OPSG

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OPSG own paper on Behavioural Economics in Funded Pensions

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1. CONTENTS

Summary **4**

Introduction **5**

1. Behavioural economics in the phase of enrolment **7**

1.1. Lessons from behavioural economics in the phase of enrolment 7

1.2. Possible solutions in the enrolment phase 12

1.2.1. Start of the saving 12

1.2.2. Auto-enrolment 15

1.2.3. Tax reliefs 17

1.2.4. Choice of provider / product 17

1.3. Policy recommendations for the enrolment phase 19

2. Behavioural economics in the accumulation phase **22**

2.1. Lessons from behavioural economics in the accumulation phase 22

2.1.1. Contribution rate 22

2.1.2. Investment strategy 24

2.1.3. Pensions' statistics/figures 25

2.1.4. Switch between 1st and 2nd pillars 27

2.1.5. Early withdrawal 27

2.1.6. Decisions in the face of negative economic news 28

2.2. Possible solutions for the accumulation phase 28

2.2.1. Contribution rate 28

2.2.2. Tax incentives 29

2.2.3. Investment strategy 30

2.2.4. Flexibility 31

2.3. Policy recommendations for the accumulation phase 31

3. Behavioural economics in the payout phase **35**

3.1. Lessons from behavioural economics in the payout phase 35

3.1.1. Risks 35

3.2. Possible solutions for the payout phase 38

3.2.1. Promoting certain payout product 39

3.2.2. Enabling decision-making 40

3.3. Policy recommendations for the payout phase 42

Conclusion **45**

References **46**

SUMMARY

Behavioural economics is a field that combines psychology and economics to understand how people make decisions. It challenges the traditional economic assumption that individuals are fully rational and always make decisions that maximize their own self-interest. Understanding behavioural economics and addressing cognitive biases in funded pensions can help to increase the pension savings in the European Union (EU). Behavioural economics teaches us that many people do not act in a rational way in regards to pension saving decisions due to behavioural biases. Irrational decisions lead to missed expected utilities and benefits for the savers. In many cases, the individual's decision to enrol in pension plan, to save enough, to retain the accumulated pension assets and to choose proper payout product depends on the behavioural biases. Examples of behavioural biases are related to procrastination, heuristics, immediate gratification, loss-aversion, anchoring, framing, information overload, choice overload, overconfidence and others. The paper summarises lessons from behavioural economics in the three main different stages of pension saving – in the enrolment phase, in the accumulation phase and in the payout phase. Our aim is to formulate policy recommendations that can lead to higher pension coverage and increased savings in funded pensions in the EU. The analysis reflects the surrounding environment of ageing population in the EU, the increased informational flow, the digitalisation process, the financial pressure on Member States budgets and the calls for improved competitiveness of the EU economy. The main conclusion of the paper is that policymakers have to help people in their decisions concerning retirement planning and in the savings process through using the behavioural insights.

INTRODUCTION

The Occupational Pensions Stakeholder Group (OPSG) own initiative paper is motivated by the desire to search for areas to improve funded pensions in the EU using the insights from behavioural economics. Usually, experts assume that people are acting rational when considering decisions about retirement planning. In many cases, people tend to act irrational for pension saving decisions based on behavioural biases. Behavioural biases lead to wrong individuals' decisions, action or inaction leading to missed opportunities, instead of maximising utilities or benefits for the saver. The paper summarises lessons from behavioural economics in the three main different stages of pension saving saver's journey. We want to see how a potential saver can be influenced to: start saving as early as possible, choose the adequate amount of pension contribution, choose the proper pension provider and pension product, and to be aware when, where and how he/she can influence the saving. Furthermore, we want the saver to learn how he/she can be active through the accumulation of the pension assets, what information is supplied and how it could be reached, which are the payout options and how these options meet the saver's financial needs. These insights are discussed with a focus for policy makers, decision makers, and all interested parties in the process of saving for funded pensions.

We strongly believe that using behavioural insights in funded pensions can help to meet the challenges in the EU as pension gap, deficits in financing public pensions, low coverage of funded pensions, insufficient financial awareness for pension options, increased flow of information, ageing population, increased career uncertainty, fintech development, green preferences, digitalisation and others. Global pension protection gap is estimated to be around $51trn and closing the gap would require an additional annuity payment of approximately $1trn per year (GFIA, 2023).

Some EU bodies already are trying to incorporate lessons from behavioural economics in policymaking. EIOPA is using behavioural insights in its work for pension and insurance supervision[1]. On the EIOPA website four areas concerning appliance of behavioural considerations are mentioned: improving the information received by pension holders; principles and good practices in disclosure documents; enhancing consumer protection and dark patterns - practices that exploit consumer biases.

Another EU level body, the Competence Centre on Behavioural Insights (CCBI)[2], is exploring the implications of behavioural insights on improving policies. One of the stated aims of the CCBI *"…is use behavioural insights to help design better policies".* The CCBI published several papers exploring "*…the value of applying behavioural science to policymaking"*[3].

The European Commission (EC) is undertaking measures[4] for *growth and competitiveness* of the European economy and *"…the development of a Savings and Investments Union is a crucial*

[1] https://www.eiopa.europa.eu/tools-and-data/behavioural-insights-insurance-and-pensions-supervision_en

[2] CCBI is structured within the EU Policy Lab maintained by the Joint Research Centre of the European Commission, https://knowledge4policy.ec.europa.eu/behavioural-insights/about_en

[3] Some of the papers are: 1) European Commission: Joint Research Centre, Dupoux, M., Gaudeul, A., Baggio, M., Bruns, H., Ciriolo, E., Krawczyk, M., Kuehnhanss, C. and Nohlen, H., Unlocking the full potential of behavioural insights for policy, Publications Office of the European Union, Luxembourg, 2025, 2) European Commission: Joint Research Centre, Blasco, A., Bruns, H., Ciriolo, E., Dupoux, M., Krawczyk, M., Kuehnhanss, C., Mitev, K., Nohlen, H. and Papa, F., Behavioural Insights Applied to Policy, Publications Office of the European Union, Luxembourg, 2024

[4] European Commission, Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions, "Savings and Investments

priority as it aims to improve the way the EU financial system channels savings to productive investment, creating more and a wider range of financial opportunities for people and businesses, notably sustainable businesses". Some of the proposed measures (auto-enrolment, pension tracking systems, pension dashboards, financial literacy) from the EC towards Savings and Investment Union (SIU) are addressing the behavioural biases in pensions (present bias, procrastination, inertia, low pension awareness, insufficient financial literacy and others).

The Organisation for Economic Co-operation and Development (OECD) has been exploring behavioural finance and financial literacy for many years and published several publications[5] on the topic.

The current OPSG own initiative paper concludes that policy makers and pension plan providers have to adapt regulations, information, measures and pension products design in order to reflect the behaviour of the potential and existing savers and pension sponsors. Taking into account the behavioural insights will gain greater trust among potential savers. In the recent years, there is growing understanding that a pension product has to be simple, transparent and cost-efficient. The challenges are in the contradictory forces: a simple product versus long-term nature of the product and complex business model; standardised features and the discretionary of the providers; transparency and the decision power changing within the saver; cost efficiency versus good quality product and options; low risk and high return and others.

Saving for pension is a complex process that requires certain actions and decisions. The degree to which individuals must actively make choices depends on the type of pension plan and it varies across jurisdictions. Pension systems are very diverse in Member States. The current paper explores the topic mainly from the point of view of the challenges faced by individuals when saving for pension. These challenges vary to the type of pension scheme and the specific characteristics of the pension system of every Member State. What people need to be able to do varies according to the type of pension scheme and pension plan. In general, defined contribution (DC) schemes and personal pension arrangements imply more active decisions from the savers. Less individual responsibility is inherent in Pay-As-You-Go (PAYG) public pension arrangements, occupational plans, mandatory schemes, collective schemes and defined benefit (DB) schemes. The saver needs greater financial skills in personal pension plans rather than occupational pension plans as the former offer more choice. Plan sponsors in (mandatory) occupational plans usually take care of a number of plan design features, such as the choice of the provider, the amount contributed, the investment strategy and the post-retirement product. Based on these specifics, the formulated recommendations in the paper are not *"one size fits all"* solution for all Member States and national circumstances require *country-specific solutions*.

The paper is written by OPSG members using information and data from past surveys, experts' papers, articles from EIOPA, OECD, industry bodies, research institutes, academics and others.

The paper is structured following the three main stages of savers' journey in funded pensions – enrolment (participation), accumulation phase and payout (decumulation) stage.

Union. A Strategy to Foster Citizens' Wealth and Economic Competitiveness in the EU", 19.3.2025 COM (2025) 124 final, https://eur-lex.europa.eu/legal-content/

[5] OECD (2018). "Improving retirement incomes considering behavioural biases and limited financial knowledge", in OECD Pensions Outlook 2018; Lefevre, A. and M. Chapman (2017). "Behavioural economics and financial consumer protection", OECD Working Papers on Finance, Insurance and Private Pensions, No. 42; Tapia, W. and J. Yermo (2007). Implications of Behavioural Economics for Mandatory Individual Account Pension Systems, OECD Working Papers on Insurance and Private Pensions No. 11

1. BEHAVIOURAL ECONOMICS IN THE PHASE OF ENROLMENT

1.1. Lessons from behavioural economics in the phase of enrolment

Behavioural economics aims to identify the factors that impact our decision-making and our behaviour. It is well known that people are not always making rational decisions while determining saving for retirement. Cognitive biases are one of the reasons for these irrational decisions. Behavioural (cognitive) biases are our preferences, beliefs, and our decision-making drivers. Behavioural economics is about our perceptions of the information that is available to us. Thus, behavioural biases in retirement planning influence the savers decision and the results from the saving. Insights from behavioural economics could be used to increase saving for funded pensions[6] and achieve better results from funded pensions saving.

Many young people at the age of 25 may think that saving for retirement is an abstract concept that will not become a reality for another 30 years. Behavioural biases discourage many people from saving enough or even saving at all for retirement. When faced to make a choice in the sense of savings for retirement, people are prone to mistakes leading to sub-optimal outcomes. Overcoming behavioural biases to ensure more people save enough for retirement should be among the priorities for policymakers. The topic is valuable in the discussion on how to increase the pension saving in the EU. Events and tendencies from the recent years give a great opportunity to analyse the topic in new light – considering ageing, digitalisation, financial data access[7], health crises (like the COVID-19 pandemic), high inflation, military conflicts, policies towards green transition, pressure for increased public expenditures for defence and security, growing uncertainties, trade wars and others.

The different types of behavioural biases are described in many studies. Behavioural scientists (starting with Kahneman and Tversky, 1979) proved that people make serious cognitive mistakes. Bodie and Prast (2011)[8] state that *"Core findings in psychology and economics are that both in experiments and in the field, people consistently deviate from the rational choice model in all of the following respects: they have nonstandard preferences, nonstandard beliefs, and exhibit systematic and predictable biases in decision making"*.

Behavioural biases are all these cognitive and emotional biases that affect us to process information and to make rational decision. The paper is using the categorisation and description of behavioural biases by the OECD presented in Pensions outlook 2018[9] (based on Financial Conduct Authority paper, 2013) with some additions. The different types of the behavioural biases related to retail financial services can be summarised in three categories according to the drivers of the decision that is affected:

1. Preferences,

[6] 39% of Europeans are not saving for their retirement according to the Insurance Europe's Pan-European Pension Survey, 2023
[7] In light of the proposed EU framework for financial data access.
[8] Bodie, Zv. and Prast, H. (2011). Rational Pensions for Irrational People: Behavioral Science Lessons for the Netherlands. The Future of Multi-Pillar Pensions. 10.2139/ssrn.1933693
[9] OECD (2018). "Improving retirement incomes considering behavioural biases and limited financial knowledge", in OECD Pensions Outlook 2018, OECD Publishing, Paris, p. 145. The categorisation is based on Financial Conduct Authority (2013), "Applying behavioural economics at the Financial Conduct Authority", Occasional Paper 1.

2. Beliefs and
3. Decision making biases.

Preferences define how people like one option compared to other options. Our preferences are influenced by emotions and psychological experiences (Financial Conduct Authority, 2013). In the category of preferences are included:

- Present bias,
- Reference dependence and loss aversion and
- Regret and other emotions.

Present bias (also associated with *hyperbolic discounting, immediate gratification, overvaluing the present*) relates to the preferences of people for immediate gratification. Usually, people overvalue the present over the future. This leads to decisions to *choose options which will bring short-term benefits even though they are not the best value offers in the long-term* (Lefevre and Chapman, 2017).

