been striving to extend its pension system (old age savings and pension scheme), which part of a bigger national social security programs, to all Indonesians, including formal and informal workers. However, the efforts have not been showing a satisfying results so far. In 2018, only 24.6% of total working population are enrolled in the retirement savings provided by BPJS Labor (calculating only the active members), see table 1. Furthermore, since the participation of wage-based workers are much higher than non-wage based and construction workers, we can imply that the efforts to expand the contribution to retirement savings are still focusing on workers who are classified as employees or formal workers, while left out other type of workers such as informal workers.

**Table 1. Participation of BPJS Labor**

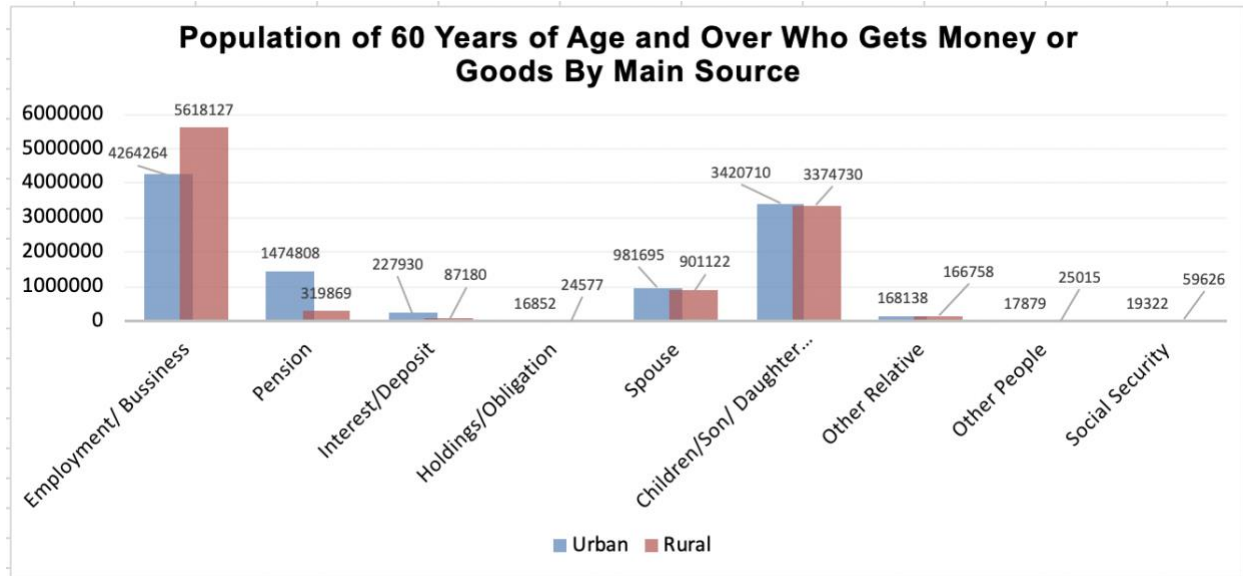
Years	Total workforce (employed + unemployed)	Working population	Participation		
			Wage-based workers	Non-wage based workers	Construction workers
2017	128.062.746	121.002.423	16.068.453	1.714.169	8.459.410
2018	131.005.641	124.004.950	19.427.150	2.393.022	8.639.900

Source: BPJS, 2018

In Indonesia, informal workers represent more than half of total workers (56,50%) or around 74.04 million people (BPJS Ketenagakerjaan, 2015). In 2018, only 2,4 million informal workers were registered, which indicates majority of these informal workers are still exposed to risks, including the risks of reduced/loss of income when they are old and unable to work (BPJS Ketenagakerjaan, 2017). This data is also supported by results of National Survey (SUNAS) 2015 which found that

only 14 percent of elderly people in urban area and 3% of elderly in rural area relied on pension fund (SUPAS, 2015), see figure 1.

