OPSG

OCCUPATIONAL PENSIONS STAKEHOLDER GROUP

Own-initiative OPSG Advice

Low Interest rates & low expected returns

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SUMMARY

The impact of the low interest rate environment on retirement income in Europe is wide and deep. This own-initiative OPSG advice starts with a brief description of the **causes of the falling interest rates** over the past decades. Three main causes were distinguished: (1) slowing economic growth, (2) changing savings and investments trends, and (3) central bank interventions. Despite rising inflation, consensus opinion seems to be that the low interest environment is here to stay for longer, even if the OPSG recognizes that there are important uncertainties.

While falling interest rates pushed up returns on both fixed income securities, stocks and other risky assets, stable low rates imply **low expected returns across the investment universe**.

This has an impact on retirement income across the board, especially in an environment where regulations like Solvency II require pension providers to maintain a high share of risk-free assets, especially high-duration risk-free assets, in their investment portfolio.

The **main sources of retirement income** for citizens in the EU are first pillar PAYG-systems, second pillar pension benefits, personal pension products, income from work in retirement, returns from financial assets and real estate, and drawdowns from accumulated savings. Children or extended family may also play a role in supporting the elderly. Between and within member states, the differences are significant. What they have in common is that all these components of retirement income are impacted by the current very low level of interest rates and the associated low expected returns. **Securing an adequate income in retirement has become more expensive**.

The report raises a number of questions for further discussion and analysis. The OPSG hopes that EIOPA will take into consideration these questions when developing its work program.

Policy makers can be asked to think about the optimal split between pay-as-you-go (PAYG) and funded systems in an economy facing both ageing trends and low expected returns. Should implicit public pension liabilities be incorporated in the public debt to get a clear picture of the state of the public finances? How should pension regulation take into account the likelihood that interest rates will remain low for a long time? How can pension providers be encouraged to avoid taking too much or too little investment risk? How can long-term investing strategies best be accommodated and encouraged? Could the introduction of mechanisms to smooth out “short term” volatility be a solution? What should the role of the risk-free rate be?

Pension funds and other pension providers can be challenged on their assumptions underlying projected investment returns and benefits. How can pension providers contribute to an improvement of financial advice for retail savers and investors?

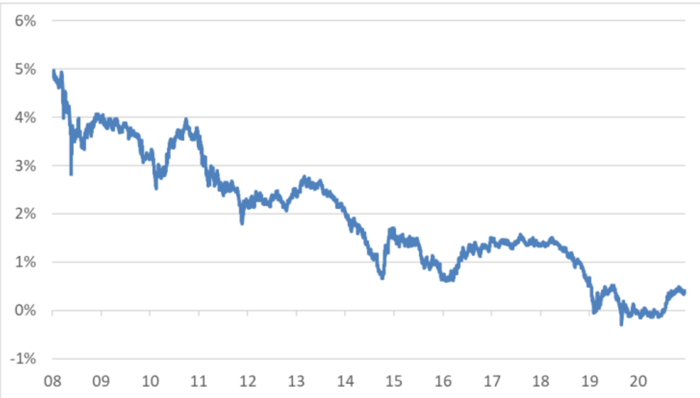
Consumers have to realise that pensions have become more expensive. What can be done to convince consumers and other stakeholders that the low interest rates imply that pensions have become more costly and that they will have to save more and/or retire later to secure an adequate retirement income?

LOW INTEREST RATES AND LOW EXPECTED RETURNS

1. INTRODUCTION

After decades of decline in interest rates (see Figure 1 below), intensified by the Global Financial Crisis, COVID-19, and policy responses, the European Union has been and may continue to be in an environment of low interest rates. Persistent low interest rates affect the retirement income of European citizens in multiple ways. It has a direct impact on the valuation of liabilities and on expected investment returns. Meanwhile, the rise in inflation is leading to an erosion of purchasing power of pensioners. Even if the inflation pressures are temporarily exacerbated by the pandemic, as supply chains and manufacturing processes are disrupted, there is a risk that inflation will stabilize at a higher level than before. In a situation where nominal interest rates would continue to stay low, this would have a strong negative impact on pension provision and funded systems.

Figure 1 European risk free rate (20yr swap)



Source: Datastream

This report, which is an own-initiative OPSG advice, reflects on the following issues.

First, we look at the causes of low interest rates and we ask ourselves whether it is likely that low interest rates will continue. In this section we also reflect on the relation between interest rates and the expected returns on risky assets as well as the relationship with inflation.

