

CHOICE ARCHITECTURE AS A BASIS FOR PENSION SAVINGS DECISIONS

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Abstract. The study analyses the findings of behavioural studies in enhancing the amount of private pension savings. The aim of the study is to summarize the findings of the scientific literature in a unified system, which allows to analyse the behavioural theories methods used by countries in facilitating people's decisions in funded private pension savings. The authors look at the process of pension accumulation from the perspective of their three stages of formation and identify the need for investor involvement in each of them. The developed unified system is tested by performing a comparative analysis of the 2nd and 3rd pension pillars in Latvia. It clearly shows the commonalities and differences between the two pillars, as well as the areas in which the methods of behavioural theories can be used.

Keywords: *pension system, behavioural theory, choice architecture.*

JEL code: I38; G41; G51; H24; H55

Introduction

The conscious involvement of the population in pension savings is formed gradually and through continuous support mechanisms. The applicability aspect of the available information is increasingly emphasized, with the need for in-depth knowledge for potential investors being relegated to the background. Information that is easily accessible to people, both about the pension system itself, but even more about practical ways to make sure of the amount of your pension and how to create savings, plays an important role here.

To some extent, the success of the pension system depends on the deliberate action of its members - from participating in the social contribution system and paying taxes to qualify for a 1st pillar pension, choosing specific pension plans that correspond to the life cycle and risk tolerance of a 2nd pillar pension and deciding to accumulate additional pension voluntarily at the 3rd pension pillar.

Scientists are vigorously analysing the basis for human behaviour in long-term consumption and income planning from both the standard economic theories of saving (Friedman, 1957) and behavioural theories. The standard theory of economic savings is based on the rational action of a person - depositors accumulate and then use assets throughout their lives, consciously able and wanting to plan their actions. The tax incentives offered to promote pension savings provide a rational basis for savings decisions (Dundure, Sloka, 2020). In turn, behavioural theories widely discuss irrational reasons that encourage long-term thinking and facilitate a person's long-term financial planning.

Nudge theory is one of the most widely discussed behavioral theories in recent times (Thaler et al, 2009). *Nudging* talks about creating a supportive environment that makes it easier for the target audience to make the best possible decision easily and conveniently. It is the creation of an "architecture of choice" to steer decision-making in the desired direction, while leaving people free to act. Methods based on *Nudge* theory usually have no direct costs and are based on changing existing "choice architectures". For example, changing the default option to use people's tendency to passively accept default settings or "by default" choices. In this way, it contrasts with traditional instruments that change behavior with powers or prohibitions or with financial incentives that inevitably involve direct financial aspects.

Objective of the study:

- 1) To perform an analysis of the scientific literature on the use of methods based on *Nudge* theory in voluntary pension savings.
- 2) Based on literature review to identify the areas of responsibility of investors or voluntary decisions in the planning of pension savings with the aim of achieving a larger amount of the pension to be received.
- 3) To summarize tasks and methods of increasing pension savings in different stages of pension accumulation.
- 4) To create a comparative analysis of Latvia's 2nd and 3rd pension pillars from the perspective of decisions made by investors to determine the phases of pension savings, in which additional methods could be used to promote voluntary decision-making.

The results of the study provide a clear picture of the existence of voluntary decisions in the formation of pension savings, as well as specify areas and aspects in which the amount of savings can be increased by *nudge* methods.

The analysed scientific literature on the experience of developed countries and the analysis of the Latvian 2nd and 3rd pension systems developed by the authors from the perspective of the activities performed by the investor allow pension policy makers to purposefully improve the architecture of the pension system in Latvia.

Literature Review

Scientists have identified countless areas where governments, public authorities, large and small entrepreneurs can successfully use *nudge* theory methods in their work (Benartzi et al, 2017). Like all theories, *Nudge* theory has its drawbacks as well as the risky aspects of applicability. The choice environment must be built on the investor's long-term benefit strategy, and only then should nudging mechanisms be used to promote desired behavior. In their original article in 2003, the authors of *Nudge*'s theory Thaler and Sunstein (2003) describe the applicability of libertarian paternalism only when it influences the decisions of the parties involved only in their favor. For example, if you choose the default payment amounts, the amount selected may be disproportionate to a particular person and may be a reason not to pay at all and not to build up a private pension provision (Beshears et al., 2017, Goldin et al., 2017). Whether the system builders themselves do not suffer from behavioral bias is an important aspect in building a bias-free choice offer. This is also the reason why this method can only be used to stimulate well-established and tested preferred patterns of behavior.