**Figure 1. Main Source of Money/Goods for Elderly People**



Source: SUPAS, 2015

To give a brief background, Indonesia old-age pension system consists of **contributory scheme**. The social security system is run by Social Security Administering Body (BPJS) which divided into BPJS Labor who manage employee social security (including pension savings, old-age savings, and work accidental insurance) and BPJS Health who manage national health insurance. Formal sector workers with regular monthly salary is almost certainly participated in old age and pension savings program particularly because employment security law in Indonesia (Law No. 40/2004) mandated employer to contribute to social security funds or insurance schemes of their employee. However, this is not the case for informal sector workers or non-salaried workers. They are less likely to register for old age and pension savings program provided by BPJS Labor because they are being excluded from employer-sponsored retirement savings (as they do not have “formal” employer). Furthermore, majority of them are working at small and micro enterprises, for which pension program is still a voluntary choice. Therefore, for informal workers, they need to voluntarily make the decision to contribute to retirement savings program to gain minimum coverage during their retirement years. It is for this reason the participation rate in retirement savings is still low among informal workers.

Therefore, this literature review is particularly interested in examining existing research about retirement savings in order to get a clear idea how the research has addressed the issue above and

how much we know about retirement savings behavior within informal sectors. Specifically, this literature review aims to identify research that discussed the topic about promoting or encouraging individuals to take up retirement savings plan. The rest of this paper is organized in five parts. First, we review extant literatures that discussed about retirement savings from various field of study (e.g., economics, psychology, and marketing) and provide overview of the major research areas surrounding retirement savings. Then, we filtered only studies that related to retirement savings planning (decisions pre-retirement). Third, we focus on examining different ways to promote savings behavior, especially savings for retirement. We provide a discussion regarding the literature review. Lastly, we conclude with an outline of theoretical framework that can serve as a guideline for future research into finding strategies to increase retirement savings among informal workers.

### **The breadth of retirement savings research**

To date, retirement is considered as a well-researched topic. It is a multifaceted phenomenon that involve a series of factors that lead to individuals' decision related to retirement, such as decision to retire (e.g., when to retire) and sequential process of retirement planning (Topa et al., 2009). Many researchers have been contributed to the development of the knowledge regarding the topic, and the research are from scholars from various background such as economics, finance, communication, behavioral science, management, marketing, and psychology field (Lynch, 2011). Some major research areas including retirement savings adequacy, longevity risk of pension system, and strategies to improve retirement savings adequacy. In retirement savings adequacy, researchers are mainly projecting whether retirees will have sufficient source of income, including from social security, defined benefit (DB) pension, defined contribution (DC) pension, and other assets, at their retirement age to be able to maintain pre-retirement standard of living. The studies often analyzed national datasets to calculate whether households would achieve optimal level of consumption with their current retirement income sources by taking account number of assumptions such as retirement age, consumption needs at retirement, and personal discount rate (e.g., Yuh et al., 1998; Scholz et al., 2006; Haveman et al., 2006; Love et al., 2008; Hurd and Rohwedder, 2012; Munnell et al., 2012; Kim et al., 2014 in Xiao, 2016; Rhee and Boivie, 2015; Burnett et al., 2014). There are also study that aiming to calculate amount of money a person needs to have a comfortable retirement (see Mayer, Zick, and Marsden, 2011) or optimal individual retirement strategies (see Lachance, 2012). In longevity risk of pension system, researchers are concerns with the issue of underfunding of pay-as-you-go state pensions, defined benefit scheme, or state-sponsored plan, which were the common schemes used to cover the benefit received by retirees, and the uncertainty surrounding the estimates (Cocco and Gomes, 2012). This issue is increasingly important in view of the increasing life expectancy and the declining of birth rates.

To cope with the issue, researchers are also exploring different ways to maintain the sustainability and liquidity of pension system (e.g., Orth, 2006; Lassila, 2007; Ediev, 2014; Beshears et al., 2015).

The third major research area is strategies to increase retirement savings adequacy. I consider this as a large stream of research as the studies fall within this area are quite broad ranging from decisions faced by individual during their pre-retirement to decisions at the age of and after retirement. Furthermore, since this area of research is primarily dealing with behavioral and individual decision making, the studies are often used the concepts found in behavioral economics, marketing, and psychology field. Pre-retirement decisions faced by individuals are decisions related to their retirement savings planning, such as decisions whether to join retirement plans, whether they should take defined benefit (DB) or defined contribution (DC) plan, amount of money to be allocated for retirement plan, and optimal investment strategy to gain highest return for their retirement savings (see Gough and Niza, 2011). Concurrently, decisions at the age of retirement including choices of a lump sum, annuity, or cash-out at retirement age (Poterba and Wise, 1996; Brown, 2001; Butler and Teppa, 2007; Poterba et al., 1999; Hurd et al., 1998; Basset et al., 1998; Purcell, 2006; Verma and Lichtenstein, 2006; Hu and Scott, 2007 in Gough and Niza, 2011) and after retirement age including decision to engage in self-employment after retire (van Solinge, 2014; Fasbender et al., 2014; Bolzman et al., 2007; Beehr and Bennett, 2014), among other things.