People respond to urges for *immediate gratification* resulting in overvaluing the present over the future. As such, choices may be regretted in the future. Present bias can lead to *self-control* problems such as *procrastination*. Procrastination is when we avoid tasks or put them off because we do not believe we will enjoy doing them or we fear that we won't do them well. Present bias is an example that shows people can postpone decisions about their retirement planning. Retirement savings are long-term products and people tend to meet first short-term needs. Following s*hort-term gratification* many people retire at the earliest age permitted, which may be too early for their own good or that of their spouses.

Second element of preferences is the *reference dependence*. People assess gains and losses in relation to a reference point, serving as their baseline (reference point dependence). When evaluating a product or future prospects, people do not think of the choice or product in isolation. Another concept in behavioural economics is *anchoring*. Psychology studies say that people rely heavily on the first piece of information they receive.

Our brains are hardwired to avoid losses as much as possible. *Loss aversion* is the human tendency to prefer avoiding losses over receiving an equivalent gain. We are roughly 2.5 times more sensitive to losses than we are to gains of similar size. Loss aversion may lead to the *endowment effect*, a preference for the status quo and distortions in attitudes to risk. The *endowment effect* occurs when people assign a higher value to an item, they own than to the same item when they do not own it. *Status quo bias* is defined as the preference for maintaining one's current situation and opposing actions that may change the state of affairs.

Regret and other emotions are another subgroup in the category of preferences. *Regret aversion* is a cognitive bias where individuals avoid choice or are willing to pay for products just to avoid making decisions that they believe might lead to regret. Other emotions such as *stress, anxiety and fear of losses* can drive decisions rather than the costs and benefits of the choices.

The second category of behavioural biases is **beliefs**. What we believe are the facts about our situation and options. Beliefs refer to people's expectations about the true state of the world. They are convictions or acceptances that certain things are true or real. Beliefs are shaped by a myriad of factors, including upbringing, culture, religion, education, and personal experiences. *Rules of thumb* can lead to incorrect beliefs. Examples from the category *beliefs* are:

- Overconfidence
- Over-extrapolation and
- Projection bias

The *overconfidence* effect is a well-established bias in which a person's subjective confidence in judgments is reliably greater than the objective accuracy of those judgments.

Over-extrapolation occurs when people make predictions on the basis of only a few observations, when these observations are not representative (e.g. extrapolating from just a few years of investment returns to the future). As a result, people also underestimate uncertainty.

In behavioural economics, *projection bias* refers to people's assumption that their tastes or preferences will remain the same over time (Loewenstein et al., 2003). Example is the underestimation for higher consumption over time based on habit formation that may lead to projection bias in retirement planning.

The third category of biases is related to **decision-making**. We use decision-making short-cuts when assessing available information. Aspects of decision-making biases are:

- Mental accounting and narrow bracketing
- Framing, salience and limited attention
- Decision-making rules of thumb
- Persuasion and social influence

Mental accounting describes how people treat money or assets differently according to the specific purpose that they have assigned to them, instead of treating all money as the same. According to the theory of mental accounting, people treat money differently, depending on factors such as the money's origin and intended use, rather than thinking of it in terms of the "bottom line" as in formal accounting (Thaler, 1999). *Narrow bracketing* describes how people often consider the decisions they take in isolation, without integrating these decisions with other decisions that affect their overall wealth and level of risk they take on. Example of narrow bracketing is a decisionmaker who faces multiple decisions tends to choose an option in each case without full regard to the other decisions and circumstances that the individual faces.

Framing occurs when people react differently to essentially the same choice situation because the problem is framed differently. Choices can be presented in a way that highlights the positive or negative aspects of the same decision, leading to changes in their relative attractiveness. Frames usually work by triggering a particular bias (e.g. loss aversion, reference dependence, regret, a rule of thumb), as certain information is made more salient and limited attention is paid to other factors. Choices are influenced by how they are presented, even at the simplest level. As Loewenstein and Ubel (2008) note: *"people who learn first about the risks of a treatment followed by its benefits make different choices than people who first learn about its benefits and then its risks. Decision aid developers have no choice but to present information in one order or another, but unfortunately the order they choose will almost inevitably affect people's decisions."*

Consumers simplify complex decision problems by adopting specific *rules of thumb (heuristics)*. Example of decision-making rules of thumb is to split equally an investment across all the funds in a pension scheme, rather than making a careful allocation decision. When choosing from a wide range of options, people may choose the most familiar, avoid the most ambiguous or uncertain, choose what draws attention most (e.g. the first option on a list), or avoid choice, including sticking to the *status quo*. When estimating unknown quantities, people may *anchor* estimates to some relevant or irrelevant figure and adjust from there.

Individuals are subject to *persuasion bias* when they fail to account for possible repetition in the information they receive. Persuasion bias can explain why individuals' beliefs often seem to evolve in a predictable manner towards the standard, and publicly known, views of groups with which they interact. Persuasion bias implies the phenomenon of *social influence*, whereby one's

influence on group opinions depends not only on accuracy, but also on how well-connected one is in the social network that determines communication. Social influence is the process by which individuals adapt their opinion, revise their beliefs, or change their behaviour as a result of social interactions with other people.

One way in which social influence affects our behaviour is through *social norms*. Social norms are unwritten rules that dictate how we should behave in certain situations (Brown, L., 2024). They can be powerful motivators for behaviour, as individuals often want to conform to societal expectations. For example, if everyone around us is saving money for retirement, we may feel pressure to do the same. Social influence can also manifest through *peer pressure*. We are often influenced by the behaviour of those around us, especially our peers. This can lead to both positive and negative behaviour.

Another way in which social influence impacts our decision-making is through *social proof*. Social proof is the tendency to look to others for guidance on how to behave in a particular situation. This can be seen in situations where individuals follow the crowd, even if it goes against their own beliefs or values.

Emotions and *norms* in social interactions are important: consumers may allow themselves to be persuaded to buy a product just because the salesperson is *"likeable"* and therefore trustworthy. Emphasising good personality traits or overemphasising bad personality traits may substitute for a reasoned judgement. Consumers may also be influenced by *usage patterns* without adequately considering whether those apply to their own circumstances. *Usage patterns* refer to the habitual ways in which individuals interact with various products, services, tools, tasks, or environments.

In order to participate (enrol) in a pension plan savers have to know why pensions are needed, they need to know about the mechanics of pension saving and the factors that influence the results in saving. People have to make decisions about whether to participate, when to start saving, how much to pay, which provider to trust, which product to choose, which investment strategy to follow and others. The understanding of the behavioural economics and addressing cognitive biases in funded pensions can help to increase participation and savings.

People need to know what to expect from PAYG pension. **The expected replacement ratio** can place pensions in the mind of the potential savers. You receive today X euro and is expected to retire at Y euro income. Then how much pension from statutory source and how much pension you need from the other sources? For example, the average state pension in the EU as a percentage of earnings at retirement is projected to fall with 7.2 percentage points - from 45.4% for 2025 to 38.2% for 2070[10]. According to EIOPA's 2024 Eurobarometer survey, only 42% of Europeans feel financially confident about their retirement (37% of women and 47% of men).

It is important to know how benefits are calculated. Factors that influence the amount of benefits and the elements in the pension formula could lead to better informed decisions. People have to know how pensions are financed and the factors that influence the pension from the funded pillars. EU citizens are ageing and as a result **the old-age dependency ratio** will rise sharply in all

[10] European Commission, Directorate-General for Economic and Financial Affairs: 2024 Ageing Report, Economic and budgetary projections for the EU Member States (2022-2070), https://economy-finance.ec.europa.eu/publications/, p. 212. The indicator is gross replacement rate at retirement (old-age earnings-related public pensions, %)

Member States over the coming decades[11]. This ratio gives an idea about the relative shift between potential retirees and potential workers and thus of how an ageing population alters the balance between beneficiaries and contributors. From about 29% in 2010 in the EU, it rose to 36% in 2022 and would rise further to 59% in 2070[12], with most of the increase expected already by 2045. Put differently, the EU would go from having nearly thirty people aged 20 to 64 for every ten people aged over 65 years in 2022, to having less than twenty people by 2045.

Knowledge about the **tax advantages** will increase the effect from the saving. People need to be aware of **the relation of longer savings period and greater accumulation sum**.

Individuals have to be aware of the **challenges about financing the PAYG pensions**. They need to know about the tension to increase spending for sectors such as defense, security, health and education and the burden of the public deficit.

It has to be clear for the savers that statutory pensions are influenced more by political decisions in contrast with the funded pensions that are more dependent on the savers' decisions.

Eligibility rules to receive benefits could play role in enrolment decisions, mainly the minimum requirements to receive pension – pension age and length of service. For example, the high eligible pension age or very long insurance service can trigger decisions to start saving.

In some EU countries, there is maximum pension from PAYG system, but it is important to know that this maximum size is valid only for the statutory pension. The pension from the other pillars (sources) will increase the **pension adequacy** of the saver.

According to EIOPA's 2024 Eurobarometer survey, only 20% of EU citizens participated in an occupational pension scheme and 18% owned a personal pension product. Consumers are unaware of EU alternatives, as 76% of Europeans have not heard about the PEPP[13].

Because of *procrastination* people delay saving, do not save, or do not save enough. People agree that they should save more for retirement but postpone the action itself (Choi et al. 2001). Procrastination moved individuals to postpone action. When faced with complexity such as pensions, people procrastinate. **It is important people know that the best strategy for pension saving is to start as early as possible and to pay contributions which are sufficiently high for an acceptable replacement rate.** People's misperception of their retirement readiness[14] leads to certain problems in their pension saving. Behavioural economics documents[15] that poor choices come from poor decision making (Tapia and Yermo 2007). Many people do not save enough voluntarily to maximise lifetime utility, and few buy annuities voluntarily despite their considerable value.

Evidence for the bias *avoiding explicit choice* is the participation rate in 401(k) plans. With rational choice, it should make no difference whether individuals face an opt-in or an opt-out provision; **in practice, automatic enrolment leads to much higher participation.** Participation rates in employer 401(k) plans in the United States differ sharply depending on whether or not enrolment was automatic with an opt-out (Beshears et al 2008).

[11] European Commission, Directorate-General for Economic and Financial Affairs: 2024 Ageing Report, Economic and budgetary projections for the EU Member States (2022-2070), https://economy-finance.ec.europa.eu/publications/, p. 13. The old-age dependency ratio is the ratio of the old-age population to the working-age population.
[12] European Commission, Directorate-General for Economic and Financial Affairs: 2024 Ageing Report, Economic and budgetary projections for the EU Member States (2022-2070), https://economy-finance.ec.europa.eu/publications/, p. 13
[13] EIOPA (2025). Consumer Trends Report 2024, p. 29, https://www.eiopa.europa.eu/
[14] OECD (2018). "Improving retirement incomes considering behavioural biases and limited financial knowledge", in OECD Pensions Outlook 2018, p. 146
[15] Barr, N. and P. Diamond (2008), "Reforming pensions", https://www.researchgate.net/publication/227466905, pp. 5-6

Complexity and conflicting information can lead to passive behaviour which is an example of an *immobilisation*. A larger range of 401(k) options can result in less participation. A large fraction of new workers in Sweden, able to choose from over 700 mutual funds, make no choice at all.

1.2. POSSIBLE SOLUTIONS IN THE ENROLMENT PHASE

Based on the lessons from the behavioural economics in funded pensions we will present possible solutions for increase in the participation in the enrolment phase of saving for retirement. Possible solutions[16] are described in four groups: start of the saving; auto-enrolment; tax reliefs and choice of product/provider.

1.2.1. START OF THE SAVING

Information and awareness are two important drivers for the start of the saving. People have to understand that it is important to start saving as early as possible. It would also be helpful to stress that the earlier people start to save for retirement, the best chance they have to reach a target retirement income. This is the case because *"time is your friend"* when it comes to long-term investments[17]. In fact, for investing, time is more powerful than the amount people invest. The reason for this is the law of compound interest.

To convince younger workers to save for retirement is a difficult task. One way to achieve this is to **show the need for investing for your retirement -** an individual needs income after he/she stops receiving labour wage. **Inspiring trust** in the retirement products is a way to increase participation in saving for pension. In general people want to sense ownership on the assets and control over the process of saving in the case of private DC pensions. One possible way to provide these within certain pension schemes is to **create flexibility and give options**.

