



PORTUGAL

SELECTED ISSUES PAPER

July 2019

This Selected Issues paper on Portugal was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with Portugal. It is based on the information available at the time it was completed on June 18, 2019.

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International Monetary Fund
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PORTUGAL

SELECTED ISSUES

June 19, 2019

Approved by
European Department

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HOUSEHOLD SAVING IN PORTUGAL¹

A. Introduction

1. Portugal's household saving is low by European standards, 3.1 percent of GDP in 2018.

Household saving, both as a percent of GDP and of disposable income, has been on a declining trend for the last two decades.

2. Higher growth over the medium-term will require stronger domestic saving to finance additional private investment.

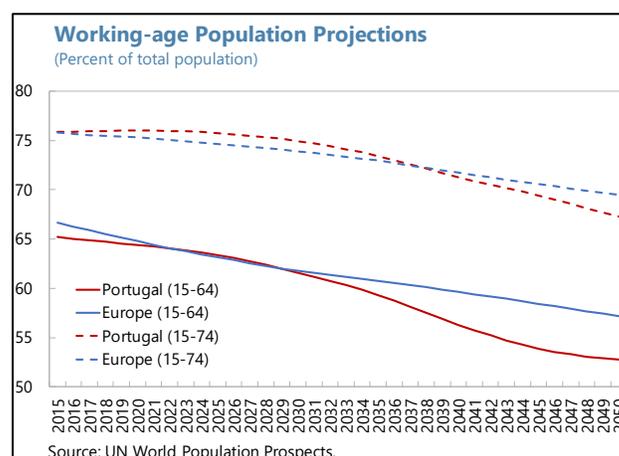
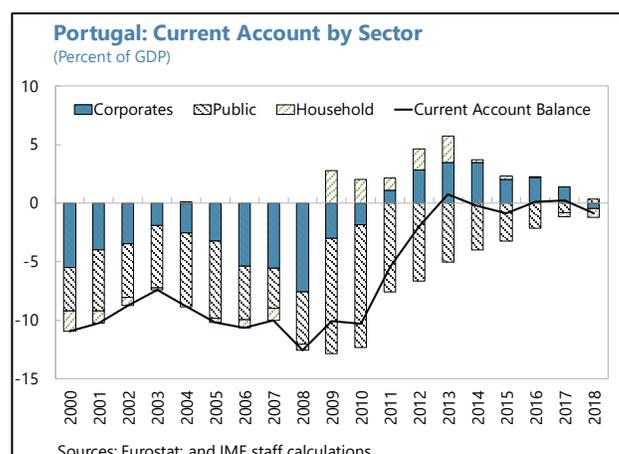
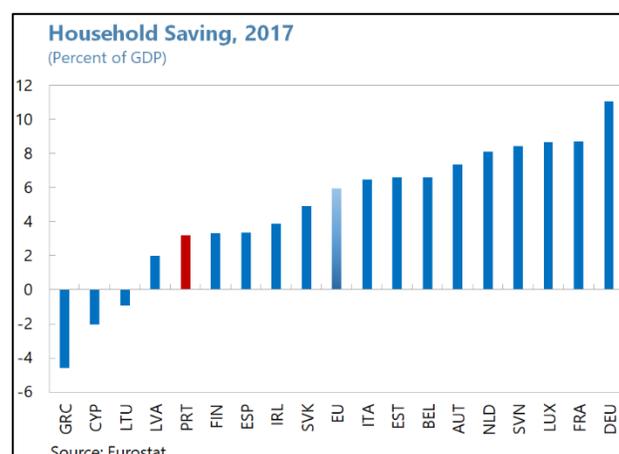
Larger private savings will be necessary to sustain sufficiently high investment rates without creating new external imbalances.

3. Stronger private saving is also needed to mitigate the impact of adverse demographic trends.

Portugal's population is aging rapidly, as life expectancy increases and fertility rate declines. The population is already decreasing, 10.3 million in 2017, from peaking at 10.7 million in 2009. According to the 2017 UN projections, the share of working-age population (15–64) will decline more than the Europe average in about 10 years, with gap widening further over time. Ageing and decreasing population will weigh on labor's social security contributions, and intensify pressures on social programs, pensions, and health care. As the ratio of workers to the population declines, and as the pension reforms enacted a decade ago gradually complete their transition phase, people will need to save more for retirement.

4. The paper focuses on cross-country differences in savings rates in advanced European countries.

It explores a range of demographic, fiscal and financial factors that could explain why household savings are low in Portugal compared to its peers. The paper proceeds as follows. In the next section, we look at cross-country comparison



¹ Prepared by Koralai Kirabaeva (EUR). I am grateful to Alfredo Cuevas for guidance and advice and to the participants of the discussion at the Banco de Portugal, especially to Luisa Farinha, for their useful comments.

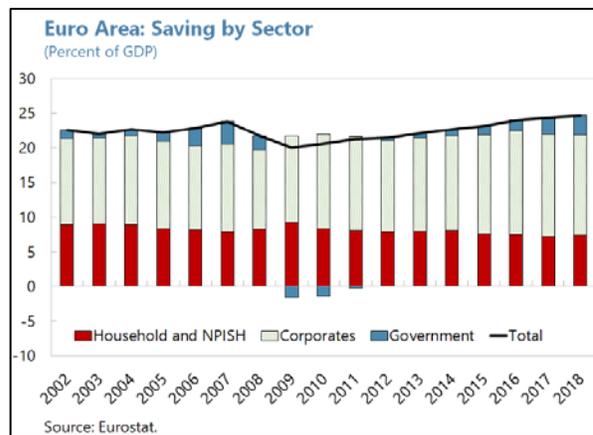
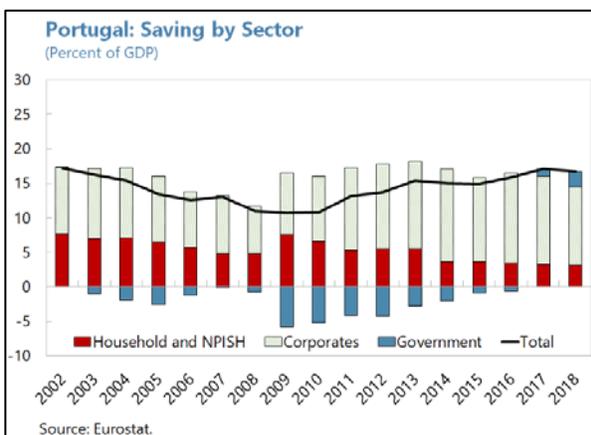
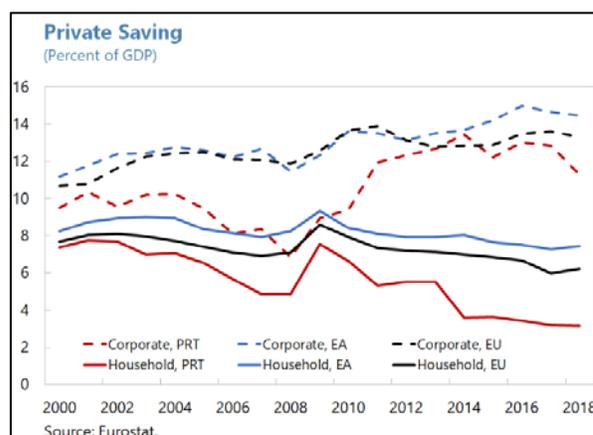
and dynamics of household saving over the last two decades. In section C, we provide a snapshot of savers' profile for EU countries based on the 2010 micro-data compiled by Eurostat. In section D, we discuss the determinants of household savings in Europe based on panel regressions and a literature review. Section E focuses on empirical results for Portugal. Section F discusses policy options and section G concludes.

B. Cross-Country Comparison and Dynamics

5. Despite a notable increase in the last decade, from 10.7 percent of GDP in 2009 to 17.1 percent in 2017, saving in Portugal remains below the euro area and the EU averages.

The increase in national saving has been supported mostly by the recovery of corporate and government saving, offsetting a decline in household saving.²

While a shift in the composition of saving away from the household sector and toward the corporate sector is a global trend (Chen, Karabarbounis & Neiman, 2017), the divergence is more striking in Portugal than in other European countries. The private saving composition change in Portugal can be explained by lower total wages, less dividend distribution by firms and tax increases on households (Banco de Portugal (BdP) Economic Bulletin, May 2016).

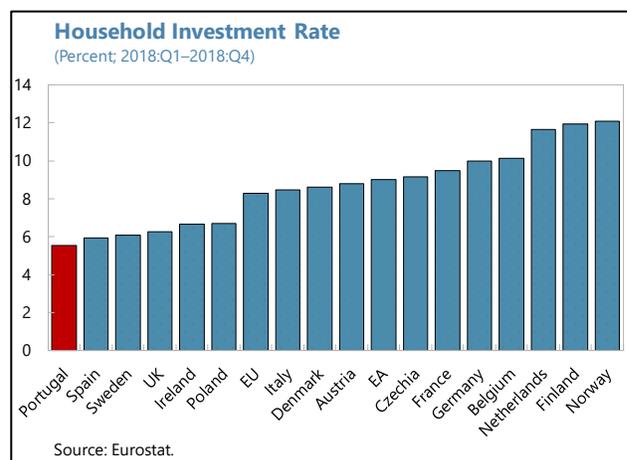
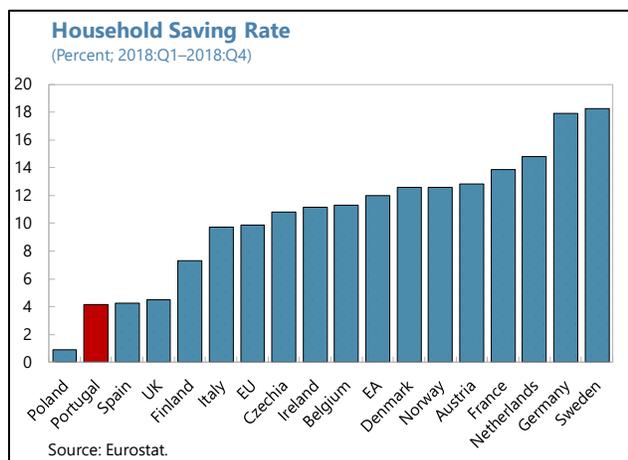


6. Household saving and investment rates in Portugal are among the lowest in Europe.

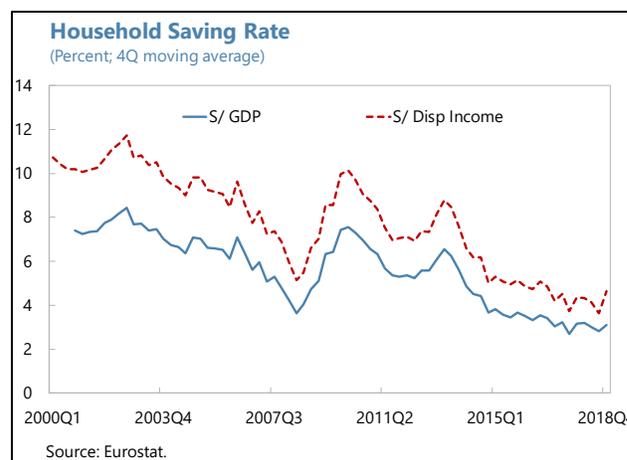
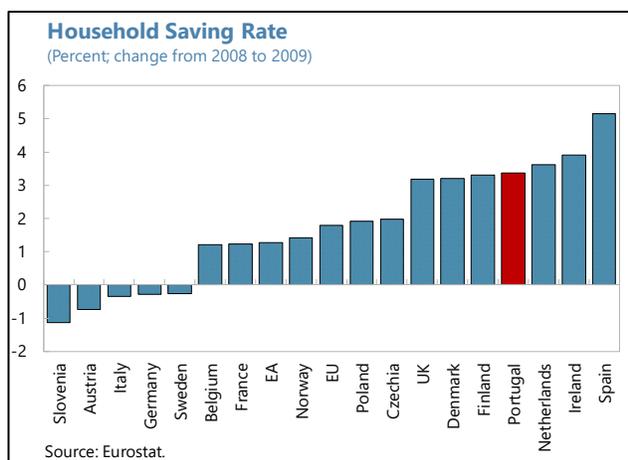
The average gross household saving and investment rates (to disposable income) for the first three quarters of 2018 were 3.6 percent and 5 percent, respectively. Overall, the saving rate in Portugal has exhibited a declining trend since 2002, with a temporary pick up in the crisis years. The

² It is possible that part of the decline in household saving could be related to the increase in corporate saving as it could be difficult to distinguish statistically saving by household and by micro firms. In any case, Banco de Portugal Economic Bulletin (June 2017) finds that large firms have driven the aggregate developments of corporate saving, with smaller firms decreasing their savings.

investment rate had declined until 2014 and has been modestly increasing since then. The saving-investment balance turned negative in 2017, after being positive during the crisis and marginally positive in the post-crisis years.