### **Decisions related to retirement savings planning**

A large number of studies have addressed issues related to how to motivate a better retirement savings behavior among individuals. The existing studies can be categorized into three groups in terms of behavior that they discussed: those that are particularly interested with decision to have retirement savings (i.e., whether join or not join on retirement savings plan), those that are concerns with employee's contribution towards their retirement savings account, and those that are addressed optimal asset allocation and active management of retirement fund.

In the first group, research have explored different factors that influence people's decision to save and the mechanism underlying the decision. Research has shown that individual characteristics such as socio-economic characteristics and personal traits influence decision to save for retirement. Socio-economic characteristics including salary/income, age, education, and job tenure (Basset et al. 1998; Even and Macpherson 2004; Agnew 2006; Gutter et al. 2007 in Gough and Niza, 2011) are shown to influence people's decision to save. Some authors posit that salary plays the most important role (Basset et al. 1998; Agnew 2006; Huberman et al. 2007 in Gough and Niza, 2011) as it has impacts on the other socio-economic characteristics associated with decision to save: those

who are older, more educated with higher job tenure tend to have higher wage which then have higher probability to participate in retirement savings plan because they are inclined to have more discretionary income than their counterparts with lower wage (Gough and Niza, 2011). Gough and Hick (2009) also examine the effect of ethnicity on people's decision to save by interviewing and conducting focus groups with 64 respondents from six largest ethnic minority groups in the UK as well as white British control group, and the results shown that minority groups are less likely to save for retirement than their white counterparts due to their circumstances (e.g., they intended to migrate at some point in the future). Furthermore, gender is also associated with decision to save, with women tend to be less prepared for retirement than men (Noone et al. 2010), but women were more likely to participate in a retirement savings plan in the context of full-time workers (Copeland, 2006 in Gough and Niza, 2011). Personal traits such as future time perspectives, financial risk tolerance (Munnell et al. 2000; Jacobs-Lawson and Hershey 2005; Harrison et al. 2006; Howlett et al. 2008 in Gough and Niza, 2011, Croy et al. 2010), internal rate of discount (Finke and Huston, 2013; , attitude towards retirement savings and money (Joo and Grable 2000; MacFarland et al. 2003; Euwals et al. 2004), and self-control are also demonstrated as a predictors of participation in retirement savings plan.

Some authors provide evidence that financial education and financial literacy can stimulate savings behavior (Bernheim and Garrett, 2003; Hauff et al. 2020), with individuals who receive financial information associated with goal-setting reported higher savings behavior than other groups (Hershey et al., 2003 in Gough and Niza, 2011) . The mechanism underlying the effect might be because financial education can increase individual's cognitive ability or financial knowledge (either subjective or objective knowledge) which then enable them to make better financial decision (Banks and Oldfield, 2007 in Gough and Niza, 2011; Hadar et al. 2013) However, throughout literatures on financial education, the effect of financial education towards savings behavior are inconclusive and in some case, participant's heightened interest to save after engaging in education seminars is not turning into real behavior (Benartzi and Thaler, 2007). In addition, social context (e.g., peers' choices, word of mouth) were also found as a driver of retirement savings behavior, with people receiving information from or seeing their peers enroll in retirement savings were slightly more likely to also enroll in the program than people who did not receive or see such acts (Duflo and Saez, 2002; Kopusko et al. 2015). However, a contrary reaction to peer information was found among nonparticipants with a 0% contribution rate default (unionized employees) (Beshears et al., 2015). It is suspected that employees viewed savings retirement as an extremely difficult goal, and seeing that the same goal is already achieved by many of his/her peers may damage his/her self-esteem and discourage them from savings.

