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Does the Pan-European Personal Pension Product Suit All? Its Perspectives in the EU Member and Candidate Countries

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Abstract

This article aims to verify the development prospects of the Pan-European Personal Pension Product (PEPP) in the European Union (EU). It focuses on the relationship between the quality of domestic public pension schemes and household savings for old age in the EU member and candidate countries. The study was conducted in two stages. The first stage examined the interrelationship between public pension schemes and household savings based on Pearson's correlation coefficients. In the second stage, sub-samples of countries with high and low-quality public pension schemes were identified using hierarchical cluster analysis. The results showed significant links between households' obligatory and voluntary saving for retirement in both samples. However, the study recognised the internal diversity of countries in terms of households'

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preferences for the types of financial assets. Based on these findings, conclusions about the development potential of PEPP are drawn. The best prospects are identified for Croatia, Cyprus, France, Greece, Hungary, Poland, Portugal, Romania, Slovenia, Spain, and Turkey. In most of these countries (except for France, Hungary, Romania, and Spain), the PEPP could serve as an alternative to household liquid assets. However, in Croatia, France and Italy, it was recognised as competing with existing domestic retirement and life insurance products, which may negatively impact its development. This is the first comprehensive study of the prospects of PEPP in a large group of countries. The results provide socially essential knowledge as they address the role of private savings in supplementing households' future income from public pension schemes, considering the availability of a new product such as PEPP.

Keywords: Pan-European Personal Pension Product, public pension schemes, saving for old age, household, retirement

JEL: D14, H55, J32

Introduction

According to the Charter of Fundamental Rights of the EU (2012), pensions should ensure a dignified and independent life for the elderly, as they are the main source of their income. In the member states, a significant proportion of these benefits come from public schemes, which are shaped by a variety of factors, including economic, social, demographic, cultural, political or historical.

The specific role of pensions draws attention to the quality of public pension schemes (Mikulec 2010; Allianz 2020; Mercer 2021). However, the ongoing demographic changes in the European Union (EU) negatively influence the adequacy of the benefits relative to the cost of living. For this reason, particular importance is attached to households' allocation of savings to private pension products. The dysfunctionality of the internal market for these products means that, in some EU countries, households hold excess liquid financial assets, such as cash and bank deposits, which are thus of low yields and changeable purpose (Regulation (EU) 2019/1238 of the European Parliament and of the Council 2019; Korzeniowska 2021).

In 2019, the European Parliament and the Council responded to demographic concerns by regulating voluntary pension schemes across the EU with the introduction of the Pan-European Personal Pension Product (PEPP). The transparency of its terms is intended to make it easier for consumers to invest for their old age in the long term. In turn, the limited possibility of early redemption of the PEPP is expected to ensure that its income will effectively complement pensions from public schemes (Regulation (EU) 2019/1238 of the European Parliament and of the Council 2019). Due to the mobility of EU citizens, the ease of transferring this product between countries has been ensured.

The aim of this study is to assess the validity of the PEPP as a universal solution to ensure a dignified and independent life for the elderly throughout the EU. In particular, it aims to assess the development prospects of PEPP in individual countries, considering the quality of their public pension schemes and the existing activity of households in accumulating savings for old age. The long-term social consequences of pension provision mean that not only EU countries but also Turkey, with its status as a candidate country, are included in the study. Its inclusion also makes it possible to verify how and to what extent its situation differs from that of the member states. The following research questions will be answered.

1. In the sample of countries, is saving for old age related to the quality of public pension schemes?
2. Which countries show similarities in terms of the quality of public pension schemes and household retirement saving activities, including preferred financial assets?
3. In which countries are the quality of public pension schemes and household attitudes towards saving for old age conducive to the development of PEPP? In particular, in which countries is it likely to become a product:
   - that is an alternative to liquid financial assets held by households?
   - that competes with domestic retirement and life insurance products already owned by households?

The validity and timeliness of the research problem we address are confirmed by public debates on the right policy mix and the roles of public and private pension providers. The paper contributes to the nascent literature on PEPP. The studies so far have mainly focused on the organisational and legal aspects of PEPP (Borg, Minto, and van Meerten 2019; Dieleman 2020; Butler 2021; Bär 2022), while those related to the role of voluntary pension funds and the readiness to implement PEPP were limited to selected countries (Hadad, Dimitrov, and Stoilova-Nikolova 2022). To the best of our knowledge, this study is the first to comprehensively investigate the quality of existing pension systems and verify the usefulness of PEPP in improving the financial situation of seniors in a large group of European countries, including not only the EU but also Turkey, which has candidate status. Thus, the results provide socially important knowledge as they address the role of private savings in supplementing households' future income from public pension schemes, given the availability of a new product such as PEPP.