Another important aspect is that nudging must be applied consistently - a survey of investor behavior between 2000 and 2016 conducted in Sweden (Cronqvist et al., 2018) showed that campaign-type *nudge* activities are unique in nature. This will make default rules nudges much more effective for individual, albeit very massive, advertising campaigns. To withstand a constant *nudge* system, digital tools provide a positive effect not only as a source of information, but also as a comparison site and even access to personalized information on people's retirement savings (Dundure, Sloka, 2019). Of course, this cannot be ruled out only if digital tools meet the requirements of light, convenient and easy-to-use functionality.

The fact that people deviate from the predictions of the rational agent model and are guided by supposedly irrelevant factors (SIFs) in their savings decisions shows the growing role of so-called non-financial incentives in decision-making (Kim, 2020). This poses new challenges for the regulator, creating requirements for information documents to be disclosed to investors, as well as presenting the offer of pension plans (Benartzi, Thaler, 2007). It turns out that the way information is presented prevails over content and issues such as return on investment, risk, investment strategies can be subordinated to the availability of plans and simplicity of choice (Bateman et al, 2016; Kozup et al, 2008; Madrian et al, 2011; Navarro-Martinez et al, 2011).

By researching the most effective ways to increase the amount of pension, several studies have been conducted on how it is possible to draw investors' attention to their preferred choices. *Nudge* theory methods can be used to create an investor disclosure document about the operation

of specific pension plans (Camilleri, Cam, Hoffmann, 2019; Bateman et al, 2016). According to research results participants did choose to use the default option, especially as it became more conservative as they approached retirement age and in combination with dynamic pictograms. The study showed that the way information is presented and the degree to which information is visible and relatively perceptible have a more significant effect than the content of the information.

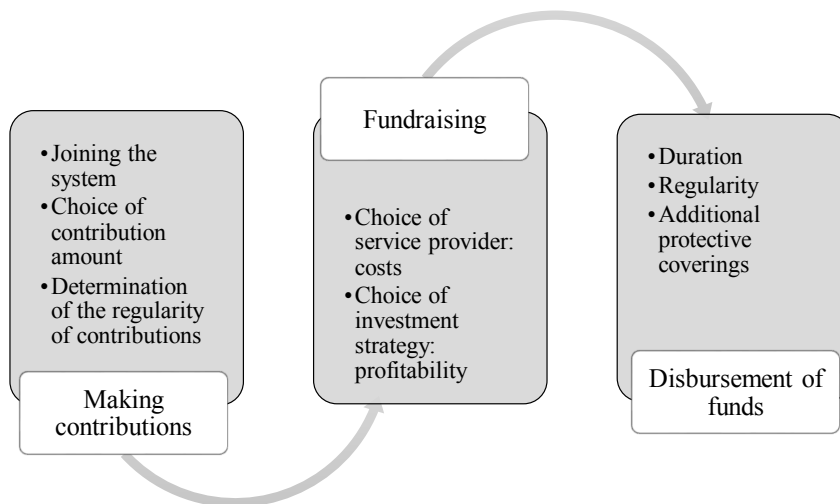
Although the described methods can be widely used to stimulate the desired action, the most effective way to involve the population in pension savings is the so-called auto-enrollment mechanism. (Madrian, Shea, 2001). The authors have extensively analyzed the impact of automatic registration on existing pension plans in England, concluding that auto-enrollment is critically important for participation in pension plans and the creation of automatically selected savings. It was concluded that this "default" behavior stems from the participants' inertia to make pension investment decisions independently. It is also important that the option automatically offered was considered to be the best that "someone more competent" offers. The findings of this study are very widely discussed in the academy and also serve as a basis for government agencies to develop pension planning tools.