Study on heuristics and psychological biases has contributed to the creation of interventions and

policies intended to improve individual's savings behavior. Many of these interventions were able to effectively minimize individual's biases or take advantage of individual's biases to influence individual's decision to save, but also encourage greater contribution rate and optimal asset allocation (Thaler and Benartzi, 2007; McConnell, 2013). Lists of different approaches that exploit individual's biases and mistakes to promote greater savings behavior are presented in later section of this paper.

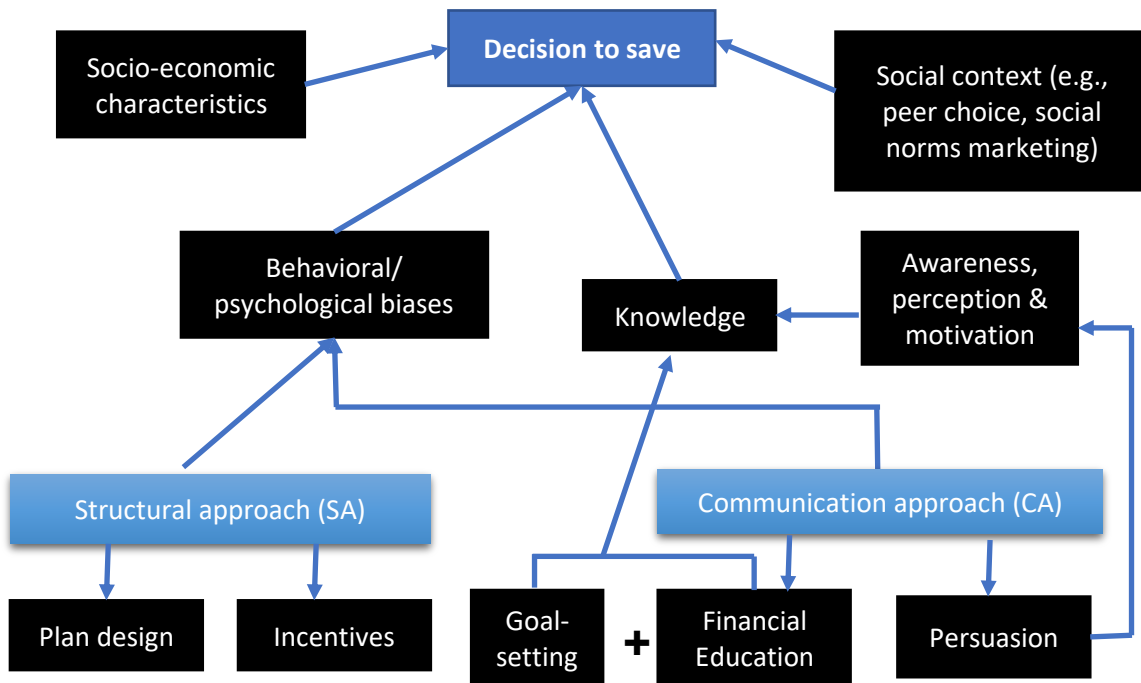
The second group of research is particularly interested in examining how to increase contributions to retirement savings. The variables that affect individual's contribution to retirement savings are similar to decision to save. Socio-economic characteristics such as salary/income, age, education, job tenure, and gender were found to have an impact on savings contribution; older, more educated people who works longer and earn higher salary tend to contribute maximal to their retirement savings plan than younger and lower income employees (Basset et al. 1998; Papke 2003a; Smith et al. 2004; Huberman et al. 2007; Devaney and Zhang 2001; Wang and Gutter 2005 in Gough and Niza, 2011). Furthermore, social norm is also associated with contribution rate, such that individuals that receive information from expert contribute significantly more than those who did not receive expert advice (Bailey et al., 2004 in Gough and Niza, 2011). Giving individuals more freedom and autonomy in their choices were shown to also increase their contribution to retirement (Papke, 2003b in Gough and Niza, 2011).