Second, we discuss in which way persistent low interest rates influence the retirement income of individuals in the European Union.

Third, we distinguish a number of key questions for policy makers, pension organizations and consumers, for future discussion and analysis.

2. LOW INTEREST RATES AND THE IMPACT ON EXPECTED RETURNS

2.1 DRIVERS OF INTEREST RATES

There are several lines of thought for understanding the driving forces of long run equilibrium interest rates. The first line of thought focuses on the connection between economic growth and interest rates. The second looks at how shifts in saving and investment preferences affect interest rates. The third focuses on the interventions by monetary authorities. These lines of thought are not independent of each other, but we will discuss them separately.[1]

Line of thought 1: Economic growth

Productivity growth and labour force growth - the two major components of long-run economic growth - can both affect interest rates. In addition, ageing trends play a role in growth prospects.[2]

Slowing productivity growth can put downward pressure on interest rates. Facing lower expected future income, households may reduce current consumption and increase savings, smoothing their consumption between working years and retirement years. These additional savings put additional downward pressure on interest rates. As explained below, this trend is reinforced by the fact that slower productivity growth is also associated with fewer profitable investment opportunities for firms, which decreases the demand for investment.

As Bauer et al. (2020) observes, the EU has experienced a significant slowdown in both labour productivity and total factor productivity trend growth over the past 20 years. Aggregate labour productivity growth was already quite low before the 2008-2009 crisis and has further declined since 2011-2012. In the most recent years, productivity growth has been around 1 % per year.[3] Economists differ on the outlook for productivity growth, with pessimistic and optimistic views. On the one hand, long-term structural factors, will likely keep future productivity growth low.[4] On the other hand, productivity growth may get a boost as a result of digital technologies[5]. It may, however, also lead to unemployment due to automation as the people losing jobs are not necessarily the ones needed for the newly created jobs.

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[1] For an excellent overview of recent literature on the topic of low interest rates and retirement security in the US, please refer to Yin et al. (2021).

[2] See, for example: European Commission, May 2021, "The 2021 Ageing Report: Economic & Budgetary Projections for the EU Member States (2019-2070)", *Institutional Paper*, Nr. 148, Brussels: EC. Available here: https://ec.europa.eu/info/publications/2021-ageing-report-economic-and-budgetary-projections-eu-member-states-2019-2070_en

[3] Bauer, P., Fedotenkov, I., Genty, A., Hallak, I., Harasztosi, P., Martínez-Turégano D., Nguyen D., Preziosi, N., Rincon-Aznar, A., Sanchez-Martinez, M., *Productivity in Europe – Trends and drivers in a service-based economy*, EUR 30076 EN, Publications, Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-10610-4, doi:10.2760/469079, JRC119785.

[4] Gordon, Robert J., 2014. "The Demise of U.S. Economic Growth: Restatement, Rebuttal, and Reflections." NBER Working Paper No. 19895, February. https://doi.org/10.3386/w19895.

[5] Brynjolfsson, Erik, and Andrew McAfee. 2014. *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York, NY, US: W. W. Norton & Company.

With the ageing trend continuing, labour force growth is expected to slow further, putting additional downward pressure on economic growth. This is a major challenge for Europe.

Line 1: Economic growth will likely remain low and will continue to put downward pressure on interest rates.

Line of thought 2: Saving and investment

The equilibrium long-run real interest rate brings savings and investments together. Aggregate global savings and investment as a share of GDP have been relatively stable over the past decades as interest rates declined. This suggests that the decline in real interest rates has been driven by a parallel shift in the global desired saving and investment schedules. The increase in the supply of saving could be explained by demographic forces, higher inequality and to a lesser extent the emerging market savings glut, whereas the fall in desired levels of investment could have been driven by the falling relative price of capital, declines in public investment, and an increase in spreads between risk-free and actual interest rates.[6]

In this context, Public organisations, pension funds, and investment banks expect that the environment of low interest rates is likely to persist for some time to come. Projections of long-run equilibrium interest rates vary across studies, but none project a return to risk-free nominal interest rates to over 3% in the medium term. The impact of inflation is considered difficult to assess and generally, as these longer term forecasts are subject to great uncertainty. The IMF forecasts long-term real interest rates to be negative for the coming years.[7] Market expectations remain low as well, as reflected in the forward rates.[8]

While *falling* interest rates pushed up actual investment returns over the years, stable rates at low levels imply low expected investment returns across asset classes, assuming expected risk premia are stable as well.