The article consists of four parts. Section 2 contains a literature review focused on the quality of public pension schemes and their relationship with household savings. Section 3 presents the method and data applied. Section 4 contains the results of the study related to the correlation between the quality of public pension schemes and household saving activity in the countries studied, as well as their grouping into subsets due to specific conditions in the above area. Finally, conclusions are drawn.

Theoretical background & literature review

The theoretical background regarding household savings dates back to Keynes (1936), who proposed a consumption function that implies that households save a constant proportion of their income (Browning and Lusardi 1996). Subsequent researchers have expanded the theory of savings. One of the best-regarded theories was developed by Modigliani and Brumberg (1954). According to their "Life Cycle Hypothesis", the main objective of saving is to build a buffer against the significant variations in household incomes during their life. This hypothesis also argues that household provisions must be proportional to their basic earning capacities (Modigliani and Brumberg 1954). Another theory that describes household saving and consumption patterns is Friedman's (1957) "Permanent Income Hypothesis". It argues that individuals consume a portion of their permanent income in each period, resulting in the equivalence of the average and marginal propensity to consume (Meghir 2004). There are also theoretical approaches that support the notion that government saving is a substitute for household saving. One strand of the literature bases its discussion on crowding out the effect of government savings on household savings. Another strand is gathered around the "Ricardian Equivalence Hypothesis", which argues that households see themselves as responsible for government debt, so they adjust their savings to reflect government saving or dissaving (Cohn and Kolluri 2003).

Based on those theories, there have been a significant number of empirical studies analysing the determinants of household savings in different contexts. Other studies have focused on the effects of social security and pension systems on household savings. One early study that pioneered this research stream was conducted by Feldstein (1974), who found evidence that social security programmes approximately halve the personal savings rate. Modigliani and Sterling (1983) argued that the basic life cycle hypothesis framework can explain most of the variations of savings behaviour across different countries. Their study also suggests a saving-reducing replacement effect and a saving-raising retirement effect.

More recently, Disney (2006) explored how differences in public pension designs across countries and time affect household savings using data from OECD countries. He found that the substitutability of pension designs, which are closer to actuarial-based programs, is higher for private retirement savings. Meanwhile, using the Survey of Health, Ageing, and Retirement in Europe, Alessie, Angelini, and Santen (2011) investigated whether pension wealth is offset by decreases in private savings of European households and to what extent. They argued that reductions in pensions increase private savings, but this increase is not enough to smooth consumption over the life cycle. Amaglobeli et al. (2019) argued that a high level of generosity in the pension system design negatively affects aggregate saving. Thus, the generosity of public pensions may be reduced to lower long-term fiscal vulnerabilities and mitigate the fall in aggregate saving. In turn, d'Addio,

Roger, and Savignac (2020) used the European harmonised wealth survey and OECD data to determine whether the reason for variations in levels of European countries' household savings is different levels of pension wealth across countries. Their analysis revealed a negative relationship between pension wealth and financial wealth.

Some researchers have examined the effects of pension system reforms on household savings rates. Attanasio and Brugiavini (2003) investigated the effects of the 1992 Italian pension reform on individual saving rates and found that a reduction in pension wealth positively affects saving rates. Lachowska and Myck (2018) studied the effects of Poland's 1999 pension reform to determine the relationship between public pensions and private household savings. Their findings revealed an increase in household savings and a decrease in expenditure following the reform. Halvorsen et al. (2022) used the pension reform of 2011 in Norway to examine the influence of accumulated social security pension wealth on private savings. They found a strong substitution between the social security pension wealth and private savings, and a decrease in expected lifetime pensions was found to increase households' savings over the rest of their lives.

Pensions are the main income source for about one-quarter of the EU population. Pension policy in EU countries is implemented predominantly at a national level, but EU legislation supports national efforts to ensure a high level of social protection, including pension adequacy. Although EU legislation stipulates the main principles that a pension system should have, the structure of pension systems in member countries is different because of traditionally divergent approaches on how to provide retirement income (EC 2021). Although all public pension systems in member countries have a pay-as-you-go (PAYG) component and are predominantly defined benefit (DB) schemes, some countries, such as Sweden, Bulgaria, Estonia, Latvia, Lithuania, Hungary, Poland, and Slovakia, have transformed part of their public pension schemes into privately funded schemes. Most member countries' pension systems rely on statutory earnings-related old-age pension schemes. Moreover, a minimum-guaranteed pension is also provided by a public pension scheme to those who do not qualify for the earnings-related scheme. Public pension systems in Denmark, the Netherlands, and Ireland provide a flat-rate pension at the outset (EC 2009).