Financial education has also been demonstrated to influence savings contribution, with well-informed and financially educated people are more likely to increase their contribution (Clancy et al. 2001; Chan and Stevens 2008 in Gough and Niza, 2011) and the effect of financial education is more pervasive among low-income individuals (Clark et al. 2006 in Gough and Niza, 2011). Thaler and Benartzi (2007) pointed out that the most effective method used to increase retirement savings participation rate, auto enrollment, has side effect in that workers who decided not to opt-out are also using shortcut or "savings heuristics" by choosing default contribution rate provided by the plan and only small number of people chose to make active decision on how much to contribute. However, in the long-term, it is expected this default contribution rate is "too low" to be able to produce enough retirement savings for employee. Accordingly, Thaler and Benartzi (2004) established pre-commitment savings device which they called "Save More Tomorrow" to increase employee's contribution to retirement savings. Providing numerical cues in the email were also proven to affect average contribution rates, and the effect persist between two months and a year after the email (Choi et al. 2017).

The third group of research is related to the decision to manage and allocate the retirement savings fund. Align with two previous groups, socio-economic characteristics were found to be some of

the factors impacting asset allocation. Younger, more educated, higher earning, and financially educated people are less prone to chose conservative investment allocation and tend to hold more equity investments (Poterba and Wise 1996; Bajtelsmit and Bernasek 2001; Holden and Vanderhei 2001a, b; Agnew et al. 2003; Mitchell et al. 2006; Bhandari and Deaves 2008; Bieker 2008 in Gough and Niza, 2011). However, different results were shown by Bateman et al. (2010) who found that younger and low income retirement savers tend to be risk averse, thus, more inclined to choose conservative investment allocation. In contrast, older and higher earning retirement savers are more likely to react positively to increasing ranges of possible investment outcome. Furthermore, several authors also provide evidence that employee is in favor of company’s stock and underestimate the risk of owning such type of investment (Mitchell and Utkus, 2004 in Benartzi and Thaler, 2007; Benartzi et al. 2007). Other studies are exploring psychological biases that often hinder individual’s decision on optimal asset allocation such as myopic loss aversion (Benartzi and Thaler, 1999), naïve diversification (Benartzi and Thaler, 2001; Huberman and Jiang, 2006 in Benartzi and Thaler, 2007), mental accounting and framing (Benartzi and Thaler, 2007), and tendency of new investors to buy when the stock price is high and sell when the stock price is low – or false market timing (Benartzi and Thaler, 2007).

**Figure 2. Inter-related factors that drive individual’s decision to save**



**Strategies to promote retirement savings behavior**

Numerous efforts have been executed, both by private agents or public policy makers, to increase participation on retirement savings plan. Their efforts lie in two broad categories: (1) structural approach in which they attempt to change conditions under which people save, and (2) communication approach in which they attempt to change people's perceptions using persuasion methods and knowledge through education (Wiener and Doescher, 2008). Figure 3 summarizes this categorization. Within structural approach, I further classify the interventions into two broad classes which are plan design and incentives. Plan design is an interventions by which private agents or policy makers introducing or implementing features in retirement savings plan in a way that will promote greater savings behavior. In other words, these are the interventions that related to the design of the product. The simplest plan design to get new employees enroll in retirement savings plan is through automatic enrollment, where employees are automatically sign up unless they opt out. This design is extremely successful in increasing retirement savings participation rate because it could overcome a person's inertia (Madrian and Shea, 2001) or the tendency of a person to procrastinate difficult decision (Benartzi and Thaler, 2013). Other designs used to intervene with the decision making process including;

- Presenting less number of options (IyengarCardella et al. 2019)
- Bundling the retirement savings with other financial product (e.g., loans)
- Easy access to the products (availability)
- The product is simple to use (e.g., easy to fill out the form, simple process to cash out the money, etc). Lusardi, Keller, and Keller in Lusardi (2008) simplify the SRA selection process to reduce task complexity and procrastination. Although they were practicing several strategies into the retirement savings product, the end result shows a satisfying outcome; the participation rate on retirement savings plan is increasing after they modify the product.
- Earmarking and partitioning the premium (Soman and Cheema, 2011)
- Framing the product features. Framing savings in more or less granular formats (e.g., deposits in daily amounts as opposed to monthly amounts) can increase the number of people who enroll in recurring deposit programs (Hershfield et al. 2020)

Other efforts within structural approach is providing incentives if people perform a desirable behavior. Some incentives used to encourage people join a retirement savings plan are tax savings, employer match rates, and lowering employee's contribution rate. For the communication approach, the interventions are classified into two groups; financial education and persuasion approach. In general, the results of educational efforts are largely inconclusive, however, financial education do matters in promoting savings behavior. It can at least increase awareness on the importance of retirement savings and encourage workers to establish a more realistic retirement



plan (Clark and d'Ambrosio in Lusardi, 2008). Although, this plan to increase retirement savings were often not immediately executed.