Pensions' information and awareness come along with **financial education and financial literacy**. The OECD International Network on Financial Education (INFE) defines financial literacy as *"a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing".* The benefits of being financially literate are extensively reported on in academic and policy circles, with areas covered over the past few years including retirement planning (Alessie et al. 2011; Lusardi and Mitchell 2007). In light of the evidence provided by Lusardi et al. (2017) that inadequate financial knowledge is a key determinant of wealth inequality, every effort should be made to ensure that consumers achieve the optimal level of financial knowledge as a possible mechanism to reduce inequalities. Adequate levels of financial literacy among the general population will, however, take time to materialise[18]. In the meantime, other approaches like improving the design of retirement plans are needed to raise retirement incomes.

[16] Effective approaches are concluded in four groups in OECD 2018: changing the default enrolment mechanism; simplifying choice; providing incentives and providing financial education.
[17] EFAMA, (2021). Comments on the draft revised OECD roadmap for the good design of defined contribution retirement savings plans
[18] OECD (2018), "Improving retirement incomes considering behavioural biases and limited financial knowledge", in OECD Pensions Outlook 2018, p. 140

Financial education plays an important role in supporting individuals to make appropriate decisions. Conveying key information in a simple way through pension statements, financial education seminars and financial advice can improve decision making.

It is believed that pension tracking service, pension portals and digital solutions will help more people to gain a better understanding of pensions. The strong consumer's appetite for receiving information digitally is proved in the **Insurance Europe's Pan-European Pension Survey 2023**[19]. 71% of survey respondents prefer to receive information on pension products digitally rather than on paper. Pension savers require high quality, appropriate information to help them make informed decisions, particularly now that more responsibility for retirement income is shifting to them. When asked about the most relevant 5 pieces of information savers are choosing costs, guarantees, risks, tax reliefs and performance. **The information that interests respondents most is on costs, both before signing a contract (51%) and after a contract is in force (43%).** Also of interest is information on guarantees (44% before and 37% after), risks (37% and 27%) and **investment performance (35% and 34%).** Respondents are least interested in information on conditions for changing providers (8% and 9%) and options available when moving to another country (13% and 12%).

One of the conclusions of the Pension Adequacy Report 2024 is that nevertheless it is clear the positive impact of financial education on the future economic situation and is an opportunity for policies to improve pension adequacy *"…so far, the effects of financial education policies on actual savings and pension behaviour in the long run generally seem less conclusive"*[20]. The decisions linked to retirement are complex, with many factors entering the decisions over the active-age period, and **many financial decisions being once-in a-lifetime events** (including when to retire and claim pension benefits). On the side of pension providers, **transparency and clarity** also need to be ensured, including with the support of **pension-tracking instruments**. There are also significant differences in individual behaviour, implying that not everyone will (equally) gain from financial education, which seems to point to the need for financial education programmes targeted at specific groups of the population.

Financial education is powerful but also has limits. Hence, to ensure high participation in supplementary schemes in particular, **default options and nudges** such as auto-enrolment remain useful.

Change in the behaviour could be achieved through systematic steps such as policy measures, pension design features, pension awareness initiatives, informational campaigns and focused events. It is well known that some Member States are conducting studies on pension-related financial literacy, awareness-raising pension initiatives (like 'three pension days' event under 'money wise' platform in Netherlands). To take action to prepare for their own retirement, citizens need to receive appropriate information on questions such as the planning and management of their financial future. To contribute to this effort, industry associations (EFAMA, Insurance Europe, PensionsEurope, AEIP, Better Finance, CBBA-Europe and others) are organising an annual *"European Retirement Week"*, during which stakeholders and policymakers have the opportunity to engage into discussions on the pension challenge and the importance of saving enough for retirement. This

[19] Insurance Europe, (2023). Pan-European Pension Survey. The survey is carried out during June to August 2023, with 15 789 respondents from 15 countries: Austria, Belgium, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Portugal, Slovakia, Spain and Switzerland.

[20] European Commission, Directorate-General for Employment, Social Affairs and Inclusion Social Protection Committee: 2024 Pension Adequacy Report Vol. 1: Current and future income adequacy in old age in the EU, p. 133

initiative could evolve in every Member State retirement week, with active role of local stakeholders and NCAs.

Essential contribution to raising pension awareness is supposed to have **pension tracking systems** (PTSs) and **pension dashboards**. Several pension tracking systems are operating at the EU area. An EU level initiative, the European Tracking Service on Pensions (ETS)[21], was launched in 2019 following the European Commission call in 2018 for the *"development of web-based cross-border pension tracking services that help mobile workers follow their pension rights accrued in different Member States and pension schemes in the course of their career".* Providing savers with transparent and easily accessible information on all retirement entitlements can lead to better planning for retirement[22].

Many people do not trust financial services providers, but do trust their employers. In many cases employers have established a mandatory membership for their employees in the respective occupational pension institutions (IORP) or through other vehicles, such as insurance companies. That means, when a new employee joins the company, he/she is obliged (by working contract) to join a certain occupational pension scheme. In constellations, where this is not the case**,** it should be considered to increase the role of the employers in the enrolment phase of the pension saving, always taking into account, that legally Occupational Pensions are a benefit, which is provided by the employers towards their employees on a voluntary basis. Letta report is suggesting deepening of the public private partnerships *"…including unlocking the substantial liquidity available among institutional investors, such as pension funds and life insurers"*[23]. Through increased public-private partnerships could be gained additional trust among individuals towards the funded pensions.

One possible way to inspire trust in pension saving is the **EU label for retirement products**. Creation of a PEPP/PEOPP label for national products that could increase the participation in personal savings products is proposed in the EIOPA PEPP Staff paper (2024). However, a new label for PEPP/PEOPP should not lead (as stated in previous OPSG papers) to a discrimination of already existing, well-functioning occupational pension systems.

Another lesson from the behavioural economics is that savers like the feeling of ownership, control of the saving and that **flexibility** can gain additional trust in case of private DC schemes. There is always a trade-off between the amount of freedom of choice you give individuals and the long-term advantages of a pension scheme. A middle ground is to give people more insight into their pension capital by adding transparency. It is important to show the saver the accumulated sum, the options, the positive example of already paid annuities.

Nudging is one of the most widely discussed concepts in behavioural economics recently. A nudge influences people's choices steering them toward specific decisions. Only one left in stock is an example of online shopping – clothing, tickets, room in a hotel. A simple tweak like displaying inventory levels can create urgency. This urgency can influence saver decision.

[21] The ETS facilitates mobile workers in managing their pensions, by localizing individual pension entitlements in Europe and by providing useful information such as a users' pension overview. Through www.Findyourpension.eu, users are able to access their pension entitlements, regardless of the European country in which they have worked. Another aim of the ETS is to provide an exchange of best practices and mutual learning to Pension Tracking Services and pension providers. ETS is trying to connect the national tracking systems. As of 2025 members of the ETS are from Belgium, Sweden, Germany, the Netherlands and France. It is an ongoing project.

[22] EIOPA, (2024). A simple and long-term European savings product: the future Pan-European Pension Product, EIOPA Staff Paper, p. 7

[23] Letta, E. (2024). Much more than a market. Speed, Security, Solidarity - Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens, https://www.europeansources.info/record/, p. 31

Usually, an individual is confronted with much information and many options when he/she has to choose pension product or pension provider. *Choice overload* occurs when individual is presented with too much information (*information overload*) all at once and becomes overwhelmed leading to difficulty in making a decision. Information overload and choice overload can be in different situations. There is also a risk of information overload where there are no choices available. And you could have choice overload with many options (with very little information per choice). Imagine the situation to select from a restaurant menu with many pages of options compared to short list of today's specials. **The less is more approach** can help in many ways. Breaking up the text into smaller segments, presentation use visual boundaries to separate information to help viewer digest the information. The use of pictures and diagrams are examples of providing information in more perceivable and digestive manner for the saver.

Another key factor is the **language** that is used to address savers[24]. It needs to be positive. Many researchers show that negative messages used to influence people to save more are less effective than messages that imply decisions that will improve their lives. Among the effective solutions is the element of **personalisation**, with key messages timed to coincide with significant moments in people's lives (new job, birth of a child, marriage).

Communications and engagement also need to be comprehensible[25]. Jargon-filled communications simply encourage instinctive negative reactions.

Information overload and choice overload can be overcome through better engagement between providers and individuals and access to guidance[26]. Policymakers should think how to **encourage accessible guidance and advice – for employers and employees**. For personal pension products usually are sold at retail base, which is definitely not true for occupational pension products, it is good to **educate better the retirement consultants** (advisors, insurance intermediaries) that interact with the individuals more often than the private pension product providers.

Policymakers should ensure that consumers have easy access to simple and clear information, which makes it easy to understand the benefits retirement products. It is important to reduce complexity as to make disclosures more user-friendly and to simplify the sales process. It is equally fundamental to simplify complicated, lengthy sales processes that discourage EU citizens from investing. Legislation should not hinder the use of digital solutions to assist, simplify, and streamline the process. In addition, having a wide choice of product types/structures/features and distribution channels allows consumers to have access to retirement products through their preferred channel.

1.2.2. AUTO-ENROLMENT

Auto-enrolment takes advantage of some of the following behavioural economics phenomena: **inertia, social norm, and endorsement effect**. Following the trait of *inertia* individuals often have a strong tendency to do nothing. If they are automatically enrolled to participate in a

[24] www.pensionage.com, February 2024
[25] ibid.
[26] 37% used information or guidance and 17% of adults used government-backed guidance services like Citizens Advice, MoneyHelper or Pension Wise when asked about getting advice, or information or guidance, for investments, saving into a pension or retirement planning in the last 12 months, according to the Financial Conduct Authority (2024), Key findings from the FCA's Financial Lives May 2024 survey.

savings plan, they do nothing and allow their participation to remain effective. Under the influence of the *social norms' bias* if most or all co-workers are saving for retirement, it encourages people to save for retirement. *Endorsement effect* in the savers' behaviour follows the auto-enrolment as latter sends a message from an influential source (the government, the employer, the plan sponsor) that it is important to save for retirement.

Many studies demonstrate **the power of auto-enrolment**. The empirical evidence (Vernon, St., 2019) shows a 40% participation rate for *opt-in enrolment* that required positive election to participate and a 90% participation rate for *opt-out enrolment* that automatically enrolled participants and required a positive election to stop participating.

Auto-enrolment, as a catalyst to **unlock greater scale and depth** of occupational pensions markets, can be an important element in developing supplementary pensions that deliver for citizens[27]. As an easy and efficient way for people to participate, auto-enrolment can increase the participation rates of workers and enhance returns to pension-holders by delivering the benefits of greater scale and capacity to diversify. Building on existing Member States' positive experience with auto-enrolment, the practice should be promoted more widely across the EU. Meanwhile, further developing pension tracking systems and pension dashboards will increase awareness of citizens about their expected retirement income and so support better financial planning.

The creation of an *auto-enrolment EU Long-Term Savings Product* is proposed in the Letta report[28]. The success of any long-term savings plan will depend on tax incentives given by Member States individually. Further measures proposed in Letta report are the launch an EU-wide auto-enrolment Long-Term Savings Product in order to stimulate retail investments, leveraging tax incentives from Member States and enhancing the Pan-European Personal Pension Product for broader market applicability. It is also stressed in the Draghi report[29] that among the key objectives for the EU is *"…to reduce dependence on bank financing in Europe by accelerating the development of the CMU, as well as increasing flows into capital markets by encouraging increased enrolment in private pension plans."*

In this line is the EIOPA's suggestion, in its PEPP Staff Paper, 2024 to enable the use of PEPP as an occupational pension product, in which employers could then **automatically enrol their workforce**. In order to match the different national pension systems this solution could be made on voluntary bases and to give Member States option whether to adopt it. The active role of the employer is analysed also in the Noyer report (2024) - labelled products should be offered on a collective, company-provided basis[30]. The report suggests **auto-enrolment by companies although staff would have the right to opt-out** if they chose to do so. Further it implies that the collective savings plans are particularly cost- and performance-competitive because they avoid the distribution costs associated with other savings products. The introduction of an occupational version of PEPP, with the possibility for employers to automatically enrol their workforce is regarded from Better Finance[31] as *"…the most transformative measure, streamlining access for workers and*

[27] European Commission, Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions, "Savings and Investments Union. A Strategy to Foster Citizens' Wealth and Economic Competitiveness in the EU", 19.3.2025 COM (2025) 124 final, https://eur-lex.europa.eu/legal-content/, p.7

[28] Letta, E. (2024). Much more than a market. Speed, Security, Solidarity - Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens, https://www.europeansources.info/record/, p. 31

[29] Draghi, M. (2024). The future of European competitiveness, Part B, In-depth analysis and recommendations, https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en, p. 292

[30] Noyer C. et al, (2024). Developing European capital markets to finance the future. Proposals for a Savings and Investments Union

[31] Better Finance, (2025). The Future Pan-European Pension Product: Realising PEPP's Potential for Pension Adequacy

organisations and offering more efficient ways for PEPP to reach the market". This is a way to expand the target market of the saving's product. In addition, occupational pension schemes require less on individuals' awareness of the need to save for their pensions, as contributions are automatically deducted from salaries at a pre-agreed rate (or amount). Those systems help overcoming individuals' tendency to *"procrastinate"* on their long-term savings.