Line 2: Projections of savings, investments and inflation are difficult, but supportive of lower interest rates.

Line of thought 3: Central banks

The impact of central bank interventions on interest rates cannot be underestimated. Quantitative easing has been a massive force in financial markets, pushing down rates of sovereign debt and credit spreads alike. Many stakeholders now speak of “financial repression”, referring to an

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[6] Rachel, Lukasz, and Thomas Smith. 2015. “Secular Drivers of the Global Real Interest Rate.” *Bank of England Staff Working Paper 571*. https://www.bankofengland.co.uk/working-paper/2015/secular-drivers-of-the-global-real-interest-rate.

[7] IMF, May 2021, *World Economic Outlook - Managing Divergent Recoveries*, Washington DC: IMF.

[8] https://www.chathamfinancial.com/technology/european-forward-curves

environment with deliberately low interest rates while inflation is increasing. This repression would help governments to decrease the real value of public debts in the long run. Many member states would have difficulty coping with higher rates to service their public debt. This line of thought suggests that not only economic but also political factors can validate the expectation that the "low for long" nominal interest rate phase may continue for some time. Looking forward, however, it is possible, if not probable, that central banks will move to a less accommodative monetary stance and increase their policy interest rates if inflation does not fall back to its medium-term policy target.

2.2 INTEREST RATES, EXPECTED RETURNS AND INFLATION

Line of thought 1: macroeconomic trends and investor behaviour

The interest rate on German government bonds currently represents the expected return at maturity on an asset that is generally regarded as being risk-free. The expected return on risky assets needs to be higher than this, as investors require compensation for exposure to risk. This has led many investors to search for yield by buying increasingly risky assets, thereby pushing up prices of higher-risk assets, possibly creating bubbles in the process. When interest rates were trending down, returns have been high for fixed income securities. This development has also led to a rise in equity and real estate markets, as future dividends and rents could be discounted at lower rates, thereby pushing asset values to historic highs again and again. The search for yield also contributed to these dynamics.

However, this situation is likely to change if interest rates stay at low levels. As equity returns are equal to the risk-free rate plus a risk premium, assuming the equity risk premium to be independent of the interest rate levels, it follows that when the interest rate stays low, expected equity returns will also be low. In their recent update, Dimson et al. (2021) confirmed this by stressing that investors should assume that the returns on equities will be lower in the coming years. In other words, expected returns are unlikely to match the average returns realised over the past decades.[9]

An important issue is the link between interest rates, current inflation and inflation expectations. Prolonged low interest rates and expansionary monetary policy by central banks, theoretically should push inflation up. Official inflation figures did rise in 2021, in part due to the disrupting impact of the pandemic on the supply chains and manufacturing processes and the increase in energy prices. A number of other inflation sources can be envisaged, including increased costs to make workplaces, transportation and services provision, safe during and between pandemic episodes. Also, while the globalisation trend of the past decades helped pushing inflation down, a

[9] Elroy Dimson, Paul Marsh, Mike Staunton, 2020, *Summary Edition Credit Suisse Global Investment Returns Yearbook 2020*, London: 2020.

reverse in this trend may have the opposite effect. Policy makers continue to argue that the current inflationary pressures are transitory[10], and monetary authorities have therefore not raised their policy rates yet. Looking forward, it is likely that they will react, in particular if a wage-price spiral would start.

The combination of economic recovery and continued expansionary policies should eventually lead to higher price and wage inflation. This may have major implications for the purchasing power of the elderly/retired, as rising inflation hollows out pension benefits. This is the case in capital-based defined-benefit (DB) systems, where indexation has been the exception rather than the rule over the past decade. This is a structural problem if nominal rates stay low in the face of continuous high inflation (i.e. low real rates, "financial repression"). The evolution of first-pillar PAYG pensions is in general linked to price inflation, but in an inflationary environment, the financing of public pensions may become even more challenging than they already are. In all systems, younger generations may use their human capital as a hedge.