7. Portugal experienced a significant increase in household saving from 2009 to 2013 in both saving to GDP and saving to disposable income ratios. This likely reflected higher precautionary savings due to greater macroeconomic uncertainty, less access to credit and weakening in a social safety net from the government during that period.³ It could also be explained by the decline in income during those years, which was concentrated among households with above-average propensity to consume. The temporary increase in household saving rates during the crisis was more pronounced in Portugal and other countries affected by the euro area sovereign debt crisis. In the recent years, as the economic activity recovered, the saving rate resumed its declining trend.

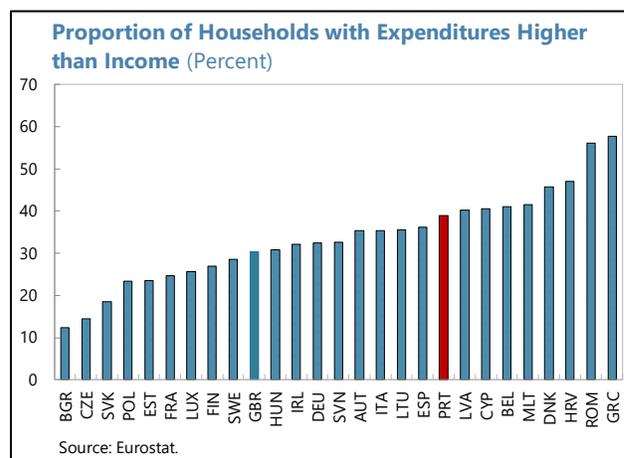
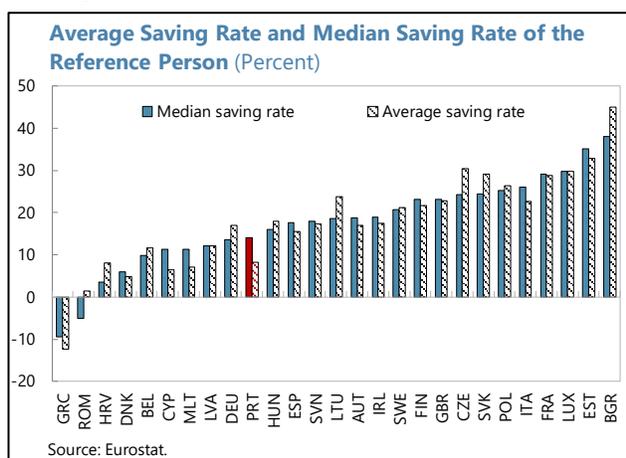


³ For more discussion on the role of precautionary motives in saving's recovery see the Special Issue: "An interpretation of household saving rate developments in Portugal", Banco de Portugal Economic Bulletin, May 2016 and ECB Occasional Paper on "Savings and investment behavior in the euro area".

C. Savers Profile: Snapshot of 2010

8. This section is based on the Eurostat experimental data for 2010 on interaction of household income, consumption, and wealth, calculated using statistical matching and modeling from the combination of different surveys. While Eurostat data helps to better understand the household saving behavior, it is subject to some limitations⁴ and may not be directly comparable with the empirical results based on national accounts data due to conceptual and measurement differences. When available, we compare the results with studies based on other surveys, including the Household Financial Consumer Survey (HFCS) data and the Household Budget Survey (HBS) for the earlier and later years.

9. Median vs average saving rate. In Portugal the median saving rate (14 percent) exceeded the average (8.2 percent), implying that the saving rate distribution skewed to the lower end, with a longer tail of individuals (or households) that save less or dissave, pulling down the average rate. Indeed, in Portugal the proportion of households that dissave (spend more than they earn) is 39 percent, higher than in many of the European countries. The same result is reported by the OECD, the share of dissaving households in Portugal was 38 percent in 2010, higher than OECD average of 25.4 percent.⁵ Portugal compares better - closer to the sample average - in terms of the median saving rate.

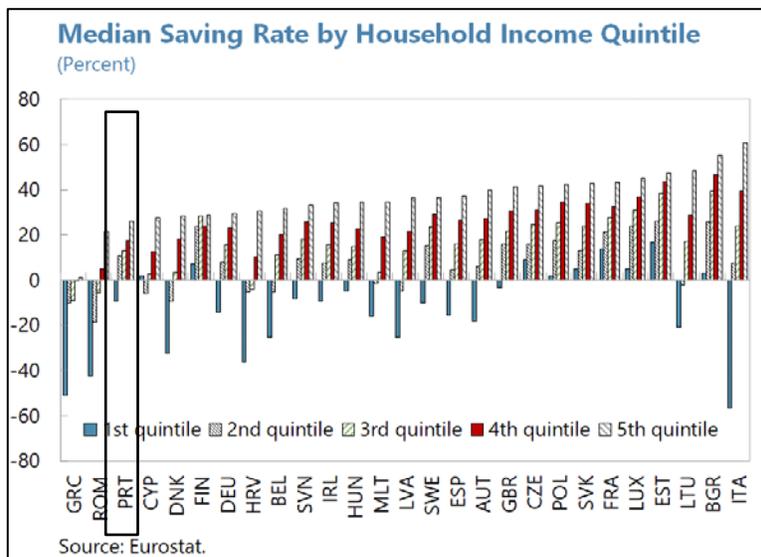


10. Median saving rate by income quantile. In most countries, the saving rate increases with income, with the lowest income quantile having negative saving rate. Portugal is broadly in line with the cross-country patterns. Alves and Cardoso (2010) find even stronger inequality by income quantile, using the Household Budget Survey (HBS) for 2004/2005: saving rates increase with income and wealth, with 90 percent of total saving generated by only 20 percent of households. Similarly, using the first wave of HFCS data, Rodriguez-Palenzuela and Dees (2016) document that

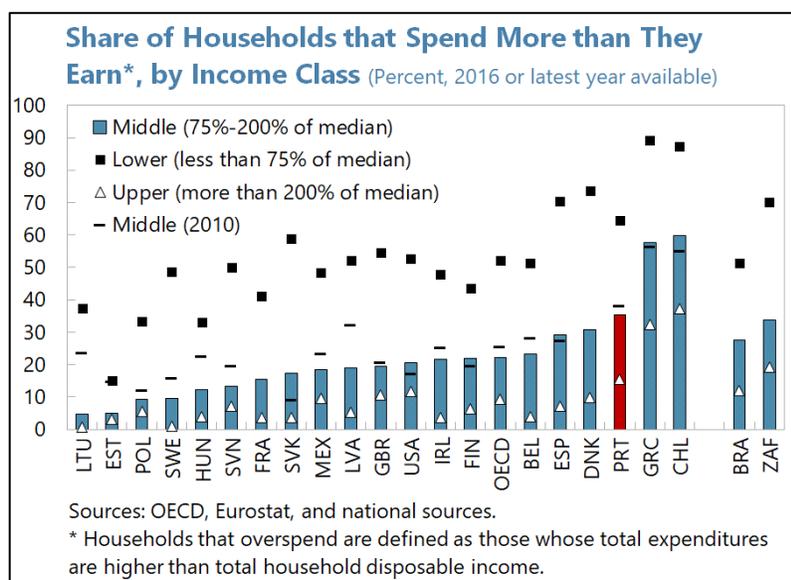
⁴ For example, due to the hypotheses underlying the matching process. For more details see the methodological note on "[Measuring Income, Consumption and Wealth jointly at the micro-level](#)".

⁵ Costa (2016) shows that according to the 2013 HFCS the share of indebted is about 45, similar to that in the euro area, although the median value of debt is higher, reflecting the higher participation in mortgages.

about 90 percent of total savings are generated by top 20 percent. In Portugal, households in the top income quantiles appear to have lower saving rate compared to the rest of Europe; however, according to the first wave of HFSC data⁶, the saving rate by top quantile is higher, more comparable with the other euro area countries.



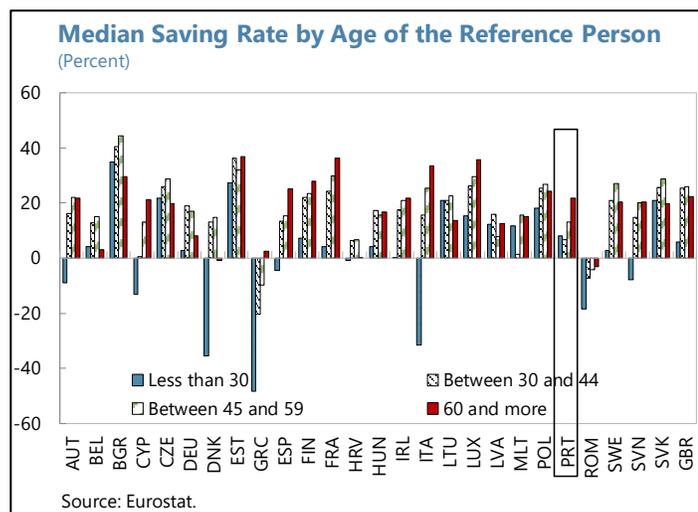
11. Accordingly, the share of households with negative saving is higher for lower income groups: about two-thirds for the lower income, a third for the middle-income and 15 percent for the upper income groups in Portugal. Also, the share of over-indebted households in Portugal is larger for the middle-income group (23.8 percent) than for the total population (16.8 percent), and it is above the OECD average of 13.1 percent.⁷ Le Blanc et al (2016) find that during 2008–2011 negative saving was often financed with informal loans in Greece and Portugal.



⁶ Rodriguez-Palenzuela and Dees (2016).

⁷ OECD report "Under Pressure: The Squeezed Middle Class".

12. Median saving rate by age. In many countries the saving rate by age is hump-shaped, while in several countries it is increasing with age. In our sample data for Portugal, people aged 60- and older save the most. However, the literature offers less assurances on this point. Rodriguez-Palenzuela and Dees (2016) also show the age group of 75 has the highest median saving rate, followed by the 65 and over group, based on the 2010 HFSC data. In contrast, BdP Economic Bulletin (2016) show that the highest median saving rates are by the age groups of 35–44- and 55–64-years old, based on the 2013 HFCS data. Alves and Cardoso (2010) find that in Portugal the age group of 45–54 had highest saving rate in 2005.



13. Median saving rate by household type and by education level. Families with children tend to save less. More adults in the households are associated with more savings (see Figure 3). Le Blanc et al (2016) report that for the Euro Area over 2008–2011 household size is significantly and negatively associated with saving for old-age provision. The distribution of saving rates by household type for Portugal is similar to that for other EU countries. Individuals with higher education tend to save more. This is consistent with the HFSC data presented in Rodriguez-Palenzuela and Dees (2016). Alves and Cardoso (2010) and Ares, Lopez, and Bua (2015) find that saving rates are positively related to education. Further, Le Blanc et al (2016) find education to be a significant determinant for home purchase and for precautionary saving. Inequality in saving is similar to inequality in wealth in Portugal, and higher than the EU average. According to the 2015 HBS data, inequality in the distribution of expenditure in Portugal is among the highest in the euro area (BdP Economic Bulletin, June 2018).

14. These micro-data results are broadly in line with findings based on other surveys: the saving rate is positively associated with income and education, it tends to increase with age and then decline for the oldest age group, although not in all countries. Using the survey of Health, Ageing and Retirement for households with at least one person of 50+ age in Portugal and Spain, Ares, Lopez, Bua (2015) find that saving is positively related to education, employment status, home ownership, saving habits, and area of residence, and negatively related to financial risk-aversion. Based on the Household Expenditure Survey for 2005/2006, Alves and Cardoso (2010) find saving rates to be positively related to education and homeownership, and negatively related to unemployment. Using the 2013 HFCS data, BdP Economic Bulletin (May 2016) show the household saving rate declined during the first decade of the euro due to reduced liquidity constraints and lower income inequality. In recent years, household saving has also been affected by macroeconomic uncertainty and lower permanent income expectations.

D. Determinants of Household Saving Rates

15. According to the life-cycle hypothesis (Modigliani and Brumberg, 1954), individuals should plan their consumption and saving behavior to maintain stable lifestyles. This implies that a household is expected to borrow and dissave at a young age, accumulate resources during middle age, and deplete savings after retirement. The extended versions of this theory include the precautionary saving motive (Skinner, 1988, Gourinchas and Parker, 2002), the housing motive (Hayashi, Ito, and Slemrod, 1988), and the bequest motive (Hurd, 1987). As a result, household savings decisions are affected by income and by demographic factors. The literature suggests a wide range of variables that could influence the saving motives along these dimensions. In general, most of the factors work through both income and substitution effects, and the ultimate sign of the relationship depends on which effect dominates.

Empirical Analysis

16. We analyze a panel of 14 European advanced economies over 1999–2017. The country set includes: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxemburg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom. We show that a combination of macroeconomic, demographic, fiscal and financial variables are significant and economically important determinants of household saving rates in European countries. The chart below provides a summary of the determinants, with selected bivariate relationships illustrated in Figure 3, and Table 1 presents the regression results.⁸

17. We focus on factors that help to explain saving rates (the dependent variable) as well as their cross-country variation. As some of the variables do not exhibit strong time variation, we relax country fixed effects (regressions 4–6 in Table 1) to better capture determinants of cross-country differences. It comes at the expense of the explanatory power of these regressions but helps to throw light on slow-moving factors such as fertility, which is statistically significant only when country fixed effects are relaxed.