In some Member States like Malta (and mostly countries from Central and Eastern Europe) there is **no tradition of employer's pension responsibility**. It is a major issue that employers are not contributing enough for occupational pensions of the employees but there is also little discussion, because employees are not requiring it from them. For most employees the main focus is still on short-term benefits or the highest net total salary possible.

1.2.3. TAX RELIEFS

Tax reliefs are mentioned in the Draghi report[32] as measures to encourage retail investors through the offer of second pillar pension schemes. The message is that the EU has to find ways to channel household's savings to *productive investments*. It states that the easiest and most efficient way to do so is via long-term saving products (pensions). Further it is proposed *"…a fixed share of pension contribution should be tax-exempt to make it financially attractive."*

Usually high-income and medium-income earners benefit mostly from the tax reliefs. Possible way to point out to low-income earners that there are valued and will encourage them to save is to implement fixed absolute sum as a minimum tax exemption which to be much higher than the relative tax benefit (where the tax exemption is percentage of certain income). For example, if the relative tax exemption is 10%, the absolute sum that could benefit low-income earners to be equal to 30%.

Another solution part of the tax reliefs benefit system is that the tax authority to send information about tax incentives.

Policymakers have to be aware that **heuristics** can impact savers decisions to save the maximum allowed by law to get tax incentives. Sometimes this amount is not enough to meet savers' expectations for the level of pension protection at retirement.

1.2.4. CHOICE OF PROVIDER / PRODUCT

Participants in private pension plans are expected to choose the pension provider that best fits their needs. This choice should be driven, among others, by comparing the services offered, the long-term performance, and the fees charged. Comparing pension providers, however, takes time and effort. In addition, behavioural biases and low levels of financial knowledge affect how people choose, which could lead to lower competition between pension providers and ultimately increase costs and fees and reduce future retirement incomes.

People may lack the skills to compare pension providers and choose the best one for them, in particular when many providers are available (*choice overload*) and pricing practices are *complex*. *Framing, persuasion and simplistic rules of thumb* may guide individuals' choice of the pension provider rather than thorough analyses of the providers' most critical characteristics. Individuals

[32] Draghi, M. (2024). The future of European competitiveness, Part B, In-depth analysis and recommendations, https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en, p. 293

may not choose the appropriate provider if they focus on the information highlighted by pension providers and underweight or ignore the non-salient, but potentially important, pieces of information. In addition, individuals may choose a specific provider because they know the brand name of the management company, because the sales person was nice to them, or because that provider was first in the list of options.

Possible solutions – for cases, where there is no mandatory membership in an occupational pension scheme based on the working contract, as described above - include **encouraged competition**, **simplified fees structure**, **enhancing information disclosure**, **standardization and supporting independent source of information**. It is difficult for individuals to compare pension plans when pension providers use different fee structures (mix of asset-based and contribution-based fees). Changing the charge structure can facilitate comparisons between pension providers. Some countries replaced their mixed fee structures (usually with fees on both assets and contributions) with a single, asset-based fee. Avoiding mixed fee structures can contribute to disclosure efforts by making it easier for participants to compare offers.

One way to enable people to compare pension providers is to **enhance information disclosure. Comparison websites** could help prospective savers. Enhanced disclosure primarily aims to encourage plan participants to react to differences in cost and fee levels. The Danish government-backed site www.pensionsinfo.dk provides individuals with comprehensive information about their own pension accounts including direct and indirect administration and investment costs and past returns. The 2015 Communications Act in the Netherlands requires schemes to provide standardised information to their members. In Italy the national supervisory authority has standardised the information to members and prospective members provided by all supplementary pension schemes. Information is presented according to the layering principle[33]. The KID outlines the main features of the plan including a brief overview, investment options and their characteristics (such as past performance and strategic asset allocation), how to file a complaint, and other relevant details. Particular attention is given to costs: these must be disclosed in a dedicated document (the *Scheda Costi*). The KID includes the *Scheda Costi and* the KID must be submitted to prospective members before they join the plan. The *Scheda Costi* distinguishes between accumulation and decumulation costs. Moreover, the costs related to the accumulation phase must be grouped into four categories: upfront costs, costs directly borne by members, investment-related costs, and early withdrawal costs. To facilitate cost comparisons, the national supervisory authority has introduced the *Indicatore Sintetico di Costo* (Synthetic Cost Index – ISC). The methodology used to calculate the index is uniform across all supplementary pension schemes and measures the impact of all costs during the accumulation phase on the pension pot over four different time horizons: 2 years, 5 years, 10 years, and 35 years. The ISC is calculated for each investment option and is presented in both a table and a chart. The chart helps prospective members compare the ISC of the chosen option with the average ISC of similar investment options (in terms of risk and return) available on the market. Online tools provided on the website of the national supervisory authority allow citizens to compare ISCs (through the so-called *Comparatore dei costi*) and to access and download the *Scheda Costi* of all supplementary pension schemes. However, in case of mandatory memberships in IORPs any detailed cost split information has no additional value for the members and hence there should be no obligation of the IORP to publish this information, since this would only create

[33] Templates are available on: https://www.covip.it/sites/default/files/schemiesemplificativi/esempio_ni_fpn_2.pdf

additional cost (which in the end has to be borne by the employees and/or employers) without any additional benefit.

Furthermore, **standardisation** in the presented information will help savers in their decision-making. In addition, **independent source of information** about funded pensions in the member state will gain trust and encourage competition among providers. Some countries apply tender mechanisms but these tools are not possible in every case.

1.3. POLICY RECOMMENDATIONS FOR THE ENROLMENT PHASE

Based on the lessons from behavioural economics in the phase of enrolment and the discussed above possible solutions, we can formulate policy recommendations. Measures should aim at tackling the overall low pension participation (EIOPA PEPP Staff paper, 2024). The knowledge of behavioural economics in funded pensions in the phase of enrolment leads to the policy recommendations summarised in the Box 1:

Box 1:

Policy recommendations for the enrolment phase

As mentioned earlier not all recommendations are applicable on occupational (mandatory) pension plans

1. *Increase pension awareness*
2. *Improve financial literacy*
3. *Develop pension dashboards*
4. *Implement pension tracking systems*
5. *Encourage auto-enrolment*
6. *Inspire trust*
7. *Increase the role of the employers (where legally applicable)*
8. *Encourage accessible advice and guidance*
9. *Expand tax reliefs*
10. *Create flexibility and give options (private DC only)*
11. *Implement EU label products and measures*
12. *Support public-private partnerships*
13. *Simplify fee structure (for fees paid by the employees/pensioners)*
14. *Enhance comparison tool from independent source (only in case of non-mandatory and mandatory memberships of DC schemes)*
15. *Encourage competition (only in case of non-mandatory memberships and mandatory memberships of DC schemes)*
16. *Promote digital solutions*
17. *Enhance information disclosure*
18. *Support standardisation*
19. *Follow comprehensible communication, positive language and active engagement*
20. *Comparison websites set by NCA*

Insights from behavioural economics have to be gathered in systematic manner. Policymakers have to conduct and encourage behavioural studies, as well as consumer research. When it comes to consumer research, there is a wide range of robust and cost-effective tools that are available and could be used for policymaking as well as for supervision, such as randomised controlled trials (RCTs), surveys, focus groups, laboratory testing, eye tracking, etc. that could be used directly by NCAs or outsourced to external contactors[34]. The Joint Committee of the European Supervisory Authorities recommends the organisation of workshops on behavioural insights to share lessons learned, to facilitate exchange and advice amongst NCAs in order to raise more awareness and knowledge on the topic. Other suggestions include regular exchanges in the form of newsletter, regular calls, etc.

Many authorities have established specialised units in behavioural economics and conduct research activities, often in collaboration with academia, with a strong emphasis on empirical studies. An example is the consumer behaviour team within the Dutch Authority for the Financial Markets (AFM). AFM uses multiple methods to gain insights on consumer behaviour. Behaviour is observed by doing experiments or by using micro level administrative data. AFM uses also questionnaires addressed to consumers in annual and ad hoc surveys or interviews. AFM analyses choice environments in which consumers make decisions, makes use of evidence from academic literature and consults with experts. A novel idea would also be to look at sectors that are very good in consumer engagement. Especially with products that might not be perceived as popular: big online webshops, booking.com, gambling companies, finfluencers. While they often employ tactics that are questionable, if not illegal, they are very good in grabbing people's attention and nudging them towards certain options. There's a lot to be learned by looking at more than just finance.

Policy makers need to make room in legislation and supervision to allow for new insights and experimentation how to actively utilise behavioural economics approaches, how to put the insights from the individuals' behavioural biases into action. All these measures are not only for policy makers but they are also relevant for pension scheme providers, employers, labor unions, asset managers, advisors, supervisory and regulatory bodies.

[34] ESAs (2024). Joint Committee of the European Supervisory Authorities (EBA, EIOPA, ESMA), How could supervisory authorities make use of behavioural insights in their day-to-day supervisory and policy work?

2. BEHAVIOURAL ECONOMICS IN THE ACCUMULATION PHASE

2.1. LESSONS FROM BEHAVIOURAL ECONOMICS IN THE ACCUMULATION PHASE

In accumulation phase individuals save and invest to build their retirement funds. During this accrual stage individuals face many potential issues, problems areas, risks, challenges, events that require their decision. Examples are the amount that they save, the investment strategy of their accumulated assets, the early withdrawal needs, the eventual high inflation, the negative or low investment return, potential new providers entering the market, the possible new products, a change in the taxation regime, changes in the pension system (increased pension age, increased minimum insurance period, change in the formula of the PAYG pension), important events in personal or professional life, periods of unemployment, health problems and others. People experience some behavioural biases that could impact their decisions in the accumulation phase. The paper explores the topic in this stage of saving with focus on contribution rate, investment strategy, presenting pension information, switch between pillars, early withdrawal option and negative economic news.

2.1.1. CONTRIBUTION RATE

When faced with decisions about the amount of the contribution savers are challenged by behavioural biases such as complex decision, choice overload, information overload, procrastination, inertia, anchoring and others.

Considering the amount of contribution and its increase there is phenomenon that once people get used to a particular level of disposable income, they tend to view reductions in that level as a loss. People are reluctant to increase the contributions to their private pension plan because they do not want to experience a cut in take-home pay (OECD 2018). Many studies show that people have the tendency to weigh losses significantly more heavily than gains (Kahneman and Tversky, 1979). This is an example that loss aversion affects savings.

Lessons from the behavioural economics show that participants choose the default contribution rate in a pension plan regardless of the amount. There is evidence (Vernon, St., 2019) that the participation rate is almost identical for plans with a **default contribution rate** of 3% of pay compared to 6% of pay.

In order to overcome procrastination and inertia, **auto-escalation** of contributions is considered as a very useful tool to increase the retirement saving. Auto-escalation operates on a pre-set schedule that outlines the timing and rate of the contribution increases, as well as the rate limit. For instance, say a plan has a default deferral rate of 3% and an annual 1% auto-escalation feature until an employee reaches a 6% contribution rate. In this case, all employees who were auto-enrolled will have their employee contribution rate increased on January 1 by 1% until they reach 6% or they make their own deferral election.

In order to address the behavioural biases in this group, it is useful to adopt **visualisation** and **recommend certain pattern of behaviour**. Calculation showing what sum could be

accumulated with 4% and 7% contribution rate will encourage people to save with greater amount in order to reach higher accumulated sum at retirement. Another recommendation that works is on what amount the contribution should be during the different periods of a person's life. For example, depending on the age:

- 25-30 – 3%
- 30-35 – 6%
- 35-45 – 9%
- After 45 – 12%

Providing information and simplifying the choice and decision are measures that showed efficiency for the amount of the contribution. People have relatively limited knowledge about saving for retirement and can be induced to save more when provided with additional information.[35] McKenzie and Liersch (2011) demonstrated that people often severely miscalculate hypothetical future savings account balances and the monthly contribution amount required to reach a specified savings goal. Evidence from lab and field experiments indicates that providing people with explicit information on the implications of their own savings behaviour, the retirement account options available to them, or how savings account balances can grow leads them to report greater motivation and desire to save and increases actual savings rates (Duflo and Saez 2003; Goda et al. 2014; McKenzie and Liersch 2011). Results from one study, however, suggested that providing more nuanced information may not change behaviour (Choi et al. 2011).