Line of thought 2: Regulation

Regulatory regimes also play a role in the impact of low interest rates on the returns that can be achieved by pension funds and pension products in general. By way of illustration, a regime like the pillar one of Solvency II limits the possibility of life insurers to invest in risky assets. In this way, Solvency II led many investors to increase risk-free assets and especially high-duration risk-free assets within their asset allocation, which led to lower expected returns. If funding requirements are too rigid, e.g., do not sufficiently acknowledge the long term, they may play a counterproductive role, leading to procyclical investment behaviour. If supervisory authorities do recognize the long-term nature of the investments of pension providers and insurers, however, they can play a very supportive role, allowing these sectors to play their role as an economic stabilizer. If we want IORPs to play their role in the funding of the transition to a more climate friendly environment, we need to avoid any pressure to de-risk the investment portfolios.

New accounting rules, esp. the IFRS, probably led to a move towards more defensive investment strategies by pension funds as well. As the balance sheet of corporate pension funds had to be consolidated with that of the sponsor, fluctuations in the funding ratios directly influenced the P&L of the company. For many companies, this has been an important reason to move to DC.

Economic environment: The low interest rate environment (partly due to expansionary policies) led to strong rerating and lower expected returns and at this point in time increased inflation expectations.

[10]https://www.ecb.europa.eu/pub/projections/html/projections202112_eurosystemstaff/ecb.projections202112_eurosystemstaff.en_img6.png?b985be6d827660ffebf2ed2f2d274f24

3. IMPACT ON RETIREMENT INCOME

This chapter discusses the impact of low interest rates and low return expectations on retirement income of individuals. First, we present a list of potential sources of retirement income. Next, we discuss a number of important considerations when evaluating the impact, e.g. regarding different groups in society. Finally we discuss the impact of lower interest rates on each of the income sources.[11]

3.1 SOURCES OF RETIREMENT INCOME

Sources of retirement income differ from country to country and between groups of individuals within a country. An important start of the discussion is to determine where retirement income comes from. The main sources of income and resources for citizens in the EU in retirement are first pillar PAYG pensions, second pillar pension benefits, personal pension products, income from work in retirement, returns from financial assets and real estate, and drawdowns from accumulated assets. Children or extended family may also play a role in supporting the elderly. Reliable data on these sources is limited to the first and second pillar.[12]

Considerations

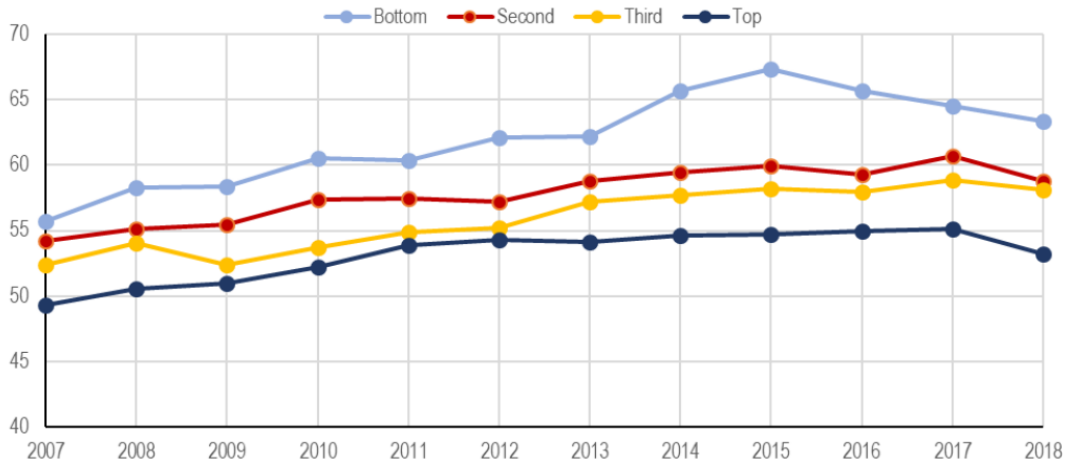
The extent to which older individuals rely on the income sources mentioned above varies greatly by income range. There often is a stark difference between the haves and the have-nots. Large segments of the population only have the first pillar benefits as a source of income. On the other side of the spectrum, there are high income earners who may also be home owners, have a savings portfolio and second and third pillar pension schemes. Limiting the analysis to general pension income and EU averages (see figure 2 below), we cannot confirm this conclusion; we would need more refined information. The adequacy of retirement income also needs to be evaluated by looking at their net value after taxes and their adequacy in view of free or subsidised public services that pensioners enjoy in the different Member States, and possibly at differences between elderly people's needs.13 One direct measurement of whether the total package is sufficient for everybody is the poverty rate among pensioners, about which some data is available. Health care costs are highest during the final phase of someone's life. The way these costs are financed should be incorporated in any analysis of what is an adequate income in retirement.