- **Income.** Household saving rates are strongly associated with household disposable income, especially in per capita terms. This is consistent with the evidence from the HBS and HFCS data on saving rates in different income quantiles.
- **Demographic factors** also play an important role, with population ageing negatively affecting saving rates. In some cases, this effect is offset by longer duration of the working life and higher old-age employment rate, which could explain why, according to some micro data, older people tend to save more. Our empirical results indicate that increased duration of the working life has positive and statistically significant coefficients across different specifications. Old-age dependency is negatively associated with saving rates, but it is statistically significant only when country fixed effects are relaxed. Employment of people over 65 years old have positive coefficients, but statistically significant only in some

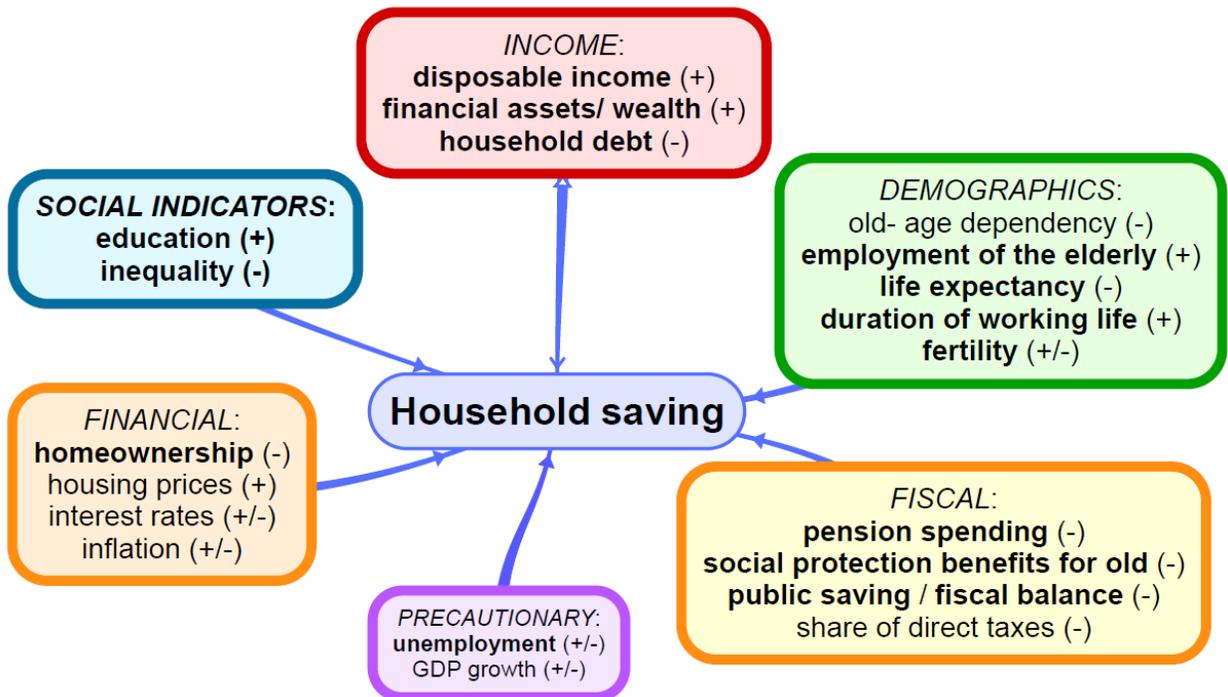
⁸ The variables used in the regressions are stationary in level, see Appendix Table 1.

specifications. Fertility appears to be negatively associated with saving rates if country fixed effects are relaxed, consistent with the survey data evidence that households with more children tend to save less. However, lower fertility rates (together with longer life expectancy) also has an adverse impact on the country population growth and ageing, possibly captured in the regression analysis via old-age dependency.

- **Fiscal variables.** Several fiscal policy variables are strongly associated with saving rates. Consistent with Ricardian equivalence, both public saving to GDP and fiscal balance to GDP ratios have negative and statistically significant coefficients, and so does the share of direct taxes. Government spending on pensions and on social protection benefits tend to have negative and statistically significant impact. The negative relationship between the saving rate and the aggregate replacement ratio is weak and not statistically significant in most regressions. The coverage of private pension schemes is positively associated with household saving, but data are available only for 2016, and therefore not used in our regression analysis.
- **Financial variables.** Reflecting the income effect channel, household assets and financial net worth are positively related to saving rates, and the household debt ratio (both lagged and contemporaneous) is negatively related.⁹ Home ownership appears to be a strong factor negatively associated with the saving rate. The relationship between the saving rate and housing prices tends to be positive but not statistically significant.
- **Precautionary motive.** We find unemployment to have positive and statistically significant coefficients across specifications. Unemployment can be positively associated with saving due to precautionary motives. For an individual, becoming unemployed could result in a depletion of savings to finance consumption, but this effect appears empirically weaker.
- **Social indicators.** Education is positively associated with saving if country fixed effects are relaxed, consistent with the micro-data findings. Inequality appears to be negatively related to saving, but statistically significant only when country fixed effects are not included.

⁹ The relationship between saving and indebtedness and financial assets/wealth are multifaceted (see Costa and Farinha 2012) and possibly endogenous. The Granger causality test indicates the Granger causality from the saving rate only to financial net wealth but not to financial assets or household debt. The Hausman test on the balanced panel (2007–2016) does not reject the assumption that random effects are uncorrelated with the explanatory variables.

Figure 1. Household Saving Determinants



Source: IMF staff.

Table 1. Portugal: Regressions Results

Dependent var: Saving rate, log	eq1a	eq1b	eq2	eq3	eq4	eq5	eq6a	eq6b
Income								
Real disposable income per capita, log	1.41***	1.33***	2.29***	2.19***	2.32***	2.22***	2.42***	2.44***
Demographics								
Life expectancy, log			-9.80**	-9.81**				
Duration of working life, log	1.61***	1.56***	4.57***	5.16***		1.41***	1.10***	1.12***
Employment of people with age 65+, Fertility, log	0.16***	0.17***			0.12***			
						-0.43***	-0.48***	-0.48***
Fiscal variables								
Public saving to GDP		-0.04***						
Fiscal balance to GDP	-0.02***		-0.02***	-0.02***				
Pension to GDP, log	-0.80***		-0.96**				-0.39***	-0.38***
Social Protection Benefits for old to GDP, log		-0.98***		-0.62**	-0.20***	-0.44***		
Direct Taxes, share, log					-0.25***			
Financial variables								
Financial assets to income, log, 1 year	0.52***	0.55***			0.51***	0.64***	0.56***	0.57***
Net financial worth to income, log, 1 year lag			0.46***	0.46***				
Household debt to income, log, 1 year lag	-0.31***	-0.33***	-0.36*	-0.35*	-0.34***	-0.56***	-0.47***	-0.47***
Homeownership rate, log			-0.92**	-0.93*	-0.85***	-0.63***	-0.71***	-0.75***
Housing prices index, real, log							0.23*	
Housing prices index, nominal, log								0.24**
Precautionary motive								
Unemployment, log	0.39***	0.34***	0.64***	0.57***	0.59***	0.57***	0.62***	0.62***
Country fixed effects	yes	yes	yes	yes	no	no	no	no
Time fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
const	-16.67***	-16.67***	10.38	8.81	-19.75***	-23.22***	-24.73***	-25.1***
R-squared	0.83	0.83	0.89	0.88	0.78	0.76	0.75	0.75
Adj R-squared	0.80	0.80	0.86	0.85	0.75	0.73	0.71	0.71
Observations	231	231	172	172	171	172	172	172
countries	14	14	14	14	14	14	14	14
time periods	17	17	14	14	14	14	14	14

Sources: Eurostat, OECD, and IMF staff calculations.

18. The foregoing results are broadly consistent with the main results in the literature—with some previous findings worth highlighting. Based on the panel analysis of 21 OECD countries over 1975–1995, Callen and Thimann (1997) find household saving is positively affected by income growth, and negatively affected by old dependency ratio, public saving, higher reliance on direct taxes (as a share of total taxes), and higher government transfers to households. Studying the euro area in the period 2008–2011, Le Blanc et al (2016) show that the gross replacement rate from the first (public) pillar remarkably decreases the importance of saving for old-age provision, suggesting a substitution effect between public and private pension savings. Amaglobeli et al (2019) show that pension generosity and sustainability (when interacted with old-age dependency and with life expectancy) are negatively associated with private saving.

19. According to the 2013 HFSC, Portuguese households mainly save to protect themselves against unexpected events (BdP Economic Bulletin, May 2016). Using the first wave HFCS that covers the years 2008–2011, Le Blanc et al (2016) find that for the euro area countries precautionary saving is the most commonly reported motive, followed by saving for old-age. From a cross-country view, they show that saving for home purchase and for old-age is more common in the Netherlands, Portugal, and Malta than in Germany.¹⁰

20. Based on a study of EU 15 countries over 2007–2013, Bouyon (2016) finds household saving positively affected by disposable income per capita and unemployment and negatively related to nominal housing prices. Analyzing household saving in Portugal during 1985–2009, Alves and Cardoso (2010) find that in the long-run the saving rate is positively related with the nominal interest rate and GDP growth, and negatively to the budget balance.

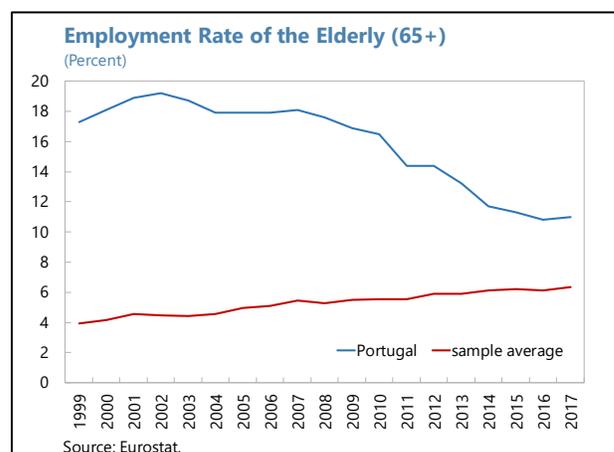
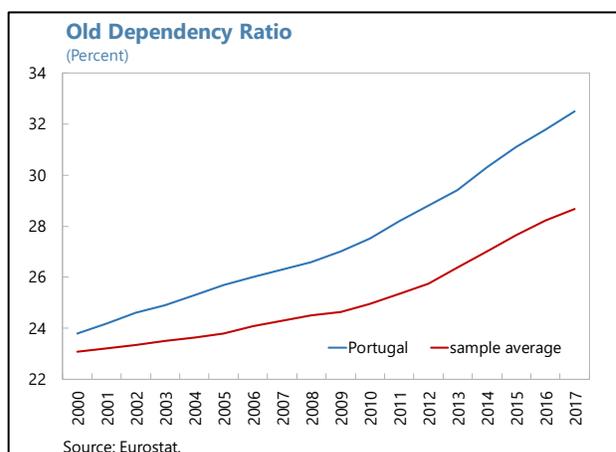
21. Inflation and real interest rate could influence the opportunity cost of savings as well as the borrowing costs. The empirical evidence is mixed, though, with some studies find a positive relationship, while others show no significant association. We find these variables not to be statistically significant in the regressions.

E. Empirical Results: Implications for Portugal

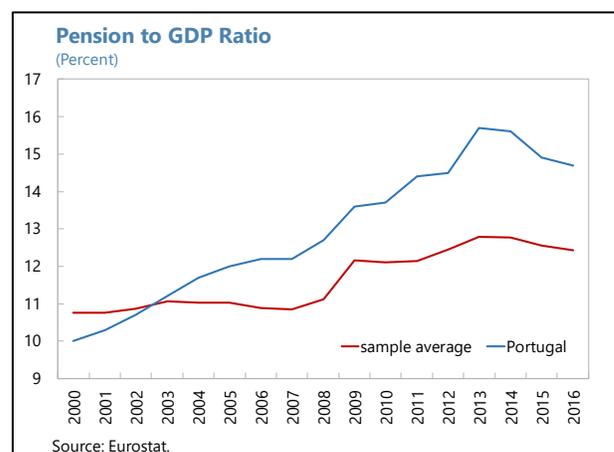
22. In this section, we examine to what extent the determinants discussed in the previous section affect the saving rate in Portugal, compared to the sample average. The strong negative contributors are disposable income per capita, financial assets to disposable income ratio, public saving to GDP, and pension to GDP. The positive contributors include employment of elderly, duration of working life, household debt, and unemployment. The country fixed effect coefficients for Portugal tend to be negative. The charts below illustrate the impact of those variables (based on the regression 1a from Table 1).

¹⁰ This finding is consistent with the homeownership ratio in these three countries being higher than in Germany.

- **Income.** Portugal has the lowest disposable income per capita among the 14 countries in the sample over the estimation period. The lower disposable income is a significant contributor to the difference between the saving rates in Portugal and the sample average.
- **Demographics.** Portugal's old age dependency ratio is one of the highest in the sample, with the gap increasing over time, while life-expectancy is below the sample average. The duration of working life and employment of the elderly is above the sample average, positively affecting the household saving rate in Portugal compared to the other countries.