Tools that have proven their effectiveness for saving more are SMarT concept and round-up apps. **Save More Tomorrow (SMarT)** scheme[36] in USA showed huge increase in contributions if employees agree in advance to pay a small percentage of future salary increases into pensions.

Round-up apps are mobile applications that help the individual to save more. These applications overcome the complexity and time-consuming of the retirement decisions. The tool offers micro-saving that rounds up individual's purchases to the nearest value and automatically transfers small amounts into a savings pot. Automatic round-ups are helping people save spare change. Round-ups have functions like setting savings goals, following "payday boost" that lets individual transfer extra money into savings on a fixed day. The apps are using automatic savings as they set up rules that set aside a portion of person's money. These tools are helping people develop good savings habits.

People tend to apply rules of thumb (heuristics) when they decide to save the amount that is maximum in order get tax incentives or the amount to receive the full matching contribution (by the employer or the state).

Financial and non-financial incentives are another driver for an increase of the contribution. **Providing matching contributions** are seen as measure that addresses loss aversion and works as a nudge. Family tax reliefs can overcome fragmented non-linear career paths and uneven labour income and as a result to increase the paid contributions for pension saving.

During period of high **inflation** or high **interest rates** it makes sense in the case of pensions schemes without any inflation protection mechanism to communicate to the savers that it is good to increase the contribution rate. Members should be informed that inflation impact the outcome

[35] United States Department of Labour, (2016). Behavioral Finance: Retirement | CLEAR, https://clear.dol.gov/topic-area/behavioral-finance-retirement

[36] The concept of Save More Tomorrow (SMarT) is designed by Richard Thaler and Shlomo Benartzi. It allows workers to allocate a portion of future salary increases towards their retirement savings. The first implementation of the Save More Tomorrow plan took place in 1998 in USA.

of their savings. By way of illustration, assuming a 2% inflation rate, if a saver leaves EUR 10,000 in a bank account offering zero interest rate for 10 years, this money would allow the saver buy something that is worth EUR 8,200 today[37]. This represents a loss of 18% in real terms.

The nudge to increase the contribution rate is also valid in periods of high increase of the **average salary** in a country. Such situations imply projection bias (underestimation or overconfidence) that could misjudge the contribution level chosen by individuals.

2.1.2. INVESTMENT STRATEGY

The following consideration does not (and cannot) apply to collective pension schemes and defined benefit (DB) pension schemes. In the case of an IORP running a DB scheme the IORP directive defines the investment strategy by using mathematical and actuarial techniques, so that the selected strategy is most suitable for financing the guaranteed benefits. It is the risk of the IORP and/or the employer that financial gaps with regard to the guaranteed benefits occur. The employee does definitely not carry this risk within a DB scheme. However, in some second pillar DB schemes there are often mechanisms that transfer some risks to (the collective) of members. Hence, he/she has no power to decide upon the investment strategy. In the case of a collective (solidarity) scheme the board of the pension fund decides upon the investment strategy.

When faced with decisions about the investment strategy of their savings individuals could have behavioural biases issues like choice overload, information overload, time – inconsistent preferences, heuristic decision-making, framing effects, overconfidence, loss aversion and others.

One of the most tangible benefits of DC pension plans is **that they offer higher returns than risk-free assets over the long term**. We need to explain that there is an opportunity cost of not saving for retirement[38], which can have a significant impact on their standard of living in retirement.

People can become overwhelmed by the number of investment options they face; when this occurs, they tend to use simple rules to make decisions.[39] When there is a default option the saver has to decide whether to remain in the default option.

In order to help prospective members choose the investment option that best suits their pension needs, the Italian national supervisory authority has developed a "Questionario di autovalutazione" (self-assessment questionnaire). Although it is included in the enrolment form, members are not mandated to respond to, however it must be signed in any case. The short survey is structured in nine questions, divided into two sections. Based on the score of the self-assessment, the prospective member is shown the most suitable risk-return profile so as he/she can choose the corresponding option offered by the pension plan the member intended to join.

Members should assess the investment option at least every three years using the self-assessment questionnaire; for that reason, it is also available in the restricted area of the website of the supplementary pension scheme[40].

An analysis carried out by the Italian national competent authority investigated whether the self-assessment questionnaire played a role in guiding the choice of the investment line. Considering enrolment periods before and after the introduction of the questionnaire (mid 2017),

[37] EFAMA, (2021). Comments on the draft revised OECD roadmap for the good design of defined contribution retirement savings plans
[38] ibid.
[39] United States Department of Labour, (2016). Behavioral Finance: Retirement | CLEAR, https://clear.dol.gov/topic-area/behavioral-finance-retirement
[40] The self-assessment questionnaire is available here: https://www.covip.it/sites/default/files/schemiesemplificativi/esempio_moduloades_fpn_0.pdf

the empirical evidence shows that the completion of the questionnaire reduces the probability of choosing a guaranteed line by 4% and, correspondingly, increases the likelihood of selecting a balanced or equity line. Findings on young employees are even more positive[41].

An experiment conducted by Iyengar and Kamenica (2010) found that, as people were presented with more and more gambling options, they were more likely to choose the simplest option. Another experiment found that, when people were asked to hypothetically allocate money to different investment funds, having more funds to choose from increased the probability that a person would simply allocate the same amount of money to each fund (Morrin et al. 2012). These studies suggest that because these simple rules can lead to less careful decision making, **giving people more options can lead to worse outcomes overall**.

2.1.3. PENSIONS' STATISTICS/FIGURES

It is important how information about pensions is communicated during the accumulation phase. People are impacted by critical or even negative messages, for example about low average values of accrued sums, low average pension from funded arrangements. Such news people can perceive as a risk for the development of the funded schemes and could lead to a decision to decrease the contribution or even stop. This can be information that can waver individual decision to save for funded pension.

Trust and confidence are important factors for the coverage of the private pensions. It is important to have periodic campaigns about the role of pensions, on good practices, as well as presenting real cases, and examples from real people with their names and pictures.

Very important question is how to present information to pension scheme members in order to keep people motivated and engaged in their retirement plans. Part of this communication is the pension benefit statement. In this communication including diagrams, applying calculation of entitlements, and showing pension dashboards and pension tracking systems is important for conveying an effective message. It is important what numbers to show. For example, showing more numbers does not increase understanding of individuals. It might even have the opposite effect. Showing many different scenarios might be transparant, but can quickly lead to an information overload. So is information on accrued capital, costs, past performance and etc. Another issue is how some numbers might not be intuitive.

EIOPA has used insights from behavioural economics and communication science for the first time in 2013 in its "Good practices on information provision for DC schemes", also known as the "Max Report".[42] The report includes advice and best practices on how to present information to pension scheme members, on how to inform and support them to make the appropriate financial decisions in their retirement planning. EIOPA has used the persona of Max, an average European citizen, not homo economicus, who has limited time and motivation to think about retirement planning. Behavioural insights show that in order to be effective, **information needs to take human characteristics into account**. The **concept of layering** was introduced as a tool to present information in different layers, with a ranking of priorities, from 'must know', to 'should know' and 'nice to know'.

[41] Portfolio Choices of Pension Fund Members in Italy: An Analysis Based on a Large Administrative Dataset https://www.netspar.nl/wp-content/uploads/NETSPAR_2023-ROSSI.pdf
[42] https://www.eiopa.europa.eu/tools-and-data/behavioural-insights-insurance-and-pensions-supervision_en

Building on the Max Report, EIOPA published further behavioural insight guidance on the information document sent each year to members of occupational pension schemes in the Report on the Pension Benefit Statement (PBS). This work led to the design of two model Pension Benefit Statements that provide practical guidance on how to implement the annual statement to IORP members (an example shown in the next figure).

The statements show how to provide information by using these techniques:

- ask simple questions
- order and structure information based on the layering principle
- use visuals, symbols or diagrams

It may be useful to recall that in its Advice for the review of the IORP2 directive EIOPA calls for the standardization of the PBS at national level, unless this has already been achieved through a PTS. A behavioural purpose should be adopted when designing the PBS.

Leveraging the work of EIOPA and the principles of behavioural economics, the Italian national supervisory authority has standardised the Pension Benefit Statement. The template applies to all supplementary pension schemes[43]. Dutch PBS is uniform not only in the layout, but also in how underlying calculation are made.

The positive influence of the consumers' expectations for the informational documents content is proved from the carried-out **testing among consumers** (London School of Economics and Political Science, Open Evidence and BDI Research, 2020) for PEPP of the key informational document (KID) and the benefit statement (BS) mock-ups. For better pension design it is a necessity to take into account the communication design, behavioural studies and consumer testing.

Diagrams did not clearly improve participants' understanding but nevertheless altered decision making[44]. They led savers to place greater weight on contributions coming from the government and employer, and on the impact of higher contributions on pension income. One possibility is that the diagrams helped individuals to recognise the causal relationships, without conveying fully how these relationships operate. That is, diagrams help people to see that one thing

[43] Templates are available here: https://www.covip.it/sites/default/files/schemiesemplificativi/esempio_prospfaseacc_fpn_1.pdf

[44] McGowan, F., and Lunn, P. (2019). Supporting decision-making in retirement planning: do diagrams on pension benefit statements help?, ESRI Research Bulletin, Dublin: ESRI, https://www.esri.ie/publications/supporting-decision-making-in-retirement-planning-do-diagrams-on-pension-benefit-0

leads to another (e.g. putting more into your pension means the government and employer putting more in too), yet fall short of imparting full understanding of the relationships (e.g. if I put in €X more, government will add €Y and my employer €Z).

Another principle for taking decisions is to encourage the **motivation** for participation in the insurance. Motivation stems from the **feeling of justice and fairness**. Important element for the motivation is the direct link between the amount of the pension and the paid contributions from the insured person. Pension entitlements calculation will help in this direction. Pension tracking service will add trust in the system.

We fully agree that effective communication is very important **to nudge people to take action to boost their pension adequacy.** In this context, it would be worth distinguishing between the personal information that should be given to members of DC pension plans in benefit statements from the generic information that should be given in key information documents to inform prospective members and encourage them to start saving for retirement.

2.1.4. SWITCH BETWEEN 1ST AND 2ND PILLARS

In some Member States from the CEE region[45] (Bulgaria, Croatia and Slovakia) after 2010 rights were given to savers in second pillar arrangements to return in the first pillar with full statutory pension. These revisions were largely a response to low second-pillar investment returns and/or to the public pension deficits created by diverting revenues to the second pillars. These reversal reforms created opt-out and opt-in options for participation in the funded second pillar pension arrangements. **Though with no significant impact on the participation, the reversal reforms eroded the trust in the pension system.** Setting choice between 1st pillar full pension and combined partial PAYG pension and funded pension is connected with decision-making biases of the savers like heuristics, herding, nudge and others. In addition, the PAYG and funded pensions are calculated on different formula, different factors are affecting the size of the pension and ultimately the two pensions are not comparable. For example, the PAYG pension includes rights on non-contributive periods or periods with not paid (but due) contributions. At the same time, the pension from the funded schemes depends on paid and registered in the pension account contributions. Another example, the increase of the PAYG pension depends on political decisions, on the other hand the size of pension from DC personal pension arrangement depends mainly on the paid contributions, administrators' fees and investment performance.

2.1.5. EARLY WITHDRAWAL

The early withdrawal option is a controversial measure. In many countries and IORPs (e.g. in Germany, when the IORP is a so called "Pensionskasse") such withdrawal options do legally not exist (or only to a completely insignificant extent). From one side, a withdrawal option reduces the saving assets of the individual. On the other side, it gives feeling for flexibility and liquidity to people.

[45] Fultz, E. and Hirose K. (2018). Second-pillar Pension Re-reforms in Bulgaria, Croatia, Estonia, Latvia, Macedonia, Romania, and Slovakia, ESS – Working Paper No. 72, ILO. In Bulgaria at the end of 2014 second-pillar members were allowed to return to the first pillar alone, while refunding their account balances to the government. The option is available until five years before retirement. In Slovakia, on four occasions during 2008-2015, the government allowed second-pillar members to refund their account balances and regain the right to a full public pension (and, conversely, first-pillar members were permitted to join the mixed system). In Croatia, since 2011, retiring workers who had joined the second pillar voluntarily (aged 40-50 at time of implementation of the second pillar) have been allowed to return to a single first pillar if that benefit would be higher than their combined first- and second-pillar benefits.