Most countries in Europe have implemented pension reforms, usually increasing or equalising the retirement age, or even removing the default retirement age altogether. The increase in retirement age in Finland, Slovakia, and Spain is made automatic by linking it to life expectancy. Some countries, like Austria, Belgium, Greece, and Poland, have introduced early retirement limits or have abandoned early retirement schemes altogether. Compared to public pension reforms, fewer changes were attempted in occupational pension schemes in EU member countries (Lannoo et al. 2014). Occupational schemes in most EU countries are often paired with annuities that grant the recipient a lifelong income after retirement. However, the demographic shift is decreasing

the number of participants in the system, putting the scheme's funding under pressure (van Meerten and van Zanden 2021), and motivating member states to reinforce their pension system with the support of third pillar/tier pensions. Thus, demographic, economic, and political developments over the past two decades have impelled countries to create and/or maintain hybrid pension systems in which private pensions play an important role alongside public pensions (Fornero and Wilke 2020).

As an EU candidate country, Turkey's pension system is based on three pillars. The public pension system is structured as a PAYG social security program. Under the social security program, the state pension has an earnings-related DM scheme supported by a means-tested safety net and a flat rate. The second pillar is an occupational pension scheme with two mandatory occupational plans, one developed for military personnel and the other for the personnel of state-owned coal mining companies. The voluntary private pension system, introduced in 2003, constitutes the third pillar.

In the EU, a new Pan-European Personal Pension Product was introduced to increase the number of people saving in personal retirement products (Dimitrov 2021). The PEPP was legislated in 2019 and became applicable in March 2022. It was developed as a complementary and voluntary scheme to existing national pension schemes, offering EU citizens a new alternative to saving for retirement (Regulation (EU) 2019/1238 of the European Parliament and of the Council 2019). However, most publications on PEPP thus far focus on describing it and the legal framework, paying little attention to its impact on the pension product market and populations. Bär (2022) reviewed the process towards the current, finalised state of PEPP, exploring its features, regulatory requirements and challenges. Borg, Minto, and van Meerten (2019) presented the regulatory efforts that make PEPP applicable to the EU's personal pension market, while Dieleman (2020) focused on the tax aspects. Butler (2021) discussed the private pension market's positive and negative integration aspects. Finally, D'Amato et al. (2017), based on an alternative variable annuity program, demonstrated the attractiveness of non-traditional life insurance products for Europeans under low-interest rates and continuous demographic changes. Finally, Hadad, Dimitrov, and Stoilova-Nikolova (2022) examined the role of voluntary pension funds and the readiness to implement PEPP in the EU, but limited to Czechia and Bulgaria. The literature still lacks an extensive analysis of the potential demand for PEPPs in the EU and candidate countries.

Method and data

The study was conducted in two stages. Stage 1 assessed the interrelationship between the quality of public pension schemes and households' saving for old age, in a set of EU member and candidate countries. For the dependency between indicators of pension programme quality and other variables, Pearson's correlation coefficients were calculated.

The significance of the correlation was tested by determining the test probability p (empirical significance level $\hat{\alpha}$ or p-value) and comparing it with the nominal significance level α (Piłatowska 2006, p. 75). The critical value with a two-sided 5% critical area is 0.3809 for n = 28. The limited range of cross-sectional data made it impossible to verify causality and, therefore, the direction of the interaction of the variables (Gómez-Puig and Sosvilla-Rivero 2015). Therefore, the regression analysis was abandoned.

Stage 2 identifies countries with high- and low-quality public pension schemes. The results are used to identify countries in which:

- the low quality of public pension schemes is compensated for by the active saving of households for old age, whereby:
  - their holdings of liquid assets and lack of exposure to individual pension products create favourable conditions for the development of PEPP,
  - having individual pension products and a lack of commitment to liquid assets mean that PEPP will have to compete in the domestic market with products already available and chosen by households. It must be assumed that this situation may significantly hinder its development;
- low-quality public pension schemes are accompanied by a low proportion of households saving for old age. In these countries, the later financial well-being of households is most at risk. The development of PEPP is therefore particularly welcome, but it requires a significant change in attitudes towards self-insuring;
- high-quality public pension schemes are accompanied by actively saving for old age. These are countries where a dignified and independent life for seniors is achieved through complementary public and individual (private) pension provisions. In particular, it is necessary to identify countries where:
  - households' holdings of liquid assets and a lack of exposure to individual pension products create favourable conditions for the development of PEPP. The introduction of a new product, different from existing products in the domestic market, may encourage the reallocation of savings from liquid assets into PEPP;
  - the individual pension products already in place and the lack of exposure to liquid assets limit the possibilities for PEPP development. Thus, the introduction of PEPP will not significantly affect the financial situation of seniors, which is currently good;
- high-quality public pension schemes are accompanied by a low proportion of households saving for old age. Thus, people rely primarily on income from public schemes. In the absence of an incentive to self-insure, the development of PEPP should be assessed as difficult.