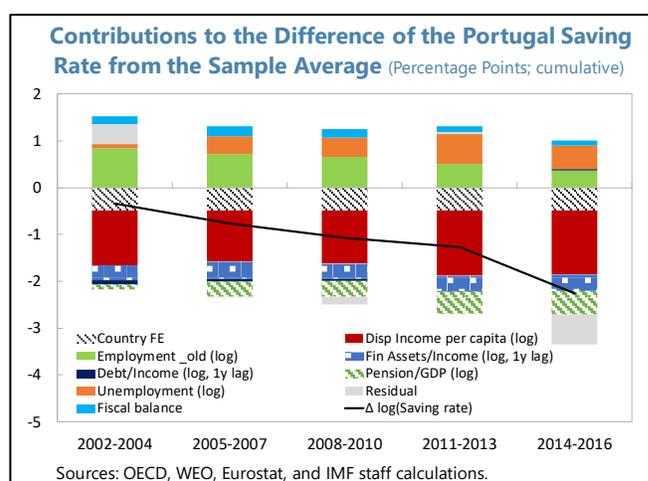
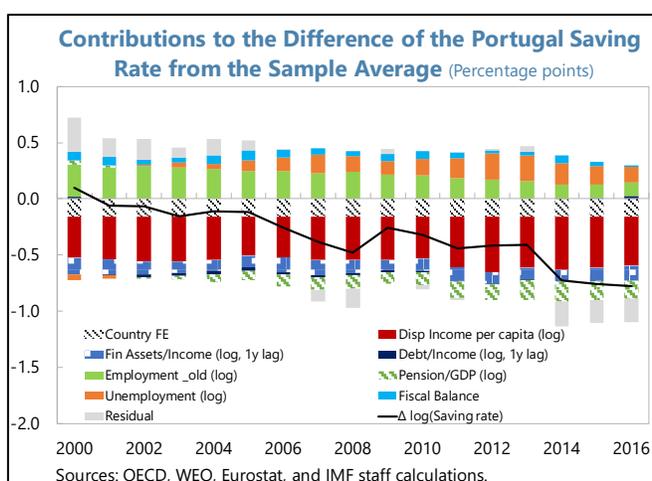


- **Fiscal variables.** Portugal has lower public saving and lower fiscal balance compared to the sample average for much of the estimation period. Portugal also has one of the most generous pensions (measured against own average earnings), and one of the highest government spending on pensions and on social protection benefits (for elderly population) compared to the sample average. Both public saving to GDP and pension to GDP explain part of the difference in saving rates between Portugal and the country sample.



- **Financial variables.** Portugal has lower financial assets and net wealth ratios to disposable income than the sample average. So along with the disposable income per capita, the financial assets ratio or the financial net wealth ratio (either lagged or contemporaneous) can explain a significant part of the difference in saving rates between Portugal and the sample average. Portugal's ratio of household debt to disposable income is slightly below the sample, even though the share of indebted households is above the European averages. As such, the household debt (lagged one-year) offsets some of the difference in the saving rates between Portugal and Europe.

- **Unemployment (“precautionary motive”).** Compared to the sample average, Portugal had lower unemployment rates in the early 2000s, with the difference reversing in mid-2000 and peaking during the crisis years; this difference has shrunk in recent years. So, unemployment in Portugal moderated the relative shortfall in household saving from 2005.
- **Country fixed effects.** Unsurprisingly, country fixed effect estimates for Portugal are negative in most specifications. The negative country fixed effect possibly captures some of the slow-changing variables such as homeownership, education, inequality, and fertility. It might also capture variables that were not included in the analysis due to data availability, such as private pension coverage. The country fixed effects could also reflect cultural and institutional differences not discussed in this paper.
 - **Homeownership** ratio is significantly higher in Portugal than in Europe, contributing to the Portugal’s relatively low saving rate. Homeownership is typically considered beneficial for the economy, as it is associated with wealth accumulation and social benefits, but it is also found to restrict labor mobility.
 - **Education.** The gap in the education level (a share of employment with upper-secondary, post-secondary, and tertiary education levels) compared to the sample average is significant but is decreasing over time.¹¹
 - **Inequality** is also above the sample average (measured by both the GINI coefficient and the income quantile share ratio), with the difference decreasing over time.
 - **Fertility** rates in Portugal are below the sample average. While households with fewer children tend to save more (the effect that is captured in some regressions), low fertility has an adverse impact on the country population growth and contributes to ageing, possibly captured in the regression analysis via old-age dependency.



¹¹ Educational attainment in Portugal remains one of the lowest in Europe, although it has been improving rapidly. The education gap is much smaller for younger cohorts.

F. Policy Options

23. Broader policies, pursued for their own reasons, could have positive side-effects on private saving, as suggested by the econometric analysis. Policies generally aimed at increasing per capita income should generate stronger household saving as a by-product. Fiscal sustainability arguments recommend containing age-related public spending over the medium-term. Reducing accrual rates in the mandatory (defined-benefit) pillar of the social security for top earners would help curb the growth in social security deficits, and as a by-product, it should also nudge these individuals to increase their discretionary saving.

24. More specific policy options could include measures to encourage private retirement saving. Policies that encourage employment of the elderly (65–74) and increase in the duration of working life, including by ensuring that unemployment schemes do not encourage early retirement, are particularly important to mitigate the impact [on saving] of the declining working age population in the longer term.

25. Promoting private pension plans would help to improve household savings. Some of the challenges facing Portuguese private pension schemes include limited development, low penetration, home bias in asset allocations, and low portability of pension schemes across the border (see the chapter on “Private Pension Schemes in Portugal: An Overview and Policy Options” in this SIP). One of the main recommendations to encourage retirement savings is gradually to move from a Taxed-Exempt-Taxed regime for employees—in which their contributions and benefits are taxed, and the investment income is exempted—to an Exempt-Exempt-Taxed regime, which is used in most European countries.

OECD recommendations:

- Tightening rules that allow early withdrawals from Retirement Savings Plans and aligning retirement age rules with the statutory retirement ages.
- Supporting the growth of occupational plans to increase coverage and encouraging steady contributions to pension plans.
- Improving funding rules for defined benefit plans by developing Portuguese mortality tables for funding ratio calculations and updating the minimum funding scenario assumptions.
- Introducing financial knowledge programs that focus on retirement income planning and decision-making.

26. According to the OECD, a more effective taxation of personal capital income could lower the tax burden on labor, providing tax-relief for middle-income households and encouraging employment. The OECD report on Household Taxation finds that the tax system in Portugal often favors the savings of households that are financially better off. While their main residence represents a large share of wealth for lower income households, the poorest households generally do not own residential property. The favorable treatment of owner-occupied housing could therefore provide a greater tax benefit to those in the middle and the top of income distribution.

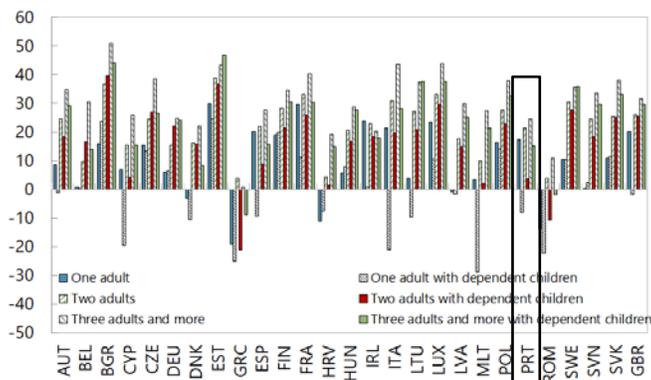
G. Conclusion

27. Portugal's household saving rate is lower than those of the average European country.

This difference can be explained by Portugal's lower disposable income, lower financial net wealth, higher old-age dependency ratio, higher government spending on pensions and on social protection benefits, and higher homeownership ratio, as suggested by a comparison against another 14 European countries conducted with the aid of panel regressions. Other factors that could underlie Portugal's low household saving are the country's lower education levels, fertility rate, and private pension coverage. Many of these factors are not amenable to simple or direct policy interventions, although some policy initiatives aimed at higher level objectives, such as promoting economic growth, could have positive side effects on household saving, our analysis shows. More specific policy options to boost household saving include measures to promote private occupational and personal plans, including some changes in taxation, and developing incentives to work past age 65.

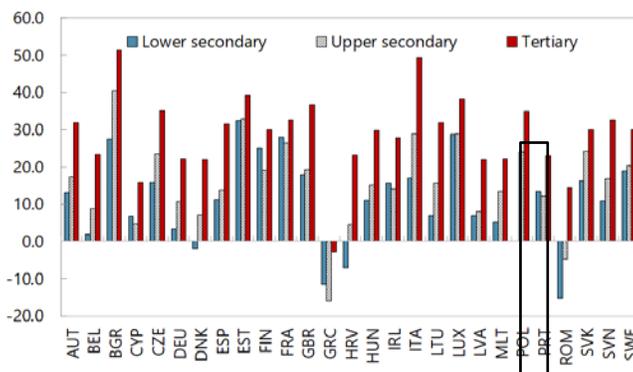
Figure 2. Micro-Data Charts

Median Saving Rate by Type of Household
(Percent)



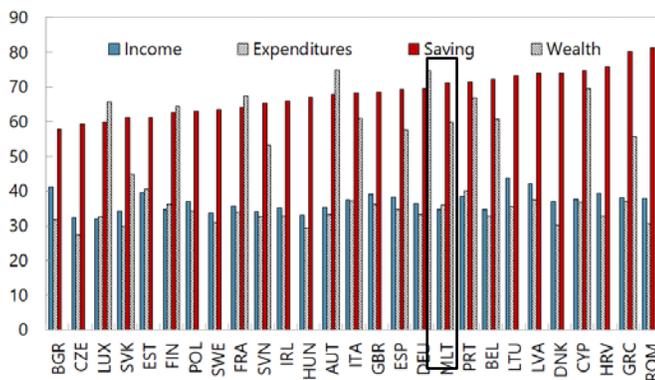
Source: Eurostat.

Median Saving Rate by Education Level
of the reference person (percent)



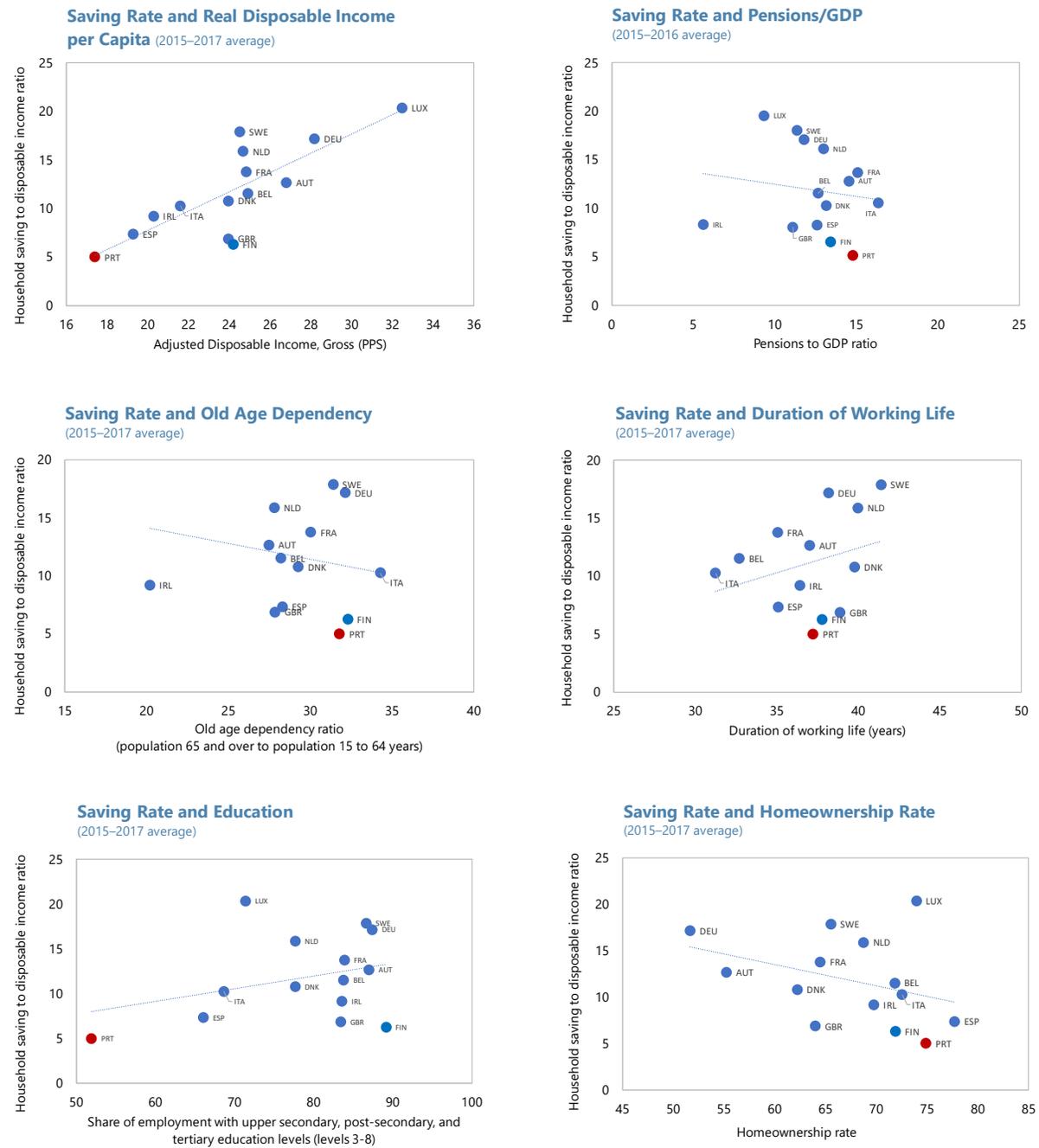
Source: Eurostat.