Early withdrawals can also be viewed as an incentive to encourage people to stay in the scheme (OECD 2018). Early partial withdrawals may be allowed to face financial hardship or serious illness, or to buy a home. It may, however, divert too much money that was initially intended to finance retirement and negatively affect future retirement income adequacy. During COVID 19 pandemic, some countries[46] gave additional options for early withdrawals.

2.1.6. DECISIONS IN THE FACE OF NEGATIVE ECONOMIC NEWS

Cases of negative economic news are inevitable in the course of long-term savings periods. Negative economic events, news or expectations are very sensitive for savers decision. For example, in the face of **market volatility**, people often make emotional decisions that could lead to poor outcomes. Whether driven by fear or loss aversion attitude, savers mistakes can have a compounding negative impact, locking in losses and missing market opportunities.

High rates of inflation could be also an issue during pension saving. As expected, inflation reduces consumption due to lower real income and wealth, but the problem can be compounded by household misperceptions. Studies[47] report that 25 to 45 percent of households have reduced their retirement saving because of inflation. Although equities often perform relatively well in inflationary environments, households seem to prefer more conservative investments. For instance, surprising 49 percent of retirees consider cash to be the best protection from inflation – possibly due to fears of a recession.

The impact of the challenging economic conditions during 2022-2023 can be seen in the results of the Insurance Europe's Pan-European Pension Survey 2023. Almost half (48%) of respondents say that current economic conditions (high cost of living/inflation) have had an impact on their saving plan for retirement[48]. In total, 40% have been negatively affected by the current economic environment, meaning that they reduced contributions (18%), surrendered their saving plans (6%) or delayed saving (16%), while 8% increased their contributions. The remaining respondents have not been affected or did not express an opinion. It should be taken into account that in some countries one often finds occupational pension systems offering (in whole or in part) inflation protection.

2.2. POSSIBLE SOLUTIONS FOR THE ACCUMULATION PHASE

2.2.1. CONTRIBUTION RATE

Setting **default contribution rate** could lead to increase of the pension saving. As discussed above, lessons from the behavioural economics show that participants choose the default contribution rate in a pension plan regardless of the amount (St. Vernon, 2019).

Auto-escalation of contributions is considered as a very useful tool to increase the retirement saving addressing procrastination and inertia.

Recommending pattern of bahaviour and applying nudge are two other possible solutions.

[46] In Australia were approved 4.55 million applications for 3.05 million people, totalling $37.8 billion of super requested for early release.
[47] Aubry, J.P. and Quinby, L. (2024). What risks do near retirees and retirees face from inflation, and how do they react, Center for Retirement Research at Boston College.
[48] Insurance Europe, (2023). Pan-European Pension Survey.

Providing information and simplifying the choice and decision are measures that showed efficiency for the amount of the contribution.

Best practices that have proven their effectiveness for saving more are **SMarT concept** and **round-up apps**. These tools are helping people develop good savings habits. Round-up savings app[49] proves working in UK and USA. The round-up technique is mentioned as possible demand side measure in the EIOPA PEPP Staff paper (2024)[50].

Clear and confident communication for increase of the contribution during periods of high inflation, increased interest rates or steep increase of the average salary are ways to preserve the purchasing power of the accumulated assets and the target standard of living after retirement.

Depending on the national tradition, culture and specifics (adapting to social norms) certain features can work for increased contributions. For example, certain terminology could be preferred to another one, as reframing investments over savings. Survey shows when participants were asked how much to *"invest"* in their pension as opposed to how much they should *"save"* – the amount they recommend someone puts aside shot up by a third (34%). Active communication could prompt drive engagement. Studies show once young people start actively thinking about their future, they'll care more about their retirement prospects. After answering a set of questions about where they see themselves in the future, the number of participants who want to raise their pension contributions increased by 11%, equivalent to 800,000 young people saving more.

2.2.2. TAX INCENTIVES

Financial and non-financial incentives are another possible solution for an increase of the contribution. These incentives for pension saving are essential not only for enrolment but also in the accumulation phase. In Draghi report (2024) tax reliefs are mentioned as measures to encourage retail investors through the offer of second pillar pension schemes. In the report is proposed *"a fixed share of pension contribution should be tax-exempt to make it financially attractive."* In addition, in Letta report (2024) tax incentives are regarded as a key factor for the success of any long-term savings plan.

Tax reliefs for the paid pension contributions is kind of reducing government spending now and offsets higher spending on benefit payments in the future due to inadequate saving. Helping individuals to support themselves in retirement is a positive government intervention.

Members States apply different taxation regimes for contributions, investment return and post-retirement payments. **Systems with tax exempt contribution proved to be more efficient in terms of encouraging savers to increase their retirement contribution.**

In order to **encourage low-income earners to save**, it is possible to implement fixed absolute sum as a minimum tax exemption which to be much higher than the percentage rate where applicable (10% for example the maximum rate for tax deduction) as this sum is equal to 30%.

Other possible solutions in the phase of accumulation are family tax reliefs and carry-forward incentives. **Family tax reliefs** could help in tackling issues connected with fragmented non-linear career path, gender inequality and uneven labour income. There is a persistent gender gap in pension protection. The percentage of women who do not save for retirement is 44%, compared to 34% of men with average 39%[51]. The percentage of *"not confident at all"* that they will be able to

[49] https://www.pensionbee.com/uk/blog/2025/january/best-mobile-apps-to-save-you-money
[50] EIOPA, (2024). A simple and long-term European savings product: the future Pan-European Pension Product, EIOPA Staff Paper, p. 6
[51] Insurance Europe, (2023). Pan-European Pension Survey.

maintain a comfortable standard of living post-retirement based on their mandatory public and occupational pensions is 27% for women, compared to 18% for men. Men think they will receive 54.7% of their final salary from their mandatory public and occupational pension schemes after retirement, whereas women expect to receive 52.1%.

Pension tax carry-forward rules enable saver to use unused tax allowances from previous years (3 tax years in UK). This is a way to allow the individual to make pension contributions over the annual allowance (£60,000 in UK for the 2024/25 tax year) and still receive tax relief.

When new occupational pension products, e.g. the PEOPP, are introduced, tax legislators should pay attention to establishing an equal treatment of these new products and already existing occupational pension products.

2.2.3. INVESTMENT STRATEGY

For the aforementioned reasons the following considerations do not (resp. cannot) apply to collective schemes and DB schemes. Three effective approaches to facilitate the choice of the investment strategy are formulated in OECD 2018. Proposed approaches are *"…simplifying choice by reducing the number of available investment options; establishing appropriate default investment strategies and providing financial advice and financial education."*

Reducing the set of available investment options is a possible solution based on the behavioural implications that too many choices lead to delay in making a decision connected with procrastination, information and choice overload. There is a need to reach a balance between leaving a choice and simplicity of the number of investment options.

Establishing appropriate default investment strategies is related to nudge, social norms, heuristics and other behavioural biases. Usually, the default investment strategy is a balanced portfolio or a life-cycle strategy. In the start of the saving there is practice to enrol with opt-out in the conservative investment strategy because of the risk averse expectations.

Applying conservative investment strategy at the start of the savings could lead to the individual's preference of this option for the entire accumulation period because of inertia and procrastination.

The life-cycle investment strategy is often chosen as the default one. The strategy works by giving the saver greater exposure to growth assets such as shares in the early stages of working life, and then reducing this as the individual gets older by increasing exposure to defensive assets such as fixed income and enhanced cash. This exposes the savings to greater risk and potentially higher returns when the person is young and then aims to reduce volatile investment returns as the saver gets older.

The Eurobarometer financial literacy survey[52] shows that only 18% of EU citizens display a high level of financial literacy, 64% a medium level, and the remaining 18% a low level. Another finding of the report is that less than four in ten respondents across the EU feel "very confident" (6%) or "somewhat confident" (32%) that investment advice they receive from their bank/insurer/financial advisor is primarily in their best interest. The proportion feeling confident about investment advice being primarily in their best interest ranges from about one in five respondents in Cyprus (19%) and Greece (20%) to six in ten respondents in Finland (60%). The results from the survey support the conclusions that **there are needed further steps for financial**

[52] European Commission: Eurobarometer 2023, Directorate-General for Financial Stability, Financial Services and Capital Markets Union, Monitoring financial literacy levels, https://europa.eu/eurobarometer/surveys/detail/2953

education and financial advice needs to be solicited. Financial education for individuals making investment decisions can support and encourage long-term savings and investment and help individuals to feel more confident when investing their pension contributions. Hung and Yoong (2013 show that individuals who actively solicit financial advice perform better, making fewer "portfolio mistakes" than those not receiving advice. For this reason, financial advice should become affordable. Investor education can also prepare individuals to understand financial advice and to better interact with financial advisors.

2.2.4. FLEXIBILITY

Options and flexibility are drivers to inspire trust in pension products and in retirement saving. People want to sense control over the saving process and ownership on the accumulated assets. We already discussed the options related to contribution rate and investment strategy. **Another solution for flexibility is connected with the right to withdraw part of the accumulated assets or the investment return (early withdrawal) on certain conditions.**

Form of flexibility could be regarded allowing **to transfer accumulated assets from one type of pension product to another one**. Such measure is proposed in EIOPA PEPP Staff paper (2024) - the national legislation to allow the transfer of accumulated amounts from other personal pension products into the PEPP. In case of DB systems transfer and/or withdrawal options can be very disadvantageous, because often investments done in order to optimize the probability, that all guaranteed benefits can be paid when due, are done with a very long-term investment horizon. Too flexible transfer and withdrawal options would hinder IORPs using such long-term-oriented investments instruments and would lead to suboptimal investment portfolios and/or additional costs, discounts etc., would occur when dissolving them in order to create sufficient liquidity in cases where such options are exercised. The same counts for collective schemes with aspired benefits.

2.3. POLICY RECOMMENDATIONS FOR THE ACCUMULATION PHASE

Policy makers and organisations should apply the insights from the social influence and nudging in their actions, communication and the messages they use to the people.

Under social norms if everyone around us is saving money for retirement, we may feel pressure to do the same. We are often influenced by the behaviour of those around us, especially our peers.

Having an influential source say that it is important to save 3% in the start of the career and 12% (sample numbers) during the last 10 year before retirement could have endorsement effect for the savers' behaviour. Authorities may say that people need to secure time to read and decide about their retirement plan. Influential source could nudge people to visit their personal pension account. Study for the usage of social norms[53] shows that the individual account has to be presented in a consumer-friendly manner *"…changing a few words or pictures, that take into account the way a person subconsciously processes information, can lead to a significant increase in the number of plan members who look into their personal page".* The study shows that social norms have the power to increase contribution rates, even for more extreme values (cited is 16%). Organizations

[53] Augustus-Vonken, J., Verhallen, P., Brüggen, E., and Post, T. (2020). Using social norms to activate pension plan members: insights from practice. Netspar Design Paper No. 137, p.16

may therefore opt to use peer information as a vehicle to direct behaviour through social norm conformity.

Another proposal for increase in the contribution rate is *"…getting young people to picture their 'future self' and introducing simpler pension labels to link contribution levels and retirement income, were just two small changes*[54] *that were shown to boost future retirement savings by up to £142,450 amongst those under the age of 30."*

Based on the lessons from the behavioural economics in the accumulation phase and the discussed above possible solutions we can formulate the following policy recommendations:

[54] Behavioural Insights Team (2020). The small nudges that could make young people £142,000 better off in retirement. https://www.bi.team/

Box 2:

Policy recommendations for the accumulation phase

As mentioned earlier not all recommendations are applicable on occupational (mandatory) pension plans

1. *Apply default contribution rates*
2. *Support auto-escalation*
3. *Use SMarT concept*
4. *Apply round-up app*
5. *Nudge for pattern behaviour in times of high inflation, low investment return, crisis or negative economic news (if there is no inflation protection mechanism in the product)*
6. *Implement higher tax reliefs for low-income earners*
7. *Support matching contributions*
8. *Apply exempt contribution schemes*
9. *Establish family tax reliefs*
10. *Implement carry-forward rule*
11. *Simplify choice by reducing the number of available investment options (individual DC only)*
12. *Establish appropriate default investment strategies (individual DC only)*
13. *Provide affordable financial advice and financial education*
14. *Facilitate standartised information and simple disclosures*
15. *Give sense of control over the savings process*
16. *Give sense of ownership on the accumulated assets*
17. *Allow early withdrawal on certain conditions (individual DC and DC occupational schemes)*
18. *Allow the transfer of accumulated assets from one type of pension product to another one (individual DC only)*
19. *Use social influence and nudge in communication*
20. *Limit the transfer from 2nd to 1st pillar only in certain cases and in fair manner*

Following the discussion about the right to switch between 1st and 2nd pillar, this possibility has to be very limited if even needed. This option influences not only the trust in funded pension arrangements but also erodes the building of scale in the DC retirement provisions. Second, where this exists, the design (reduction in PAYG pension) of the option has to be in fair manner that reflects all the factors impacting both pensions – the statutory and the funded pensions.