The experience of the countries of the world shows that employers play a critical role in the involvement of the population in the formation of pension savings (Atkinson et al, 2015). At the beginning of the employment relationship, existing occupational pension plans with both explanatory work and financial motivators by matching the contributions are offered. In addition, creating savings by automatically deducting payments from the pension plan from your salary is convenient, easy, and therefore efficient. In addition, according to Beshears et al. study provided in 2013 a ready-made offer to join a pension savings plan with an already defined contribution rate and investment strategy, which means simplifying the choice, both increased the number of participants and increased the amount of their payments.

Equally important in increasing the amount of the pension is an efficient pension payment system - duration and regularity, as well as the possibility to postpone it to the later possible time and distribute it evenly over the rest of one's life. Here, too, the peculiarities of human perception must be considered, on the basis of which it is possible to form appropriate nudging. The results of the study (Brown et al., 2013) suggest that when planning the type of pension payment - annuities, the efficiency of pension savings should be achieved from the perspective of the desired amount of consumption and not from the measurement of return on investment. At the same time, when people build up their pension savings, they expect it to be clear how much their monthly pension is. According to another study (Finke, Fichtner, 2021), eighty-one percent of participants state that a guaranteed income would be the most desirable outcome of a life-saving pension provision.

Research results and discussion

To carry out a comprehensive analysis of the investor's impact on the increase in savings, it is useful to divide the pension accumulation process into stages: making contributions, saving and disbursing the accumulated funds. In each of these stages, it is possible to identify the activities (Figure 1) to be performed by the investor within the existing system, as well as the necessary Choice architecture, which would promote more active and effective involvement of investors in the increase of pension capital.



Source: author's construction based on literature review

Fig. 1. The pension accumulation process and its components

The figure shows the phases of pension savings, as well as the measures to be taken by investors to increase the final pension income in each of them.

The OECD not only compiles indicators for pension systems, but their annual studies shed light on specific pension analysis issues. Its 2018 edition (OECD, 2018) provided an in-depth study of developed countries' approaches to increasing pensions for the population, focusing on five key decisions that people need to make when planning and designing a pension: membership issues, contribution rates, choice of provider, investment strategy and pension payout.

Given the current relatively low level of financial literacy of the population, as well as the inherent behavior of people, the OECD in its study analyzes the experience of developed countries that pension policy makers are doing and can still do to increase pensions. Referring to the principles of nudge theory, the OECD (OECD, 2018) recommends the use of the following methods to facilitate people's decision-making in the formation of pension savings: Automatic features, Default options and Simplification of information and choice. All this together creates a favorable environment or choice architecture for pension decisions. In the table below, the authors have summarized the main methods used in developed countries to increase pension savings by linking them to the phases of pension savings described above.

Tasks and methods of increasing pension savings in different stages

	Task	Mechanism
Making contributions		
Joining the system	Involve as many participants in the system as possible	Changing the default enrolment mechanism Focus on occupational plans Self-employed and informal workers could be nudged into the same scheme into which formal employees are enrolled, with the same incentives
Choice of contribution amount	Motivate to increase contributions	Matching contributions with government or/ and employee Setting default contribution rates at high levels Automatically increasing contribution rates Creating pension planning tools with personalised information or calculators
Determination of the regularity of contributions	Motivate contributions to be made regularly	Simplifying the contribution process Automatic payments from income using occupational pension plans
Fundraising		
Choice of service provider	Simplify the choice of service provider Offer a wide range of service providers that are easy to compare	Enhancing disclosure on costs and fees, and past returns information Possibility for voluntary extra savings with an existing service provider
Choice of investment strategy: risk, volatility and return	To maximize possible capital return level according to life cycle and length of contract	Simplifying choice by using default mechanisms; default lifecycle strategy plans Reducing the set of available investment options Providing financial advice and financial education
Choice of investment plan: costs and fees	Provide an opportunity to assess the cost efficiency of service providers	Showing the the capital return after applicable costs and fees or simplifying costs and fees information disclosure
Disbursement of funds		
Retirement age	To give an opportunity to postpone the start of receiving a pension	Flexibility during the first years in retirement, with a deferred life annuity starting payments at the age of e.g. 85
Duration and regularity	Provide a lifelong stream of income after retirement	Promoting the demand for life annuities by establishing them as defaults Financial incentives to choose annuities Risk-sharing features can be included in life annuities Pension savings product should be presented in a consumption frame vs investment frame Facilitating product comparisons: A platform comparing post-retirement options and bids

Source: author's construction based on literature review

Summarizing the methods observed in the table, using default options is the most effective way to achieve greater coverage of pension savings. They can be used for the contribution rate, the pension provider, the investment strategy and the post-retirement product therefore simplifying the decision-making process.