[11] For an excellent review of literature on this subject in the United States, see Yin et al. (2021).

[12] This is another reason why a Pension Gap Dashboard will prove to be a useful tool.

[13] European Commission Directorate-General for Employment, Social Affairs and Inclusion, 2018, *Current and future income adequacy in old age in the EU*, Volume I and II, https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8084&furtherPubs=yes

Figure 2. Aggregate replacement ratios by income quartile



Source: EU Pension Adequacy Report 2021, Eurostat, EU-SILC microdata and ESPN calculations.

3.2 IMPACT OF LOW INTEREST RATES ON RETIREMENT INCOME

PAYG First pillar

The sustainability and certainty of first pillar pensions depend very much on the overall financial health of public finances. The low interest rates obviously made it easier for governments to finance deficits.. However, even with low interest rates, significant demographic challenges make reforms likely or even inevitable for many European countries, even though it is a politically highly sensitive subject. This problem will be exacerbated if interest rates start to increase. In addition, as most PAYG-arrangements are indexed to price inflation, a sustained rise in inflation would pose additional challenges to the sustainability of public pensions. One potential upside is that in a tight labour market (which is not uncommon in an ageing society) wages increase faster than prices. This would benefit PAYG-system, which are financed by contributions based on wages.

Defined-benefit pension benefits

In most countries, the value of liabilities in a DB-like system is calculated using a discount rate that is linked to the interest rate. Falling interest rates have pushed down the liability discount rates, thereby pushing up the current value of liabilities. Some countries allow pension funds to use expected long-term returns to value liabilities and these pension funds obviously appear to be in better shape: with duration of liabilities of around 20 years, a discount rate which is 1%-point higher, implies a funding ratio which is around 20% higher.

The impact of falling rates and Quantitative Easing on the asset side has also been significant: realized investment returns have been impressive across asset classes. There are two reasons why future benefits are likely to disappoint: (1) despite the significant rise in asset prices, the value of liabilities has risen even more, thereby putting pressure on funding ratios, and (2) going forward, the returns of the past decade are unlikely to be repeated, as explained above. Pension funds using overly optimistic return expectations are likely to be disappointed.[14] [15]

If pension promises come with specific guarantees, funded systems may contain PAYG-elements that have to be financed, either directly from the budget (public, corporate) or indirectly from younger generations.

Defined-contribution arrangements

Falling rates in combination with expansionary monetary and fiscal policies have led to a search for yield, which resulted in buoyant stock markets, which resulted in a significant increase in the value of DC portfolios in recent years. Reports of the EIOPA Stress Test showed a decrease of fixed income investments from 63% in 2015 to 57% in 2019, while there has been an increase in the relative share of other investments, such as loans and mortgages, derivatives, deposits other than cash equivalent, residual investments, which may point to an increasing investment in non-traditional investments and derivatives.[16] The value of guarantees incorporated in some DC-products also increased substantially due to falling rates.[17] And should this capital be transformed in an annuity on retirement, the downside of falling rates becomes apparent: like DB-benefits, annuities have become very expensive. Regarding financial planning, using past returns to estimate future expected benefits, is likely to lead to disappointments.

Home ownership

Falling interest rates have pushed up housing prices all over the world as monthly mortgage payments declined. There are different ways to incorporate home ownership in retirement income and the impact of housing on retirement income is more difficult to assess, but it may be limited. If you do not own a house, the impact of falling rates has indirectly led to higher rents. On average rents have become a larger part of overall household expenses. In many countries, home ownership also serves as a kind of private pension. Lower interest rates may lead to an increase in inflation for people who do not own a house. Thus, with increasing demand, while fewer houses are built, there is a risk that the inflationary pressure on housing expenses will continue going forward. It should be taken into consideration, however, that this conclusion may not be valid for all EU member states in the same way. In Germany, for example, the Federal Government will implement a massive public financial program for the construction of private flats and houses.

[14] Elroy Dimson, Paul Marsh, Mike Staunton, 2021, Summary Edition Credit Suisse Global Investment Returns Yearbook 2021, London: Credit Suisse, www.credit-suisse.com/media/assets/corporate/docs/about-us/research/publications/credit-suisse-global-investment-returns-yearbook-2021-summary-edition.pdf.