3. BEHAVIOURAL ECONOMICS IN THE PAYOUT PHASE

The payout (decumulation) phase starts at retirement when the accumulated savings are converted into income to meet living expenses – either in one go or more gradually. The degree to which individuals must actively make choices varies across Member States. Some countries have predefined options. In these systems, individuals do not make any active decisions on the payout phase. When choice is available, however, individuals approaching the decumulation phase must decide how to access and manage their pension savings. Their options—whether annuities, lump sums, drawdown plans, or a combination—can have a lasting impact on their financial security. In this context, providing clear, timely, and accessible information is crucial to supporting informed decision-making.

3.1. LESSONS FROM BEHAVIOURAL ECONOMICS IN THE PAYOUT PHASE

One of the key goals of pensions is to provide a lifelong stream of income after retirement. DB plans usually pay pension benefits in the form of immediate life annuities. By contrast, in DC pension arrangements, people may have to choose between different post-retirement products. The biggest risk people face during retirement is to run out of money while they are still alive. Unlike lump sums and programmed withdrawals, life annuities guarantee a payment for the entire lifetime of the retiree and therefore protect them from longevity risk. Behavioural biases and low levels of financial knowledge, however, affect how people perceive annuities. They also affect the decision to get a lump sum and the way in which people may draw down their savings when choosing programmed withdrawals. Individuals' own decisions may also impact their future retirement income, in particular with respect to the age of retirement.

3.1.1. RISKS

In the payout phase savers need to be able to assess their individual situation at the retirement, including which risks and how these risks affect the saving. **The longevity risk, the financial risks and the political risk** are usually associated with the payment phase for funded pensions.

The longevity risk is the probability that a person's life expectancy will be longer than the individual expected. In this case, the saver will receive an income that is lower than what the person wanted at the beginning of the saving or at the beginning of the pension payment. Individuals in DC schemes need to accumulate more assets if life expectancy increases in order to maintain the same level of spending in retirement.

The financial risks are associated with the investment returns, inflation and interest rates.

The political risk is associated with the uncertainty about potential changes in the legislation concerning pensions. We can assume that the political risk is decreasing in the decumulation phase compared to accumulation phase. The uncertainty about future pension rules (taxation of the payments, rules of calculation of the payments, design of the payments and others) in the legislation are with less probability to affect the individual situation.

Population ageing poses significant challenges for societal institutions, including pension systems. For society, the pressing question is how to ensure retirees receive an adequate, stable,

and predictable income to maintain a reasonable standard of living throughout their retirement. At the individual level, this raises the question of **whether retirement income will meet one's expectations and personal needs.**

Most Member States have a statutory retirement age upon which people are entitled to get their pension, but allow people to retire earlier and/or postpone retirement within certain limits. Depending on the retirement age, pension benefits may be adjusted downwards or upwards, with the adjustment not necessarily actuarially neutral in order to incentivise or, conversely, discourage certain behaviour. Decisions about the retirement age therefore require individuals to have a basic understanding of how benefits are calculated.

3.1.2. CHOICE OF PAYOUT PRODUCT

In DC and hybrid plans, the decumulation phase is particularly important, as individuals usually bear more responsibility for their pension provision and more risks than in traditional DB pension plans. Decisions in the payout phase directly impact retirees' financial security and the income they will receive throughout retirement. Different options are available for the payout phase of DC and hybrid pensions: **annuities, lump sum payments, and drawdown solutions including programmed withdrawals and combination from some of the three options.**

For the majority of the population, the amount of guaranteed income required from workplace pensions often depends on the **generosity of state pensions** and **house ownership (often referred to as the fourth pension pillar).** In countries where the replacement rate from public pensions is high, DC and hybrid plans are less likely to provide as much guaranteed income as in those countries with lower replacement rates. In such contexts, these plans may instead offer more flexible payout options.

Antolin (2008) argues that in countries with significant income replacement from the state pension (PAYG pension) more options for the saver to choose pension payments can be provided. The study suggests in countries with a relatively low share of PAYG pension in the total pension protection and a larger share of capital DC pensions *"…may need to be more restrictive in the choices provided, as well as on the type of annuity products allowed, making sure that a large share of those assets are used to buy annuities that fully protect retirees from longevity risk."*

Franco Modigliani drew attention to the **"annuitization puzzle"**[55] – "…*that annuity contracts, other than pensions through group insurance, are extremely rare".* Rusconi, R. (2008) examines annuity markets, the factors that influence the demand and supply of annuities, and the practices in some markets. One of the conclusions of Rusconi's study is that product choice varies across countries, and that regulators should take into account national specificities, characteristics and trends when designing product frameworks.

Ashcroft, J. and F. Stewart (2010) focus on the cost to the saver of purchasing an annuity. A study of the impact of financial crises on retirement savings markets and products is reviewed in detail by Impavido Gr. and I. Tower, (2009). Brien, M. and C. Panis, (2011) warn of the risk that a very small percentage of retirees will choose a pure life annuity as a product to receive their retirement savings.

The effect of financial knowledge on annuity demand is unclear (Brown, 2009). For example, Agnew et al. (2008) find that, conditional on education, individuals with high levels of

[55] Modigliani, Fr. (1985). Life cycle, individual thrift and the wealth of nations, Prize Lecture.

financial knowledge are significantly less likely to choose annuities. This may be due to the fact that more financially knowledgeable individuals are over-confident in their investment skills, perhaps leading them to believe that they can "do better" than an annuity by investing on their own. Brown, Casey and Mitchell (2008) find that more highly educated individuals are less likely to annuitise. However, conditional on education, they find that more financially knowledgeable individuals are more likely to choose an annuity.

In both studies, financial knowledge is measured based on the capacity to correctly answer three basic questions on interest compounding, inflation and risk diversification. However, the decision to annuitise may be linked to other types of financial knowledge, such as understanding the implications of longevity on retirement outcomes. **Loss aversion may lead people to dislike annuities.** People feel that they lose money if they die early. Moreover, they may not like to give away a large amount of money (the annuity premium) for a stream of small amounts (the annuity payments). In the theoretical studies is also examined the **bequest motive** that people might have: the drawback of a typical annuity is that when you die, your survivors do not receive your annuity income. Some studies explored the case in annuitization under which people who are more highly educated (and in practice healthier) profit more than groups of less healthy, lower income or lower educated (Bovenberg et al., 2006; Chen and Beetsma, 2015; Sutrisna, 2010). This is sometimes called **"perverse solidarity".**

Framing also influences the way people perceive annuities. Brown et al. (2013) argue that life annuities are more attractive when presented in a **"consumption frame"** rather than in an **"investment frame".** The two alternative frames, which are just two representations of the same financial choice, may lead to different perceptions of gains and losses. The consumption frame presents financial products by highlighting consequences for consumption in retirement. The investment frame focuses instead on the risk and return features of the financial products. In an experiment, the authors randomly assigned people over the age of 50 to choose between different financial products using the consumption or the investment frame. The financial products include life annuities, savings accounts, bonds and fixed-term annuities. The results show that life annuities are preferred when financial products are presented in a consumption frame. By contrast, when these same products are presented in an investment frame, savings accounts and other financial products are strongly preferred to annuities.

Financial literacy may also affect withdrawal behaviour. For example, in Turkey, about one-third of participants close their individual pension account before achieving full retirement entitlements and withdraw all of their assets, despite financial penalties. Yildiz, Karan and Bayrak Salantur (2017) find a negative relationship between financial literacy and withdrawal probability. In the United Kingdom, individuals may not understand the consequences in terms of taxes paid of withdrawing funds from their pension account. Since 2015, individuals aged 55 and over can access their DC pension savings as they wish. The reform allowed the Treasury to collect far more taxes than anticipated. As programmed withdrawals do not provide full coverage for longevity risk, the withdrawal rate determines the amount of longevity risk left with the individual. On the one hand, withdrawing too much too early causes individuals to face an increased risk of outliving their pension assets. On the other hand, withdrawing too little may lead people to reduce the standard of living that they can enjoy in retirement. **In Australia for example, people are required to withdraw a minimum amount every year under programmed withdrawals**, from 4% of assets under age 65 to 5% between 65 and 74 years old and up to 14% at age 95 and older. According to the Australian Government (2016), a majority of individuals drawdown account-based pensions at

or close to the minimum rates. There is the concern that individuals are self-insuring against longevity risk at a high cost when measured in terms of foregone income.

When not given projections of likely amounts, 39% of respondents say they would prefer an annuity, 28% choose lump sums and 10% prefer drawdown payments[56]. A significant share of respondents (23%) indicates their preference for a mixed payout combining different options to provide flexibility in the decumulation phase. However, **when projections were given, there is a preference for lump sums (55%) over annuities (45%).**

The differences in payout preferences show how much **projections** can nudge people into certain choices and demonstrate the strong bias people tend to have towards larger monetary figures. It may also show that people have unrealistic expectations about, for instance, the cost of covering longevity risks, indicating that more financial education is needed to help improve retirement planning in order to ensure that people do not run the risk of outliving their pension savings.

Traditional rules of thumb to draw down pension assets in **programmed withdrawals** may not provide optimal outcomes. People adopt rules of thumb for drawing down their assets that are relatively simple to follow. Some retirees *leave the principal in their retirement accounts untouched and spend only the investment income*. This strategy may be desirable for those who want to leave a bequest but it reduces retirement consumption. A second drawdown strategy is to *divide all financial assets by the remaining life expectancy each year*, as predicted by life tables. However, people living beyond their cohort's life expectancy will outlive their resources. A third strategy is the so-called *"4-percent rule"* advocated by some financial planners, under which the retiree each year withdraws 4% of the initial amount of assets accumulated at retirement. However, this strategy lacks flexibility, as the withdrawn amounts do not adjust to the performance of the portfolio. Sun and Webb (2012) build an optimal drawdown pattern that maximises the expected utility of consumption during retirement and compare it to the three strategies described above. They find that the three strategies underperform this optimal drawdown pattern, with the life expectancy strategy being the closest and the 4-percent rule being the farthest from the optimal.

3.2. POSSIBLE SOLUTIONS FOR THE PAYOUT PHASE

The process of accessing pensions is evolving from a onetime event to a more flexible, gradual approach, driven by longer retirement periods and more diverse options with less reliance on annuities. This, however, is also subject to individual states' legal requirements — it is entirely possible for DC and hybrid plans to provide mandatory annuities. The right decumulation strategy must take account of regulatory requirements, the structure of the pension plan, and broader economic and national tax frameworks.

The paper encourages considering providing a default option to minimise the risks related to choice overload and information bias in systems where members must make active decisions in the payout phase. It should align with the goals of the pension system while considering factors like state pension provisions, member demographics, and individual savings habits.

[56] Insurance Europe, (2023). Pan-European Pension Survey, https://insuranceeurope.eu/

3.2.1. PROMOTING CERTAIN PAYOUT PRODUCT

The design of the payout phase needs to be determined in coherence with the overall structure of the pension system. The need to annuitise DC pension pots depends on how much is already received as an annuity from occupational DB plans and public PAYG pensions. Moreover, allowing lump sum withdrawals can help people cover expenses or reimburse debt and thereby improve their financial situation in retirement. The design of the accumulation and payout phases also needs to be internally coherent. For example, flexibility in the payout phase may not make sense when participation is mandatory or financially incentivised.

Policy options to help individuals transforming the assets accumulated in their pension account into retirement income include **promoting the demand for annuities** and **facilitating product comparisons.**

We believe that DC and hybrid plans should offer lifelong income when they significantly contribute to retirement income although this also depends on state pension generosity and personal savings.

When mandating annuities is not an option, the role of annuities in the pension system may still be strengthened to help people cope with longevity risk by establishing them as defaults, **providing financial incentives** and **fostering product design competition (innovation)**.

Annuity take-up could be increased by establishing this post-retirement product as the default. For example, Gazzale, Mackenzie and Walker (2012) show that offering an immediate life annuity as the default option, with a lump sum as the alternative, increases the demand for annuities. While only 28% of participants in their experiment chose an annuity when the default was the lump sum, 51% did so when the default was the annuity. Defaulting plan members into an annuity would increase longevity protection.