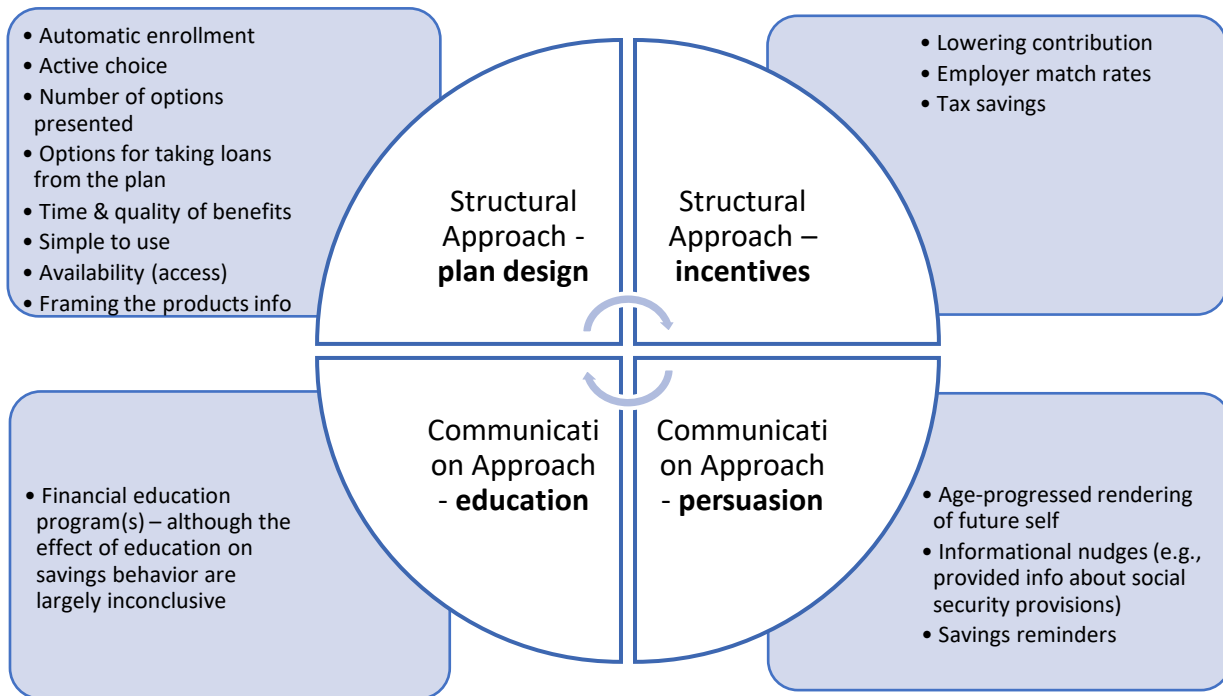
Previous research have found that the results of structural and education efforts are still not optimal in increasing the intention to save for retirement, implying that there is a need to do more (Wiener and Doescher, 2008). Wiener and Doescher (2008) has suggested to use persuasive communication approach to promote retirement savings, as communication can complement structural and education approaches. Generally, the likelihood of a person performing certain behavior is affected by intentions and inertia/procrastination. These persuasive approaches are not directly alter individuals' savings behavior, but indirectly by increasing intention to save or overcoming inertia/procrastination. We noted several interventions which we classified as part of persuasive approach due to its nature of attempting to change a person's perception. First, providing information/pictures that allows people to interact with their future selves (e.g., age-progressed rendering of themselves) (Hershfield et al. 2011). It is believed that enhancing one's connection with their future selves will reduce the tendency of temporal discounting, which in turn increase willingness to delay gratification, including saving money for the future (Ersner-Hershfield et al. 2009 in Joshi and Fast, 2013).