[15] Mercer CFA Institute Global Pension Index 2020, https://www.mercer.com.au/our-thinking/global-pension-index.html

[16] EIOPA, December 2019, Institutions for Occupational Retirement Provision (IORPs) Stress Test Report (EIOPA-19/673), Frankfurt: EIOPA. For 2015 please refer to p.111, fig. 133 and for 2019 please refer to p.44 fig. 2.45.

[17] Some types of Italian DC IORPs, for example, must guarantee a certain return. The portfolio underlying these guarantees was almost fully invested in bonds, especially sovereign bonds. Alongside falling interest rates, a substantial shift in the risk profile of these investment products took place to match the returns implied by the guarantees. Meanwhile, a the fees requested by those in charge of the guarantee rose significantly as well.

Additionally the Bundesbank in its recent Financial Stability Report of November 2021 gave warnings on at least regional price bubbles of real estates.

Private savings

Many Europeans accumulated private savings, without an explicit purpose. These savings can therefore obviously be used to supplement retirement income, and should be taken into consideration in this analysis, if at all possible It should also be noted that traditional pension products are in competition with investment products s, which primarily aim at higher returns. The pandemic has caused a strong push to an increased participation of retail investors in stock markets often using fintech tools. Professional financial advisors have therefore an enhanced duty of impartial and comprehensive advice with regard to the saving objectives of their customers on two levels:

1. Contribution phase: differentiation between necessary liquid means, long-term savings for retirement and risk-reward trade-off in asset allocation.
2. Pay-out phase: differentiation between basic coverage of longevity risk and drawn down plans for consumption to ensure an adequate living standard.

Other sources of income

Over the past decades, it has been more common in countries around the world to work beyond official retirement dates, possibly part-time. Information on the percentage of people receiving income from labour after the legal retirement age is difficult to find. It is encouraging to see that the effective retirement age has risen quickly over the past years towards the legal retirement age. Also, many member states raised the legal retirement age.

4. CONCLUSIONS

In the end, it should not matter what the source of retirement income is for the individual retiree. Different countries have developed different views and different institutions to service their citizens in old age. Still, falling and low interest rates have raised questions regarding the optimal mix of systems within a country and the extent to which certain systems need adjustments.

The OPSG hopes that the questions listed below will be taken into consideration by EIOPA in developing its work program.

Policy makers

- What is the optimal split between PAYG and funded systems in an economy? While noting that this split is country-specific given the differences between pension systems across Europe, it is obvious that in a number of countries, complementing PAYG systems with stronger occupational and personal pension system will help address pension inadequacy risks.
- Should we make the implicit pension debt in PAYG-systems explicit or integrate it in overall public debt figures? For corporate pension schemes, this is already the case due to accounting standards. Can or should these rules be applied to public schemes as well? Note that we could take the legal perspective as well: defaulting on bonds or on PAYG-financed pension expectations has very different consequences and will be regarded very differently by any government. This is, by the way, a strength of funded pensions even if they only invest in their own government bonds.
- How should pension regulation take into account the likelihood that interest rates will remain low for a long time? What should the role of the risk-free rate be? How can pension providers be encouraged to avoid taking too much or too little investment risk? How can long-term investing strategies best be accommodated and encouraged? Would there be room for the introduction of smoothing mechanisms, recognising the long term nature of pensions both on the asset and the liability side? Moving away from the short term could help pension funds to take adequate long term decisions in the best interest of its members and beneficiaries and contribute to investments in infrastructure and the energy transition, thereby boosting the CMU and the EU’s economic growth.

Pension funds

- How realistic are projected pension benefits (both in nominal terms as in terms of purchasing power)?
- How can we prevent pension funds and individuals to take too much investment risk? The obvious question is whether there is a way to determine what is “too much” or “too little” investment risk. The best we can probably do is to check whether promised returns stack up against actual investment policy.
- How can pension providers contribute to an improvement of financial advice for retail savers and investors? Retirement provision must be part of any financial planning, making the fundamental differentiation between necessary short-term liquidity reserves (for daily consumption), long-term saving for retirement provision (for coverage of longevity risk) and additional asset allocation based on individual risk awareness (for individual living standard).

Consumers

- In the current low-interest rate environment, one should save more during active life (and/or retire later) in order to get the same pension result. How can we get across to consumers and other stakeholders that the low interest rates imply that pensions have become more expensive and that they will have to save more or longer to realize the retirement benefit they need? How can financial literacy initiatives be used to address this concern?

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