Providing savers with a default payout option is one of the most effective ways to mitigate the risks associated with a lack of active decision-making in systems where individuals must choose a payout option. Due to inertia and other behavioural biases, most individuals are likely to opt for the default choice rather than actively selecting an alternative.

For example, in 2015, the Dutch government introduced a choice between fixed/guaranteed and variable annuities for DC plans. The default option was fixed annual benefits, and a 2019 study revealed that 95% of eligible members ultimately selected the default.

Taxation plays an important role in shaping retirees' decisions, particularly in systems offering multiple payout options. Financial incentives can be used to encourage individuals to purchase annuities. For example, both the Czech Republic and Estonia incentivise people to annuitise their pension income through a more favourable tax treatment for annuities as compared to programmed withdrawals (OECD, 2018). Well-designed tax incentives can encourage retirees to choose options that provide predictable and secure income streams. Ultimately, the responsibility for designing these policies lie with the Member States, who are best placed to make decisions on this matter.

Product design innovations can help overcome the low demand for traditional annuity products. OECD (2016) provides an overview of the different types of annuity product, describing the guarantees that they offer. It shows that there is a trend toward more flexibility and risk-sharing in the design of annuity products, which could help to mitigate loss aversion by providing the individual with increased access to the underlying capital and improving the perceived value of the product. For example, variable annuities provide flexibility by allowing the individual to surrender

the policy instead of converting the accumulated capital into an annuity at the guaranteed rate. Risk-sharing features can be found in participating life annuities. These types of annuity products generally offer a minimum guaranteed level of income to the annuitant, but give additional bonus payments depending on an actual return or profit measure.

The main challenge for DC and hybrid pension plans is striking the **right balance between offering retirees flexibility and ensuring their long-term financial security.**

While retirees may value the autonomy to manage their savings in the early years, this flexibility can become unsustainable later in life. At this point, the risk arises that pensioners could outlive their funds or make poor financial decisions, which could undermine their financial stability in later years.

Governments and pension providers are increasingly focusing on developing solutions that seek to combine both flexibility and long-term security and guide people toward good outcomes. **Hybrid decumulation models have emerged as a possible solution**, merging the freedom of a drawdown with the guaranteed income provided by annuities. This approach allows retirees to exercise some control over their pensions while still benefiting from a safety net of a guaranteed lifetime income. As people may need to access their money in retirement to finance health care costs, it helps to have flexibility in the event of an emergency or extended stay in a long-term care facility[57].

A product that strikes a balance between flexibility and protection from longevity risk could be established as a default post-retirement product. For example, OECD (2012) advocates the use of a **combination between programmed withdrawals and a deferred life annuity** bought at the time of retirement that starts paying at old ages (e.g. 80-85). This type of combination may be appealing to individuals because only a limited portion of the total assets accumulated is needed to finance the deferred life annuity. According to Gazzale, Mackenzie and Walker (2012), when participants in an experiment were offered a deferred annuity as an alternative to the default lump sum, 60% selected the annuity (compared to 51% for the immediate annuity). The Australian government is developing a new retirement income framework that aims to promote products that strike a balance between longevity protection, cost and flexibility.

3.2.2. ENABLING DECISION-MAKING

Good communication is key to empowering pension plan participants in their retirement planning. Participants should have access to relevant information that helps them understand how to manage their retirement funds to support their lifestyle in the early years of retirement, and also considering the risk of depleting their funds too early. There should be a particular **focus on digital tools** to support this communication, although their potential related risks must be carefully considered.

Benchmarks and national dashboards are proposed as measures in the PensionsEurope report[58] on the decumulation phase. Such tools can help savers to assess whether their retirement savings will cover essential expenses or allow for discretionary spending. National dashboards could also enhance the understanding of adequacy across pillars within each country and help establish relevant policies to address specific national challenges.

[57] EFAMA, (2021). Comments on the draft revised OECD roadmap for the good design of defined contribution retirement savings plans, www.efama.org
[58] PensionsEurope, (2025). Decumulation in focus, Understanding the payout phase, www.pensionseurope.eu

Some countries have implemented **tools to assist savers practically in estimating the amount of money required for their desired lifestyle in retirement**. For instance, in the UK, the Pensions and Lifetime Savings Association (PLSA) has introduced the Retirement Living Standards, which help individuals envision their retirement lifestyle and the associated expenses needed to maintain a minimum, modest, and comfortable standard of living in retirement. Similarly, the Association of Superannuation Funds of Australia's (ASFA) Retirement Standard Explainer offers insights into the lump sum required by the average Australian to afford a comfortable or modest retirement. It is important to note that these conditions vary significantly depending on each country and therefore cannot be generalised.

Retirement income is also often fragmented, as individuals typically receive entitlements from a combination of state, occupational, and/or personal pensions or, indeed, other sources such as inheritance. Gaining visibility over these different income streams is important to assess whether savings are adequate and to identify potential pension gaps. In this context, Pension Tracking Systems (PTSs) play an important role in providing a transparent, comprehensive overview of pension entitlements across multiple sources. By consolidating information, PTSs empower individuals to understand their total accruals, reconnect with "lost" pension savings, and engage more proactively in retirement planning.

Flexibility is another key aspect, as consumption needs vary throughout retirement. While retirees may spend less on non-essential items as they grow older, other expenses may rise due to healthcare and long-term care costs. To address this, if possible, flexible options could be provided for individuals in retirement. These options should be carefully managed to prevent retirees from outliving their savings or making suboptimal investment choices. As stated above that additional flexibility causes economical disadvantages in occupational DB or collective pension schemes and should therefore be seen critically and carefully (see also 2.2.4 in this paper).
Flexibility and choice are connected also with the investment solutions in the payout phase. Annuity is at the lower end of the risk spectrum. Subject to risk appetite, retirees should equally be allowed and encouraged to consider medium/higher risk default packaged investment solutions designed for post-retirement[59].

Guidance and advice play an essential role in ensuring that participants make informed decisions based on their unique circumstances. Governments can strengthen these efforts by exploring ways to make advice more accessible, especially for individuals with smaller pensions, where the cost of advice may be prohibitive. In countries where the distinction between guidance and advice is unclear and where liability risks exist, clarifying the definitions and responsibilities of each can help ensure that individuals receive accurate and appropriate support. **Digital solutions** also offer a promising opportunity to deliver personalised guidance in a scalable and cost-effective manner.

Financial advice (only in case of non-mandatory memberships and mandatory DC memberships in an IORP) provides the most tailored approach to identifying solutions that best match an individual's retirement needs. A financial adviser will recommend a specific product or course of action based on individual circumstances and financial goals. This advice is personalised and relies on the information provided by the saver. It is delivered by a qualified and regulated professional. Providers of financial advice are responsible for ensuring that their recommendations

[59] EFAMA, (2021). Comments on the draft revised OECD roadmap for the good design of defined contribution retirement savings plans, www.efama.org

are accurate, high-quality, and suitable. They are also legally liable for the advice they give. Ongoing financial advice is especially important for those using drawdown options, as these may require regular adjustments over time. In contrast, annuities are more standardised and typically fixed once setup.

However, while financial advice is valuable, it can be inaccessible to savers with smaller pension pots, as illustrated in the UK, Ireland, and the Netherlands. Regulated financial advice is often costly, and many savers lack the financial literacy needed to fully understand their options without professional guidance.

To overcome inertia, people should be encouraged to shop around before choosing their post-retirement product. In the United Kingdom for example, around 60% of annuity sales are being made to firms' existing members (Financial Conduct Authority, 2017). **In order to improve competition, the Financial Conduct Authority introduced new rules requiring providers to give members information to encourage shopping around in the annuity market.** As of 1 March 2018, firms are required to provide information about the amount used to purchase the proposed annuity, whether the annuity is single or joint life, whether payment is in advance or in arrears of the start date, whether the income paid by the annuity is guaranteed for any period and whether the income will increase in line with inflation or some other specified rate. The document also gives the provider's own quote and explains how to shop around, encouraging use of the Money Advice service.

The burden of shopping around can be further reduced by **introducing a platform where people can directly compare offers from all providers for different post-retirement products (for example comparison websites, provided by the NCAs).** In Chile, the Online Pension Consultation and Bidding System (*Sistema de Consultas y Ofertas de Montos de Pensión*, or SCOMP) allows members with sufficient accumulated balance in their individual DC account to see the bids from all insurance companies (for annuities) and pension funds (for programmed withdrawals) in one place. Search costs are significantly reduced as future pensioners simultaneously receive and compare a wide range of post-retirement options from all providers in the market. In addition, all offers are standardised, facilitating the comparison by individuals. This system, therefore, lowers the risk that, because of inertia, future pensioners remain with their current pension administrator even though better offers may be available from other providers. A platform comparing post-retirement options and bids can increase competition and lead to better outcomes for individuals. Morales and Larraín (2017) find that the SCOMP improved competition among providers. Between 2001 and 2008, annuity payments rose by 15%. Both individuals and providers have access to all bids simultaneously, providing transparency and reliability in the post-retirement option selection process, generating competition among bidders, and allowing individuals to make a decision based on comparable information. However, there is a concern that insurance companies are not giving their best offers through the SCOMP, because members can request external bids (i.e. insurance companies make an offer outside the system), thereby reducing transparency and potentially competition.

3.3. POLICY RECOMMENDATIONS FOR THE PAYOUT PHASE

Based on the lessons from the behavioural economics in the payout phase and the discussed above possible solutions we can formulate the following policy recommendations:
Box 3:

Policy recommendations for the payout phase

As mentioned earlier not all recommendations are applicable on occupational (mandatory) pension plans

1. *Adjust the payout design to the overall structure of the pension system*
2. *Promote the demand for annuities*
3. *Provide financial incentives*
4. *Encourage competition (only in case of non-mandatory schemes and mandatory DC scheme participation in the occupational pension system)*
5. *Enhance information disclosure (only in case of non-mandatory schemes and mandatory DC scheme participation in the occupational pension system)*
6. *Enable decision-making*
7. *Offer default post-retirement product (not necessary for many occupational DB pensions, since benefits are automatically paid as life-long annuities in these cases)*
8. *Give choice*
9. *Ensure flexibility (primarily in non-mandatory individual DC schemes)*
10. *Set up a comparison website by NCA*

The paper's aim is to formulate a number of policy recommendations that every Member State should consider for the design of the payout phase in funded pension arrangements. Not all recommendations will necessarily work together, and some will be better suited to specific pension systems than others. That is why we recommend the payout design to be adjusted to the overall structure of the Member State's pension system.

Second, policymakers have to consider protection from longevity risk, flexibility and choice when designing the post-retirement phase. Promoting the demand for annuities and appropriate default post-retirement product are recommended approaches. In order to enhance competition, it is recommended to enable decision-making by independent tools for comparison post-retirement products and providers.

The existence of preferential tax regime of certain payment product can influence savers in their choice.

Give room for flexibility and sense of choice is measure that increase the trust and the coverage of funded pension arrangements. Example of flexibility is the option of a combination between lump sum and life annuity.

CONCLUSION

There is a huge pension gap in the EU. The population in most Member States is ageing and there is increase in the expected length of life. People have to save more in order to reach the desired living standard after retirement. The increase of the coverage and the savings in funded pensions will contribute to addressing the pension gap in the EU. Individuals' behavioural biases lead to poor results or results with suboptimal effect in their retirement planning. Behavioural economics proves that policy makers can help individuals to overcome some mistakes or wrong decisions at all stages of the saving's process. There are a lot of examples of what have worked effectively. The policies need to put the EU citizen in the centre, give information and increase the pension awareness. Enhancing the pension capacity of the individual is not enough, it needs to further encourage actions, certain steps to start saving as early as possible and to save with adequate contribution. For the increase of the participation in funded pension plans, it could help to implement measures like increased pension awareness, simplified information, auto-enrolment, financial and non-financial incentives, simplified choices, inspiring trust, pension dashboards and pension tracking systems and comparison tools. In the accumulation phase measures that work are default options for contribution and investment strategy, flexibility, active communication, comparison tools, facilitating affordable advice and guidance. In the payout phase policy recommendations are adjusting the payments to the national characteristics, promoting certain payout product, enabling decision-making, comparison tools, default investment options and may be the most important - give flexibility and room for choice.

For all these measures to be successful it is not only responsibility of the policy makers but it requires public support, combined and constant efforts from all the stakeholders, including the regulatory authorities, supervisory bodies, pension scheme providers, employers, labour unions, asset managers and distributors.

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