Gini Coefficients for Income, Savings and Wealth



Source: Eurostat.

Figure 3. Selected Determinants of Household Saving



Sources: Eurostat and OECD.

Appendix I. Panel Unit Root Test Results (Levin, Lin, and Chu Test)

Appendix Table 1

		Levin, Lin & Chu t-statistic	prob.
Saving rate, log	level, intercept	-2.47085	0.00670
Income			
Real disposable income per capita, log	level, intercept	-6.47057	0.00000
Demographics			
Old-age dependency, log	difference	-2.17877	0.01470
Life expectancy	level, intercept	-4.69734	0.00000
Duration of working life, log	level, intercept & trend	-2.40748	0.00800
Employment of people with age 65+	level, intercept & trend	-1.76284	0.03900
Fertility	level, intercept	-2.13285	0.01650
Fiscal variables			
Public saving to GDP	level	-4.27344	0.00000
Fiscal balance to GDP	level	-5.77090	0.00000
Pension to GDP, log (full sample 2000–2016)	level, intercept & trend	-1.22649	0.11000
Pension to GDP, log (2000–2015)	level, intercept & trend	-1.89939	0.02880
Replacement ratio	level, intercept	-2.46239	0.00690
Social Protection Benefits for old to GDP, log	level, intercept & trend	-4.58288	0.00000
Direct Taxes, share, log	level, intercept	-1.39151	0.08200
Financial variables			
Financial assets to income	level, intercept & trend	-3.26474	0.00050
Net financial worth to income	level, intercept & trend	-2.43269	0.00750
Household debt to income	level, intercept	-2.70432	0.00340
Homeownership rate	level	-1.77258	0.03810
Housing prices index, real, log		-1.63940	0.05060
Housing prices index, nominal, log	level, intercept	-2.17778	0.01470
Labor market and social indicators			
Unemployment	level	-2.89867	0.00190
Education	level, intercept	-5.10655	0.00000
Inequality S80/S20, log	level, intercept	-8.34901	0.00000

Sources: Eurostat, OECD, and IMF staff calculations.

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PRIVATE PENSION SCHEMES IN PORTUGAL: AN OVERVIEW AND POLICY OPTIONS¹

A. Introduction

1. While the size of the Portuguese private pension schemes is considered small, they might play an important role in diversifying retirement income and mobilizing household savings, including to fund long term investments in Portugal. The further development of private pension schemes in Portugal could help strengthen and diversify the sources of retirement income beyond the public pension system. As supplementary, funded schemes, their development could also help boost the private saving rate, contributing to provide the necessary financing for higher levels of investment in the economy. In addition, the long-term nature of their liabilities associated would enable them to make long-term investments, always taking care of observing their fiduciary responsibilities. As a result, they might support growth in Portugal by investing in activities with a long-term nurturing cycle such as infrastructure, innovation, technology, and so on.

2. This paper provides an overview of the Portuguese public and private pension schemes and of policy options for addressing some of the challenges facing private pension schemes. In particular, the paper aims at connecting certain characteristics of the Portuguese public pension system, such as high gross replacement rates, with the limited development of private pension schemes to date in Portugal. Section B briefly summarizes key characteristics of public and private pension schemes. Section C discusses some of the main issues facing Portuguese private pension schemes, including size, structure, asset allocations, home bias, and portability. Section D focuses on key policy options and initiatives at the domestic and European levels that might help Portugal address the limited development of private pension schemes, the home bias in asset allocations, and the low portability of pension schemes.

B. Pension Schemes

3. Pension schemes (or pension plans) are the backbone of European private pensions.^{2,3} They are a legally binding contract with a retirement objective. They are included in employment contracts, defined in pension scheme rules, or required by laws, with a mandatory or voluntary participation of employers and/or employees. The contracts, rules, or laws also establish key parameters—such as contribution rates, years of contribution before retirement, minimum age, and so on—needed for special tax treatment such as tax relief of contributions, investment income, payouts after retirement. In the case of public pension schemes, governments underwrite pension

¹ Valerio Crispolti and André Oliveira Santos.

² Impavido (2013) contains a detailed discussion on the nature of pension schemes, institutions, and policy issues.

³ Pension schemes and plans refer to the same concept of a legally binding contract. The former expression is common in Europe while the latter one is used in the US.

contracts and often manage the contributions, assets, and benefits. One example of public pension schemes is the mandatory state-based social security system in Portugal, which provides pension benefits to the population at large. In contrast, private pension schemes are underwritten by employers and managed by pension funds, insurance companies, banks, investment companies or employers. They include both mandatory and voluntary occupational and personal pension schemes and have a more restricted coverage, with occupational pension schemes established by single employers or industry associations, limited to employees with an employment relationship, while personal pension schemes are offered by financial institutions to individuals.

4. Public pension schemes may rely on earnings-related contributions (contributory) or general taxes and other income sources (non-contributory). Earnings-related pension schemes may provide old-age and early retirement pensions, disability, survivor, and minimum (or basic) pensions, with accumulated entitlements based on defined benefits, notional defined contribution, and/or point systems.⁴ Non-contributory pension schemes cover disability, survivor, and minimum (or basic) pensions. The latter are typically provided to individuals who are not eligible for the earnings-related scheme or have accumulated a small earnings-related pension.

5. Private pension schemes may be based on defined benefits and/or contributions. In most advanced economies, defined benefit pension schemes seek to insure longevity risk (Impavido, 2013)—the risk of living longer than expected and running out of assets—by providing employees with an equivalent lifetime annuity related to a pensionable salary, an accrual factor, and the number of years of contributions. Defined contribution pension schemes only provide participants with a cash balance at retirement based on the contributions to the scheme and the earned return on invested assets. As long as cash balances are not converted into a lifetime annuity, defined contribution pension schemes do not provide insurance against longevity risk.⁵ Investment and longevity risks are expected to be borne by members in defined contribution pension schemes while they are typically borne by sponsors in defined benefit pension schemes. As a result, defined contribution pension schemes are fully funded, where the value of assets is equivalent to the present value of the benefits. In the case of defined benefit pension schemes, if the value of the assets is lower than the present value of the benefits, they are considered partially funded. Additional and supplementary contributions from employers as sponsors may be requested, supplementary contributions from employees may be required, or benefits may be reduced to restore the defined benefit pension schemes' solvency.

6. While accumulated assets in personal pension schemes are associated with individual accounts, the protection of employees' rights over the accumulated assets in occupational pension schemes depends on the underlying financial arrangements.⁶ For instance, pension funds are financial vehicles pooling retirement savings (employee and employer contributions and investment income), investing them, and paying benefits after retirement. They can be autonomous

⁴ Taxonomy based on European Commission (2018b).

⁵ Some degree of annuitization of DB payouts is common in advanced economies.

⁶ For a list of risk factors affecting financial stability, see Financial Stability Board Regional Consultative Group (2017).

from sponsoring employers, with their assets segregated from the sponsor's balance sheets, providing protection against sponsor's bankruptcy while employees have a legal right over the assets. Non-autonomous pension schemes are not segregated, staying on sponsor's balance sheet as book reserves. In such schemes, participants have no immediate legal rights over the assets and are not protected against the sponsor's bankruptcy. An intermediate protection mechanism against the sponsor's bankruptcy is the direct sale of pension products by insurance companies to employers or employees. In this case the assets remain on the insurance companies' balance sheets, but are usually required to be separated from other assets and liabilities associated with other insurance activities.

7. Regulation and supervision of private pension schemes respond to the growing importance of private pension schemes in providing retirement income. A major crisis in private pension schemes may have a strong impact on poverty at old age, potentially leading to public intervention with budgetary assistance (Rocha, Hinz, and Gutierrez, 1999). More generally, the fiscal authorities have an interest in well-functioning private pension schemes, given that these are often encouraged with guarantees and various tax preferences. Finally, regulation and supervision aim to address risks embedded in pension schemes, including: (i) investment risk, consisting of diversifiable and market risks; (ii) agency risk, associated with misalignment of interests between pension managers and pension scheme participants; and (iii) systemic risk, arising from the pension fund industry's interconnectedness with the economy and other financial sector players. Regulations addressing these risks include rules on licensing, governance, asset segregation, information disclosure, investment, independent custodian, external audit and actuary, and cost and fees. Consumer protection is usually included in specific provisions of the pension legislation, with the goal of protecting the rights and interests of participants and pensioners.

C. Main Issues

8. The Portuguese pension system was redefined in 2007. It is based on three pillars, with a mandatory public pension scheme as the first pillar and complementary occupational and personal pension schemes as second and third pillars, respectively. Even though the Portuguese pension system has three pillars, it relies mostly on the public pension scheme as the main source of old age income, while the other two pillars remain relatively underdeveloped.

The Portuguese Public Pension Scheme

9. The Portuguese public pension scheme is mostly based on Pay-as-You-Go (PAYG) defined benefits.⁷ It consists of a scheme for private sector workers and public-sector employees enrolled since January 1, 2006 and a separate scheme (Caixa Geral de Aposentações, CGA) for civil servants who started working in the public sector before January 1, 2006. Similar to most European

⁷ Based on EC (2018) and Moreira, Azevedo, Manso, and Nicola (2019).

public pension systems, the Portuguese public scheme for private sector workers and public sector employees enrolled since January 1, 2006 has two regimes:

- An unfunded mandatory regime based on earnings. It is financed on a PAYG basis by social contributions and complemented by other budgetary revenues and transfers. When the contributory regime of the Social Security (SS) system has a surplus, a percentage of social security contributions would be transferred to the Social Security Trust Fund (FEFSS), providing a buffer to the SS treasury. Since 2017, a percentage of the real estate and corporate taxes (CIT) has been transferred to the FEFSS. The earmarked CIT will gradually increase from 0.5 percent of the CIT in 2018 to 2 percent in 2021.
- A noncontributory (unfunded) regime, subject to means-testing. It includes different instruments (social pensions, minimum pensions, the solidarity supplement for the elderly, and additional health benefits), providing means-tested benefits for the elderly individuals with contributory records that do not meet the requirements for the earnings-related regime. The solidarity supplement for the elderly has been implemented to fight old age poverty since early 2006, with a threshold close to the poverty line.

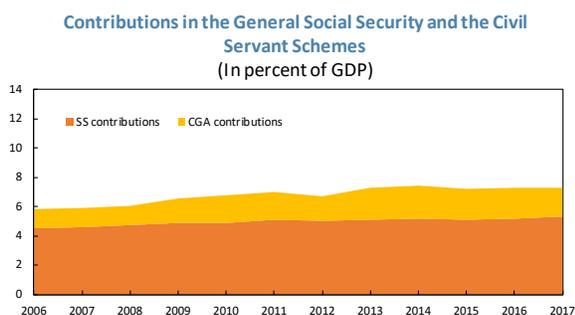
10. The Portuguese public pension scheme has gone through many reforms over the last two decades. Several reforms have reduced accrual rates and increased the number of years used to calculate pensionable contributions; increased retirement ages (including by increasing CGA retirement ages to those of the general contributory regime); equalized benefit calculations across all workers (i.e., for men and women, and the private sector and civil service); increased incentives to participate (by increasing accrual rates by years of contributions, raising penalties for early retirement, and rewarding delayed retirement); helped to fight poverty (by introducing targeted complements); and adapted the system to changing demographics (by introducing an automatic adjustment factor linked to increasing longevity). However, these reforms have also provided long transition periods, which protect current pensioners and a large group of participants while placing the adjustment burden younger cohorts. More recently, the Portuguese government has lowered the penalties for early retirement for individuals with very long careers and made several ad-hoc adjustments to very low pensions. The main changes to the system since the 2007 reform are listed in the appendix.

11. As a result of the long transition rules, the near-term effects of the reforms on the finances of the public pension system have been modest. In the near term, the reforms have helped contain the increases in pension expenditures by the SS and CGA. These peaked at 12.2 percent of GDP in 2013–14 but declined to 11.4 percent of GDP in 2017 (Figure 1). Concomitantly, employee and employer contributions reached 7.4 percent of GDP in 2014, declining slightly to 7.3 percent in 2017.⁸ However, the gap between pension expenditures and employee and employer contributions remained high at 4 percent of GDP in 2017 and was covered by other revenues such as from the VAT and central administration and European social fund transfers.