Second, informational nudges which generally involves giving information to people about the products (e.g., highlighting exponential growth of savings, distributing flyer containing information about the employer's 401(k) plan and the value of contributions compounding over a career, providing information on social security provisions) can nudge workers to participate in 401(k) plan, although the effectiveness of informational nudge varied by employee characteristics (McKenzie and Liersch, 2011; Liebman and Luttmer, 2011; Goda, Manchester, and Sojourner, 2012; Clark et al. 2013). In the study conducted by Lusardi, Keller, and Keller in Lusardi (2008), they discovered that not enough information on how to save was one of the barriers that hinder people to save (Lusardi, 2008). To overcome this barrier, they created and tested a planning aid by establishing an eight-step plan to enroll in the retirement savings plan and provide this information to one group of employee. When they compared participation rate of group who receives information vs group who did not receive such information (control group), they found that participation of group who receive information is tripled than control group (7% for the control group and 21% for the treatment group) in 30 days after the group received the information. Third, Karlan et al. (2016) found evidence in his three field experiments that reminders to save were proven to increase savings. However, the exact mechanism of why reminders were an effective measures were not tested, although alternative explanations were provided.

## **Discussion**

Many of the research so far that explore successful interventions to encourage retirement savings have been conducted with formal workers, implying that this interventions take advantage of the fact that the retirement savings can automatically taking money from paychecks of the employee and depositing the money into retirement accounts. However, this is not the case in the developing world where the majority of workers are informal workers which makes it impossible for them to rely on automatic enrollment and expect their employers to also actively contribute to their retirement savings account. This implies that more research is needed on how to generate substantive changes in the long term savings for retirement in countries where automatic enrollment is challenging to be implemented because the structure of the workers are mainly informal workers. Furthermore, it may be harder to change the choice environment in which employees making a decision whether to join or not join, especially when the industry is less regulated and unsystematic unlike in developed countries (McConnell, 2013). Thus, we proposed persuasive methods, such as providing targeted and timely information, as an alternative method for policy makers who could not implement automatic enrollment to increase retirement savings participation among informal workers (Clark et al. 2014). Informational nudges can also be considered as low-cost intervention and can reach a relatively wide market.

**Figure 3. Categorization of Interventions to Promote Savings Behavior**



In designing the right informational nudges to promote retirement savings behavior among informal workers, it is important for us to understand the characteristics of the informal workers

itself. We need information about their characteristics to design pension scheme and/or policy that will respond to their needs and circumstance. Firstly, informal sector workers are heterogenous. Occupations that falls into informal workers category are so diverse ranging from wage earners and the self-employed to domestic workers, small farmers, street vendors, artisans, etc. Secondly, they have more volatile income, and often earn less than traditional employees. Thirdly, and almost for certain, they have lack access to employer-sponsored retirement savings and are not covered by pension scheme intended for formal sector workers, those who have registered employer – employee relationships. However, it is important not to fall into the error of assuming that all informal sector employment is unattractive and poorly paid; some are poor and vulnerable and the others are non-poor and non-vulnerable, which indicates that there are segments whom actually have the capability to save. For the poor and vulnerable segments, a more social approach might be needed to overcome the problems of low participation rate. Since these segments of informal workers has low capacity to contribute, government subsidies are sometimes necessary. Nonetheless, this raises issues of sustainability of the pension system. On the other hand, the more affluent segment of informal workers has the capability to save. On that consideration, informational nudges might be needed to motivate their savings behavior.

## **Conclusion**

Based on the results of literature review above, we found informational nudges as potential approach that can be tested to increase retirement savings among informal workers. Building on previous work by Clark et al. (2014), this study aims to show that informational nudges might be an effective method in influencing participant's decision to save, and that perhaps different informational nudges are needed depending on employee's characteristics (e.g., age and salary level). Furthermore, for people with very limited incomes (e.g. below the low-income cut-off), other financial concerns are likely to—and perhaps should—take precedence over retirement planning. Therefore, I assume that income irregularity would be one of the barriers inhibiting informal sector workers to act. Therefore, as an initial step, we will explore further the concept of financial constraints to help us understand the market of informal sector workers. Financial constraints is originally a concept mainly used in research on economics and finance, but we will use this concept to help us identify our target groups and to understand whether the subjective feeling of financial constraints vary considerably among informal sector workers. Understanding the degree of financial constraints within our target groups will enhanced our abilities to develop suitable informational nudge for those groups.

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