The next task of this study is to analyze the Latvian pension system from the perspective of the decisions to be made by investors and the possibilities provided by the created choice architecture. Given that participants make decisions not only regarding the 3rd pension pillar, but also about the amount of capital accumulated in the 2nd pension pillar, it is important to analyze the involvement of the population in decision-making at both pillars.

The involvement of the population in the three stages of pension accumulation at the 2nd and 3rd pension pillars is determined by the rights and obligations of investors in accordance with the relevant legislation and accompanying regulations (Saeima, 2000, 2019). Based on the analysis of the legislation, the authors summarize in Table 2 the voluntary activities of the participants in the pension system in Latvia.

Table 2

The nature of investor decision-making in various phases of pension savings formation at the 2nd and 3rd pension pillars in Latvia in November 2021

	2nd pension pillar	3rd pension pillar
Making contributions		
Joining the system	Automatic in proportion to social contributions	Voluntary decision
Choice of contribution amount	Fixed, automatic in proportion to social contributions	Voluntary decision justified by tax incentives
Determination of the regularity of contributions	Automatic in proportion to social contributions	Voluntary decision
Fundraising		
Choice of service provider	Voluntary choice with the right to change once a year, there is a default choice	Voluntary decision
Choice of investment strategy: risk, volatility and return	Voluntary choice with the right to change investment plans up to twice a year, there is default choice	Voluntary decision
Choice of investment plan: costs and fees	Voluntary choice with the right to change investment plans up to twice a year, there is a statutory cost and fees ceiling	Voluntary decision
Disbursement of funds		
Retirement age	Defined by law without the possibility of postponement	From the age of 55
Duration and regularity	1)Automatically until the end of life, adding pensions to the 1st pillar 2)Under the terms of a lifetime pension, it is also possible to receive it irregularly, receiving half of the amount during the first five years	Voluntary decision
Additional protective coverings	Voluntary choice to inherit during accrual and pension	Voluntary choice to inherit during accrual and pension

Source: author's construction based on legislation

The table above shows the differences in the level of voluntary decisions made by investors at the level of the 2nd and 3rd pension schemes in Latvia. For the 2nd pension pillar, despite automatic involvement in the system, a lot of decision-making freedom is defined in the Fundraising phase, moreover, certain decisions are made by default instead of investors - in choosing the initial service provider and investment plans. Pension policy makers have also prepared an offer for the Disbursement of funds phase, setting out the options between adding pensions to the 1st pillar and choosing the insurance annuities policy, although the lack of flexibility in choosing the retirement age is a disadvantage. In turn, in all phases of the 3rd pension pillar, all activities are voluntary. We can conclude that there are no non-financial incentives for investments at the 3rd pension pillar in Latvia, extra pension savings are fully dependent from only financial incentives.

Conclusions, proposals, recommendations

1. In an ideal world, people would make informed decisions when making contributions to their retirement capital with their first salary, carefully choose service providers and investment plans, compare multiple offers, and choose the best retirement strategies. But even in developed countries, the reality is far from the ideal world. Therefore, when designing the choice architecture of a pension system, it is necessary to take into account both the level of financial literacy of the existing population and the existing patterns of behavior in financial planning issues.
2. The review of the scientific literature according to which the methods proposed by Nudge theory for improving the pension system are highly valued by both researchers and pension policy makers in developed countries.
3. The system of investor decisions allows to create an analysis of any pension system in a comparable way. It combines the tasks of each stage of pension accumulation - Making contributions, Fundraising and Disbursement of funds - with the applicable Nudge methods.
4. The comparative analysis of the 2nd and 3rd pillar of Latvian pensions allows concluding the applicability of the Nudge theory methods in several stages of pension savings formation of the 2nd pillar, while no behavioral theory methods are used for the 3rd pension pillar.
5. In this way that there is a high potential to promote additional pension savings at the 3rd pension pillar by introducing some of the methods listed in the study.

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