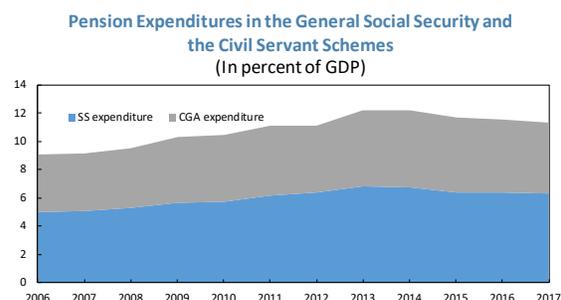
⁸ EC (2018b) projects an increase in public pensions from 13.5 percent of GDP in 2016 to 14.7 percent in 2040 and a decline after 2040 to 11.7 percent in 2070.

Behind these trends are the rising number of pensioners and the declining number of members contributing to the mandatory first-pillar public pension scheme, the reflection of an aging population. As a result, the number of pensioners per member contributing to the mandatory first-pillar public pension scheme increased from 0.6 in 2006 to 0.8 in 2016.

Figure 1. Contributions and Expenditures in General Security and Civil Servant Schemes

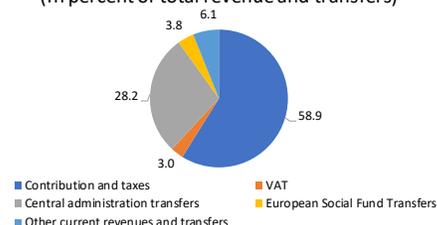


Source: OECD (2019)



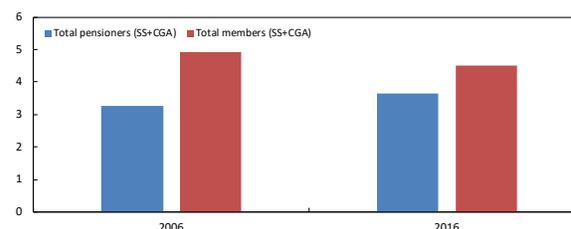
Source: OECD (2019).

Distribution of Social Security Revenues and Transfers
(In percent of total revenue and transfers)



Source: Social Security.

Number of Pensioners and Members in the Public Pension Scheme
(In millions)



Source: OECD (2019), CGA, Social Security, and staff calculations.

Private Occupational and Personal Pension Schemes

Structure and Size

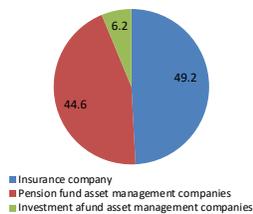
12. The Portuguese private pension industry is diverse, with different financial institutions providing and managing pension schemes (Figure 2).⁹ Data from Insurance and Pension Fund Supervision Authority (ASF) and Financial Stability Board Regional Consultative Group (FSB) data show that most Portuguese and European private pension schemes are managed and provided by pension fund management companies and insurance companies. Investment companies and other providers have a lower share of the market. Portuguese pension schemes make use of the pension and investment funds' and insurance companies' balance sheets to segregate assets from

⁹ Data on assets under management by European (excluding Portugal) pension schemes are based on the survey reported in Financial Stability Board Regional Consultative Group (2017), complemented with data for German pension schemes in 2013 from Oxera (2013).

employers' balance sheets. Portuguese pension schemes managed by both pension fund management and insurance companies are regulated under the Occupational Retirement Provision (IORP) and Solvency II Directives, respectively, and supervised by the Supervisory Authority of Insurance and Pension Funds. The sale of open pension funds in which employees enroll in an investment fund sold in the market by an investment fund management company is supervised by the Portuguese Securities Exchange Commission. The regulatory and supervisory frameworks in Europe are also diverse, with different financial institutions being under different applicable EU or national laws and regulatory and supervisory frameworks. Portuguese pension schemes are about half occupational and half personal while European private pension schemes are more than 50 percent occupational. Finally, Portuguese pension schemes are more than half based on defined contributions while European pension schemes are more than half based on defined benefits.

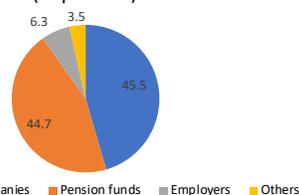
Figure 2. Private Occupational and Personal Pension Schemes in Portugal and Europe

Portugal: Assets Under Management by Type of Pension Providers, 2017 ^{1/}
(In percent)



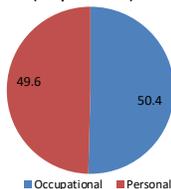
Source: Autoridade de Supervisão de Seguros e Fundos de Pensão (2018b).
1/ Includes health benefits.

Assets under Management by Type of Providers (excl. Portugal), 2014
(In percent)



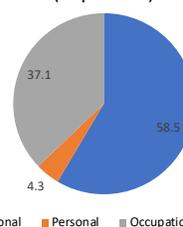
Source: Financial Stability Board Regional Consultative Group (2017), complemented with Oxera (2013) for data related to Germany.

Portugal: Assets Under Management in Occupational and Personal Pension Schemes, 2017 ^{1/}
(In percent)



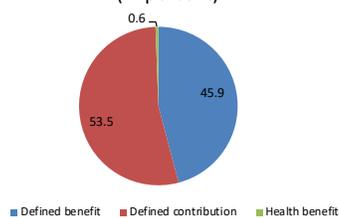
Source: Autoridade de Supervisão de Seguros e Fundos de Pensão (2018b).
1/ Includes health benefits.

EU: Assets under Management in Occupational and Personal Pension Schemes (excl. Portugal), 2014
(In percent)



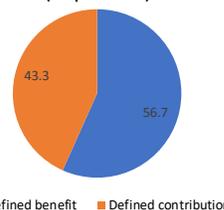
Source: Financial Stability Board Regional Consultative Group (2017), complemented with Oxera (2013) for data related to Germany.

Portugal: Assets Under Management in Defined Benefit and Contribution Pension and Post-Retirement Health Benefit Schemes, 2017 ^{1/}
(In percent)



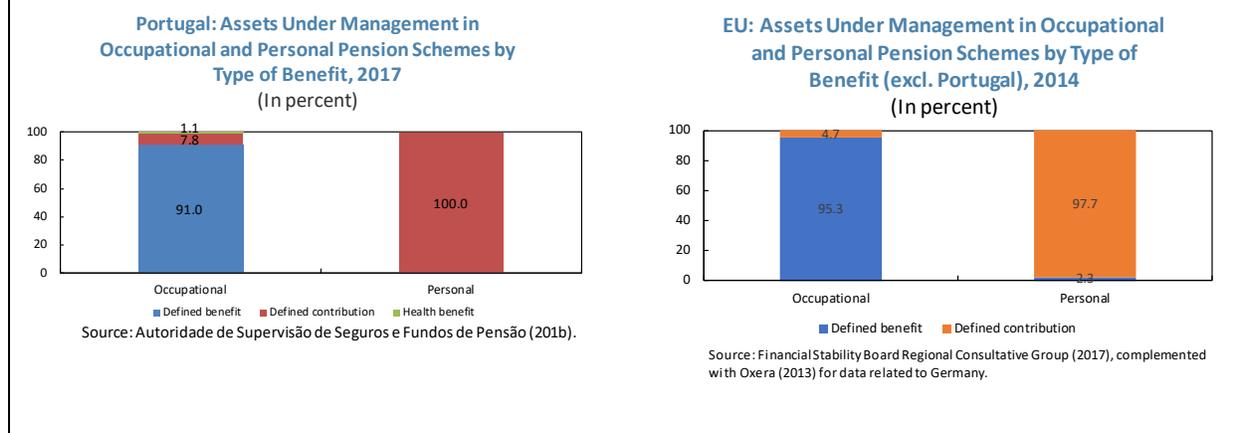
Source: Autoridade de Supervisão de Seguros e Fundos de Pensão (2018b).
1/ Includes occupational and personal pension schemes.

EU: Assets under Management in Defined Benefit and Contribution Pension Schemes (excl. Portugal), 2014
(In percent)



Source: Financial Stability Board Regional Consultative Group (2017), complemented with Oxera (2013) for data related to Germany.

Figure 2. Private Occupational and Personal Pension Schemes in Portugal and Europe (concluded)

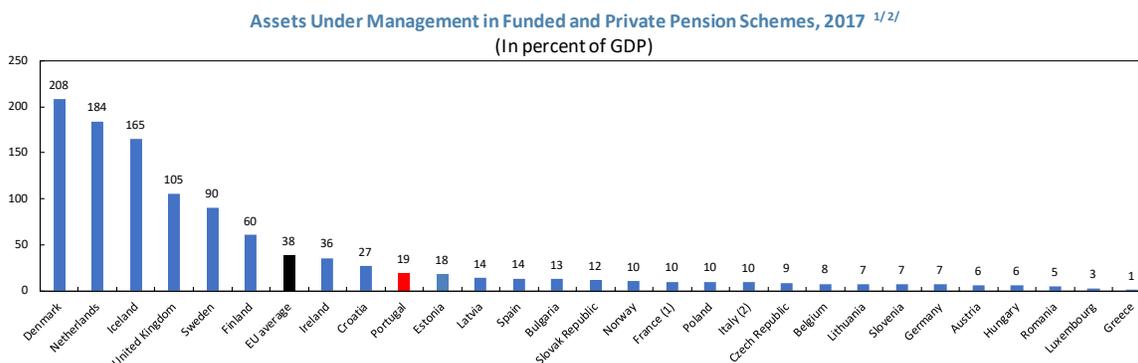


13. Assets under management in Portuguese private pension schemes are relatively low by European standards. Assets under management in Portuguese funded and private pension schemes stood at 19 percent of GDP in 2017. Meanwhile, assets under management in European funded and private pension schemes represented 41 percent of GDP on average, with the largest European funded and private pension schemes located in Denmark, the Netherlands, Iceland, United Kingdom (Figure 3). Looking across countries, the size of assets under management in occupational and personal pension schemes is inversely related to the importance of the mandatory state-based pension system. In particular, the low level of assets under management in the Portuguese occupational and personal pension schemes might be associated with role of the mandatory state-based pension system as the main source of retirement income in Portugal, which in turn derives from this scheme's high gross replacement rate.¹⁰ In contrast, the larger volume of assets under management in funded and private pension schemes in countries such as Denmark, Iceland, and the Netherlands might be related to the provision of universal basic pensions under their first pillars, which results in low gross replacement rates in those countries' public pensions schemes.

14. Tax incentives associated employers' and employees' contributions also play a role in encouraging private pension schemes. Most European countries use some variation of the Exempt-Exempt-Taxed tax regime to foster occupational and personal pension schemes. For example, in the Netherlands and the UK, with large funded and private pension fund schemes, contributions are fully or partially deductible from an employee's tax income, annual investment income is partially or fully tax exempted, and pension benefits are taxed. OECD (2018b) includes Portugal among the countries that rely mostly on a variation of the Taxed-Exempt-Taxed tax regime in which contributions to private pensions are not fully deductible from employees' taxable income, investment income is exempted, and benefits are taxed.

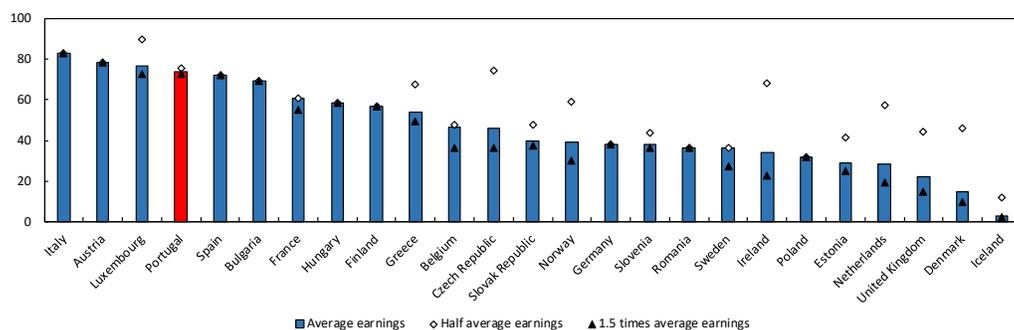
¹⁰ Scharfstein (2018) also found a negative relationship between gross replacement rates in public pension schemes and total asset pensions as a percentage of GDP.

Figure 3. Public and Private Pension Indicators in Portugal and in Europe



Sources: Organization for Economic Cooperation and Development (2018a) and Autoridade de Supervisão de Seguros e de Fundos de Pensões (2018b).
 1/ Data on PERCO plans for 2017 come from the French Asset Management Association (AFG) and refer to end 2017. Data on pension insurance contracts for 2017 refer to 2016 instead.
 2/ Net technical provisions are taken as a proxy of pension assets in book reserves.

Gross Pension Replacement Rates in Public Pension Schemes
(In percent of individual earnings)



Source: OECD (2017)

Relationship Between Size of Private Pension Schemes and Gross Replacement Rates for Four-time Average Earning Employees, 2017

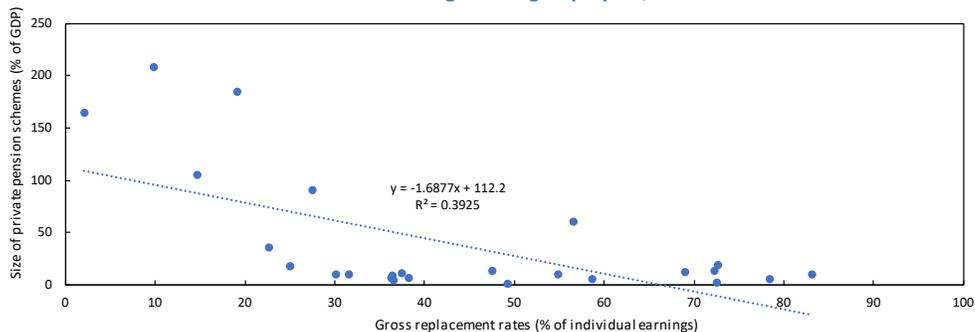
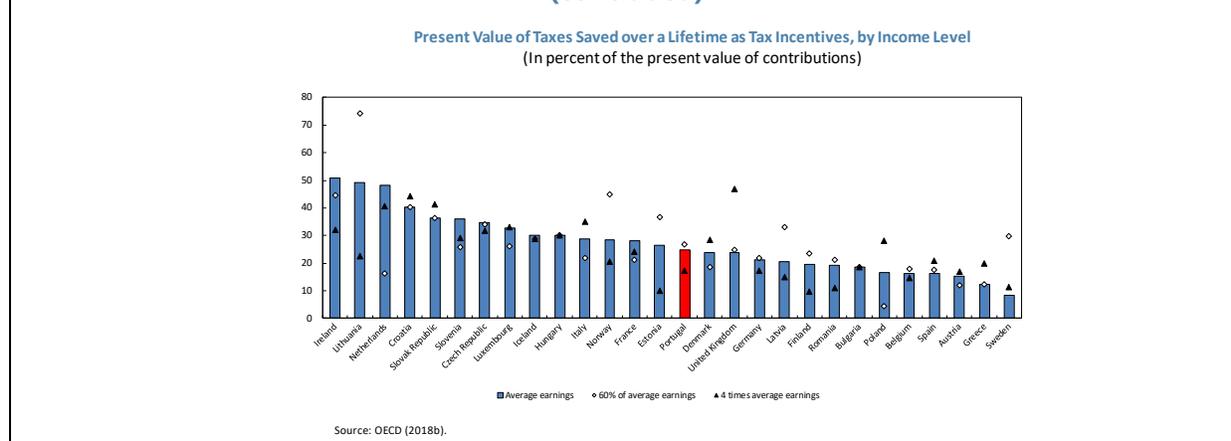


Figure 3. Public and Private Pension Indicators in Portugal and in Europe (concluded)



Asset Allocations and Home Bias

15. Asset allocations and prudential limits for Portuguese occupational pension funds are similar to those in other EU Member States. The 2003 Institutions for Occupational Retirement Provision (IORP) directive allowed Member States to lay down detailed investment rules. Portuguese prudential regulations set asset class-investment limits according to the type of pension fund, and the financial instruments’ liquidity, currency, issuer, listing requirements, and use in repo operations. Most Member States also have similar criteria, with low asset class-investment limits for traded securities issued in OECD countries. Data by the European Insurance and Occupational Pensions Authority indicate that, overall, asset allocations in Portuguese and European occupational pension funds have been stable, with investments in equity and debt representing 72 percent and 76 percent of their assets under management, respectively, on average since 2010, but with Portugal having a larger share of investment in equity and debt through Undertakings for Collective Investments in Transferable Securities (UCITS, Figure 4).¹¹ The share of equity in the assets under management has remained high at 31 percent on average in European occupational pension funds but lower at 10 percent in Portuguese occupational pension funds since 2010. In particular, defined benefit pension funds’ higher asset allocation to bonds may be the result of liability-matching strategies—alike in life-cycling strategies—in which pension funds rebalance their portfolio holdings over time to increase the weight of fixed-income securities as the average age of participants increases.

16. Home bias seems prevalent in asset allocations in Portuguese and European occupational pension schemes, reflecting both economic and non-economic factors. The Mercer European Asset Allocation Survey shows that asset allocations in Portuguese and European

¹¹ Data from the Autoridade de Supervisão de Seguros e Fundos de Pensões (ASF) on pension fund asset allocations do not provide a breakdown of UCITS by underlying assets, in particular equity and debt.

occupational pension schemes favor domestic over foreign assets.¹² Except in Belgian occupational pension schemes, the domestic equity asset allocations in Portuguese and other European occupational pension schemes are higher than the share of their listed domestic companies in world capitalization. Moreover, Figure 4 suggests that Portugal has strong home bias and preference for fixed income securities. The extent of home bias in pension schemes' asset allocations may be related to economic and non-economic factors such as openness to trade, economic development, institutional quality, investor protection, depth of capital markets, and available securities (Darvas and Schoenmaker, 2017). While Portugal has no specific prudential foreign asset limits, these limits are still important for investments outside Europe by other Member States' pension funds. These limits make a distinction between OECD and non-OECD investments by imposing higher limits on non-OECD securities. The heterogeneity of tax regimes across Europe also hinders pension funds' cross-border asset allocations, contributing to the home bias. The non-mutual recognition of the pension fund status across Member States make resident pension funds subject to withholding taxes on their cross-border investments while resident pension funds are tax-exempted. This represents a cost to nonresident pension funds. As they are often tax exempted in their home country, the tax credit arising from the withholding tax levied by other Member States cannot be used to reduce any tax liability in their home Member State (Patzner, Nagler, and Mann, 2018). Finally, the home bias in asset allocations by defined benefit pension schemes may also be related to board governance. Recent research has found that the home bias is smaller for Member States with larger pension funds with professional board and staff (Darvas and Schoenmaker, 2017). This is consistent with explanations for the home bias based on information asymmetries and behavioral biases (Sercu and Vanpee, 2012).

¹² Neither ASF nor EIOPA data on pension fund asset allocations provide a geographical breakdown of UCITS by underlying assets, in particular foreign and domestic equity and debt.

Figure 4. Asset Composition and Home Bias in Portuguese and European Occupational Pension Schemes

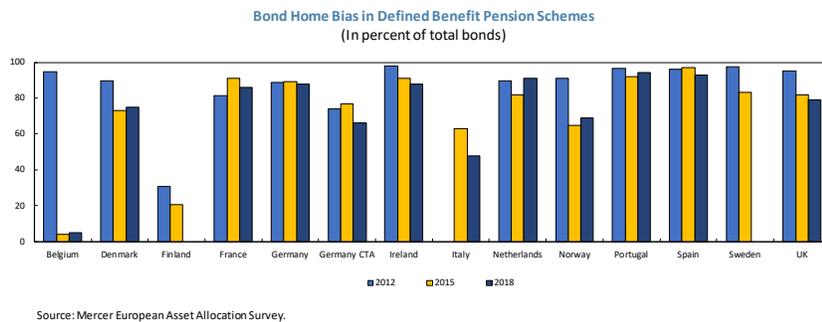
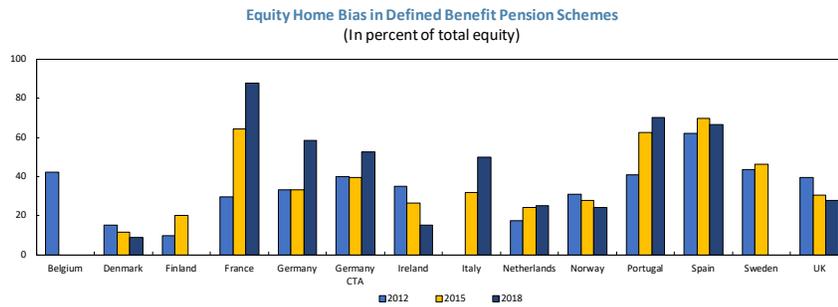
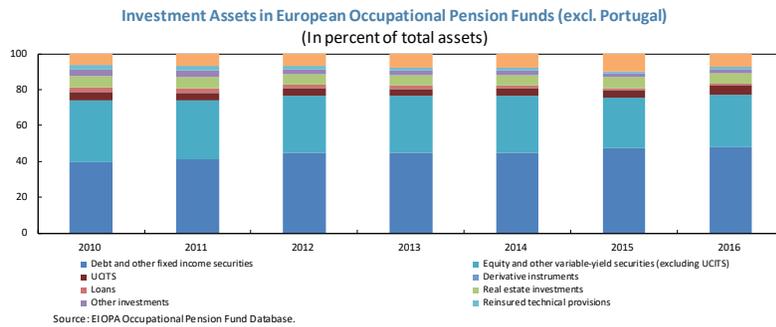
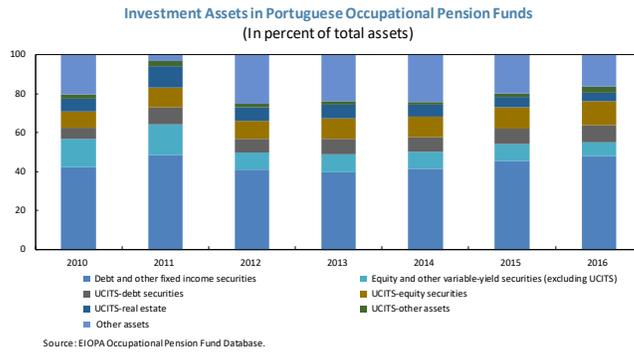
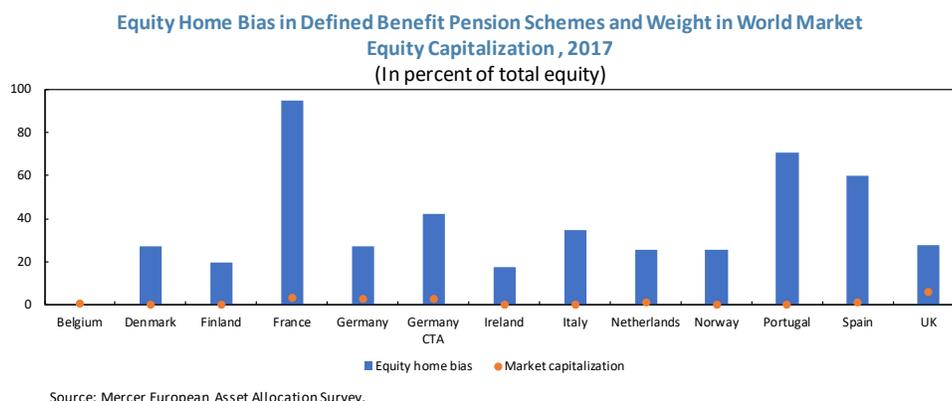


Figure 4. Asset Composition and Home Bias in Portuguese and European Occupational Pension Schemes (concluded)



Portability

17. The portability of pension schemes across Member States has not been completely achieved in Europe. Portability of accumulated pension contributions is essential for labor mobility and industry size. Pension schemes contain portability provisions, which should reflect parameters set in national laws and regulations. Overall, employees in Member States can preserve their accumulated contributions in their pension schemes or take them to another pension scheme in the same Member State upon termination of employment before retirement. However, there exists no cross-border portability. The EU 2014 directive on minimum requirements for enhancing worker mobility between Member States focused on improving the acquisition and preservation of supplementary pension rights but had no provisions on cross-border portability. This hinders labor mobility across Member States.

D. Policies

18. Additional policy measures might help Portugal deepen the penetration of their private pension schemes and increase household savings. Moderating the high accrual rates for the highest wage earners under the public pension scheme and providing incentives to save through private pension schemes would encourage their development. Moreover, the EC has launched policy initiatives to confront the challenges arising from limited development of pension schemes, home bias, low portability, and so on. The initiatives include an improved version of IORP, a new Directive on a Pan-European Personal Pension Product (PEPP), and a new code of conduct on withholding tax procedures.

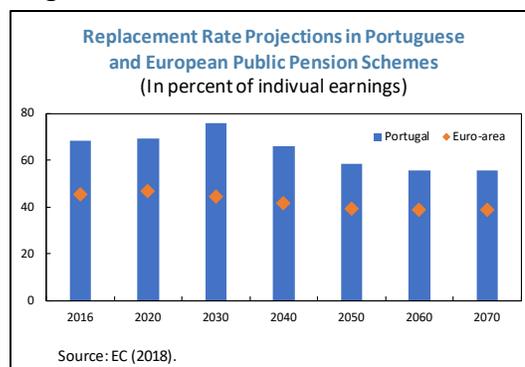
Public Pension Scheme

19. Gross replacement rates in the Portuguese public pension schemes are among the highest in Europe. In Portugal, the 2007 pension reform designated end-2001 as the enrollment

cut-off date for a differentiation in pension benefits.

Employees who enrolled and started to contribute to the public pension scheme after January 1, 2002 would have their pension entitlements based on the full working life years (with at least 20 years of contribution) and accrual rates that are differentiated according to wage earnings, with higher wage earners being subject to progressive accrual bracket rates—ranging from 2.3 percent for the lowest bracket to 2 percent for the highest bracket—in the conversion of their wage into

pension benefits. With the slightly progressive accrual rates, gross replacement rates for low, middle, and high wage earners with a full career who enrolled and started to contribute after January 1, 2002 do not differ substantially.



20. However, employees who enrolled and started to contribute before December 31, 2001 would face a long transition in term of pension entitlements based on the retirement date.

- Those retiring before December 31, 2016 had their pension entitlements based in part on the best 10 years of earnings out of the last 15 years before December 31, 2006 and in another part on pension entitlements as if they had enrolled and started to contributed after January 1, 2002, with the corresponding weights determined, respectively, by the number of working years before December 31, 2006 and after January 1, 2007 as a percentage of the total number of working years.
- Those retiring after January 1, 2017 would have their pension entitlements based in part on the best 10 years of earnings out of the last 15 years before December 31, 2001 and in another part on pension entitlements as if they had enrolled and started to contributed after January 1, 2002, with the corresponding weights determined, respectively, by the number of working years before December 31, 2001 and after January 1, 2002 as a percentage of the total number of working years.

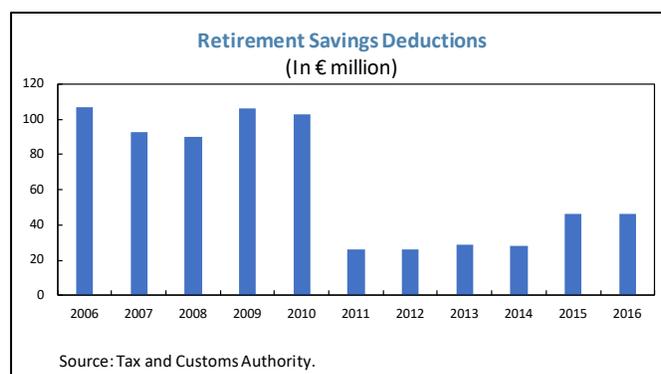
As a result, the older cohorts have been favored in the transition in terms of benefit generosity while the younger cohorts will face the burden of adjustment in pension entitlements. *In line with past policy device, Staff would recommend the authorities to make further efforts over the medium term to curb the growth in the social security deficit and enhance the equity of the pension system by reducing accrual rates for the largest earning brackets to make average gross replacement rates in the public*

*pension schemes gradually converge to EU average levels.*¹³ Amaglobeli, Chai, Dala-Norris, Dybczak, Soto, and Tieman (2019) suggest that generous public pension schemes have a negative impact on private savings as pensioners rely less on their private savings when entitled to generous public pension schemes. A reduction of accrual rates for the higher wage earners might help reduce the generosity of the public pension schemes.

Fiscal Incentives for Pension Contributions

21. Portugal has reduced the tax incentives for contributions to private pension schemes.

Fiscal incentives for private pension schemes declined in 2011 when measures to raise tax revenues included the reduction of items eligible for tax deductions and the convergence of personal income tax deductions applied to pensions and labor income. As of end-March 2018, contributions to private pension schemes in Portugal by employees are only 20 percent deductible from employee's tax liabilities up to a cap that declines with the employee age while employer's contributions are tax exempted for employees and tax-deductible for employers.¹⁴ As a result, low tax incentives for contributions to private pension schemes do not encourage retirement savings either.



*Authorities should consider an increase in tax incentives to encourage retirement savings, slowly moving from a Taxed-Exempt-Taxed tax regime for employees—in which their contributions and benefits are taxed and investment income is exempted—to the Exempt-Exempt-Taxed tax regime that is common in most European countries.*¹⁵ The latter tax regime—an expenditure income-tax regime—encourages long-term savings by taxing consumption while the former also taxes income regardless of the source.

IORP II Directive

22. In December 2016, the EU adopted an improved version of the 2003 IORP Directive.

The 2003 Directive set out rules governing the activities and supervision of occupational pension funds in Member States. The new IORP II Directive is a welcome step to strengthen the pension fund legal, regulatory, and supervisory framework in Europe. It set common standards to: (i) ensure that occupational pensions are sound and better protect employees and pensioners; (ii) better inform

¹³ OECD (2019) recommends that, in the benefit calculation, Portugal should update past wages with wage growth rather than a combination of price inflation and wage growth while lowering accrual rates.

¹⁴ 20 percent of employee contributions to *private* pension schemes are tax deductible up to maximum of €400 per year if the employee is less than 35 years old, €350 if the employee is more than 35 years old but less than 50 years old, and €300 if the employee is less than 50 years old.

¹⁵ OECD (2018b) emphasizes that the deductions of pension contributions from taxable income encourage contributions to pension schemes by middle-to-high income earners because they are responsive to the upfront tax relief on contributions that help reduce their tax liabilities.

employees and pensioners about their entitlements; (iii) remove obstacles faced by occupational pension funds operating across borders; (iv) encourage occupational pension funds to invest long-term in economic activities that enhance growth, environment and employment. Though the deadline for EU countries to transpose the IORP II Directive into their national law was January 13, 2019, Portugal has not done it as of mid-February 2019. *Staff encourage the Portuguese authorities to transpose the IORP II Directive into national law without further delay, so that employees, employers, and pension funds can fully reap the benefits of larger pan-European pension funds.*

23. While the IORP II Directive aims at encouraging the expansion of pan-European pension funds, it reaffirms that the Directive is without detriment to the role of employers and employees in managing pension funds. As a result, the representation requirements on boards of trustees of occupational pension funds by national laws—including in Portugal—have a precedent to any provision in the Directive, and will continue to hinder the expansion of pan-European occupational pension funds. This arises because the many national laws mandating employee and/or employer representation on the board of national pension schemes managed by pan-European pension funds make their management complex and costly. Finally, trustees do not need to abide individually but only collectively by fit and proper requirements—that is, only the board of trustees as an entity is required to be knowledgeable and experienced. This may hinder the performance of pension schemes and jeopardize the new risk management, internal audit, and actuarial functions, especially if individual qualifications are not adequate to supervise them in the many functional committees on the board. *The authorities should broaden the scope of the fit and proper rules by requiring all board members individually to be fit and proper.*

Pan-European Personal Pension (PEPP) Product

24. The PEPP is a voluntary personal pension scheme based on DC that will be offered across Member States, complementing the existing national pension schemes under the first and second pillars. The initial draft PEPP proposal was made in June 2017, and awaits European Council decisions after being passed in the European Parliament in April 2019. The PEPP will consist of sub-accounts complying with specific national tax requirements. It will also contain a portability service that will enable employees to continue contributing to their PEPPs when moving to another Member State, facilitating labor mobility. Each employee will be offered basic and alternative investment options, accompanied by personalized advisory services that consider employee's financial expertise, situation, and risk preferences. The basic option will be safe and cost effective, with a risk mitigation technique consistent with employees recovering the principal. EIOPA will authorize the PEPP to be distributed across Member States by a provider that has been previously licensed according to existing EU rules.

25. The success of pan-European personal pension schemes hinges on the same tax treatment as provided to national personal pension schemes. The EC recommendation on the tax treatment of personal pension products encourages Member States to grant the same tax treatment for investments in pan-European personal pension schemes as they grant to their national schemes. These include tax relief for contributions paid to personal pension schemes, investment income, and payouts. *Over the long-term, the authorities should extend the tax relief provided to*

national personal pension schemes to pan-European personal pension schemes even when the latter does not fully qualify under the national criteria for tax relief.

Withholding Taxes

26. The European Commission has published a code conduct to improve the efficiency of withholding tax procedures and is analyzing tax obstacles to cross-border investment by pension funds and life insurers. The code of conduct consists of principles on withholding tax relief, encouraging Member States to adopt relief-at-source systems and to establish standardized refund procedures. *Portugal should promptly adopt the code of conduct, which would benefit other Member-State pension funds by expediting the procedures for tax relief.* However, the study on tax obstacles to cross-border investment by pension funds and life insurance companies is still not publicly available. *Portugal and other Member States should mutually recognize their pension funds by providing other Member-State pension funds with the same tax exemption on their cross-border investments as provided to their national pension funds.* This would align Member States' tax regimes with Articles 49 and 63 of the 2007 Treaty of the Functioning of the European Union that focus on the freedom of establishment and free movement of capital, respectively, and that have been reaffirmed by the Court of Justice of the European Union in its recent rulings on withholding taxes.

E. Conclusion

27. This paper provides an overview of the Portuguese public and private pension schemes and of the policy initiatives to address challenges facing private pension schemes. Challenges facing Portuguese private pension schemes include limited development, low penetration, home bias in asset allocations, and low portability of pension schemes across border. In particular, the paper notes the link between the high gross replacement rates of the Portuguese public pension system and the relatively limited development of private pension schemes in Portugal. Staff has been recommending enhancing the equity of the public pension system and curbing the growth of the social security deficits by reducing the accrual rates for the largest earning brackets over the medium term to make average gross replacement rates in the Portuguese mandatory pension schemes gradually converge to EU average levels. This would have the collateral effect of encouraging higher earners to increase their discretionary saving through private pension schemes. Moreover, consideration should also be given to an increase in tax incentives to encourage retirement savings, gradually moving from a Taxed-Exempt-Taxed tax regime for employees—in which their contributions and benefits are taxed and investment income is exempted—to the Exempt-Exempt-Taxed tax regime that is common in most European countries. Key policy initiatives at European level to address the limited development of private pension schemes include the IORP II and PEPP. Their transposition into national law will allow employees, employers, and pension funds to fully reap the benefits of larger domestic and pan-European pension schemes.

Appendix I. The 2007 Pension Reform and the Recent Measures

In 2007, the Portuguese general pension scheme was reformed by Law 4/2007 and Decree-Law 187/2007 to contain budgetary pressures and ensure the long-term sustainability of the SS. The main measures introduced were:

- The introduction of a “sustainability factor” in the pension formula, which is a demographic adjustment factor that links the legal retirement age to life expectancy at the time of retirement, and reduces pension benefits for early retirement in line with improvements in life expectancy (i.e., the pension was reduced by the sustainability factor and the distance between the actual and legal retirement age times 0.5 percent). At the same time, a bonus to retire after 65 years of age was introduced.
- The pension formula was changed. Starting in 2007, pension levels are calculated on the basis of a reference remuneration that would also consider the earnings of the entire career. Since 1994, pension levels were calculated on the basis of the average earnings of the ten best years of the final fifteen.
- The rule for indexing the benefits after retirement was changed. Before the reform all benefits were adjusted to inflation; after the reform, only pensions below a certain level determined by the “Índice de Apoios Sociais” (IAS) were protected against inflation.

More recent measures include:

- In 2011, pensions above €5,000 per month were subjected to an “extraordinary solidarity contribution.” This contribution was then extended to lower pensions and increased progressively from 3.5 percent for pensions above €1,000 to a marginal rate of 40 percent for pensions exceeding €7,126. Pensioners with the lowest pensions were not affected by any pension reductions. In addition, the pension update regime was suspended.
- In mid-2012, early retirement was suspended.
- In 2013, the sustainability factor was redesigned by changing the reference year of the average life expectancy at 65 from 2006 to 2000. Since 2014, the sustainability factor has only been applied only to early-retirement pensions. At the same time, the “normal retirement age” is linked to life expectancy gains at 65 years of age (Decree-law 67-E/2013).
- In 2015, early retirement at the age of 60 or higher was reinstated with penalties (i.e., sustainability factor and distance between actual and legal retirement age).
- In March 2016, the new government partially suspended the new early retirement regime at the age of 60 or higher to reassess the applied penalties.

- In 2017, Decree-Laws 3/2017 and 4/2017 expanded the convergence initiated in 2007 between the CGA and the SS system by standardizing the assignment requirements and calculation rules for retirement and old-age pensions of the police and military personnel covered by the CGA or the SS. In addition, Decree-Law 126-B/2017 further encouraged convergence by requiring contributory periods to be based on the entire contribution career, regardless of the scheme.
- In August 2017, an extraordinary uprating was introduced for pensions equal or lower than €631.98 per month (1.5 times the social support index) to offset the purchase power loss due to the suspension of the pension uprate regime during 2011–15 and to increase the income of pensioners with lower pensions.
- In October 2017, the early-retirement regime was modified to benefit very long careers (at least 60 years old and 48 years or more of contributions, or at least 60 years old with 46 years or more of contributions and started paying contributions before the age of 15). These workers will not be subject to any penalty, including no application of the sustainability factor.
- In August 2018, an additional extraordinary increase for low pensions (1.5 times the social support index) was granted.
- In 2018, the extraordinary solidarity contribution was eliminated.
- In 2019, the authorities further relaxed the early retirement rules for very long careers by eliminating the sustainability factor penalty for early retirement of citizens with 60 years of age and at least 40 years of contributions to the SS or the CGA. These individuals get a bonus of four months less than the normal retirement age per each additional year of contributions and they can retire at their “personal retirement age” without any financial penalty. If they retire before this “personal” age they have a penalty of 0.5 per month of anticipation. (DL 118/2018, entry in force in 2019 (with a transitional period from January to September applying only to those with at least 63 years of age).

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