Stage 2 used country clustering to identify the extent of their similarities and differences based on the variables analysed. For this purpose, hierarchical cluster analysis was used. Ward's Method (Ward Jr. 1963) with Euclidean distances (Murtagh and Contreras 2011) was used to extract clusters. The optimal number of clusters was determined using scree diagrams and the Pseudo *F* test (Bock 1985).

Due to the high heterogeneity of countries in terms of all variables analysed and the low number of countries relative to the number of variables, further analysis was conducted in two Steps. In Step 1, countries were grouped according to indicators of pension system quality. In Step 2, countries were grouped within the groups from Step 1 regarding the level of financial assets and propensity to save for old age. The internal similarity of the groups formed in each step was assessed using the Silhouette coefficient (Frigui 2008). For a Silhouette coefficient higher than 0.51, the existence of adequate within-group similarity was assumed, and for values above 0.71, the existence of high within-group similarity was assumed (Kaufman and Rousseeuw 2005).

The countries surveyed are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and Turkey. Data concerning the quality of public pension schemes, household attitudes towards self-directed voluntary saving for old age, and previous involvement in specific financial assets were used (Table 1). All data relate to 2019. Data related to the quality of public pension schemes are taken from Allianz (2020) and refer to the Allianz Pension Index (API) 2020 index. In turn, data on households saving for old age, including the shares of liquid assets, private pension and life insurance products in their total financial assets for 2019, are taken from the Eurostat and World Bank FINDEX databases.

The countries are characterised by differences not only in the quality of public pension schemes but also in households' attitudes towards saving for old age, including its forms (Table 2). The results, therefore, confirm the relevance of this study.

A significant area of variation in the quality of public schemes was signalled by the minimum and maximum values of the API 2020 (x_1). The variation in programme quality among countries was also confirmed by the high coefficients of variation (*CV*), which ranged from 12.3% to 18.6%.

Table 1. Definitions of the variables used in the study

Variable	Variable description
API 2020 (x_1)	The API comprehensively analyses pension systems in terms of sustainability and adequacy. The index considers 30 parameters relating to, among other things: the financing gap as defined by the current government gross debt; current public pension expenditure as a percentage of GDP; dependency ratios and their percentage change; the retirement age and minimum contribution period, funding method and pension formula; the scale of participation in the first pension pillar and the level of future pension coverage from it; how the second pension pillar is funded and its mandatory nature; the level and type of household assets; the Gini coefficient and the labour force participation of people over 65; the other forms of pension provision. The API index is a weighted sum of all parameters; its value ranges from 1 to 7, with 1 being the best score. The lower the value, the better a country's pension system is rated. Data source: Allianz 2020.
Saved for old age (%) (x_2)	The percentage of respondents who report saving or setting aside any money in the past year for old age. (Demirgüç-Kunt et al. 2022) Data source: Demirgüç-Kunt et al. 2022.
Currency & deposits (x_3)	Percentage share of financial assets calculated from nominal data. Data source: Eurostat n.d.
Insurance & pensions (x_4)	Percentage share of financial assets calculated from nominal data. Data source: Eurostat n.d.

Source: authors' own elaboration.

The heterogeneity of the countries was also evident in households' attitudes towards self-saving financial provision for old age (CV = 35.7%). The percentage who saved for this purpose (x_2) ranged from 9.0% to 74.6%. Similar findings applied to preferences for holding selected financial assets. There were clear differences between countries in both the share of liquid assets (x_3) – cash and bank deposits (important for PEPP growth opportunities) and pre–2019 available pension and life insurance products (*x4*; substitutable to PEPP), in total financial assets; the range was, respectively, 62 p.p. and 63 p.p. There was also a strong variation between countries regarding the importance of pension and life insurance products (x_4; CV = 68.7%).

Table 2. Descriptive statistics (N=27)

Variable	Average	Median	Min.	Max.	Coefficient of variation (CV; in %)
API 2020 (x_1)	3.6537	3.5700	2.9100	4.4300	12.39
Saved for old age (x_2)	0.4712	0.4714	0.0904	0.7464	35.74
Currency & deposits (x_3)	0.3885	0.3779	0.1299	0.7506	36.88
Insurance & pensions (x_4)	0.2156	0.1665	0.0483	0.6761	68.66

Source: authors' own elaboration.

Results

Quality of public pension schemes and household attitudes towards saving

The study confirms statistically significant relationships between the quality of public pension schemes, as expressed by the API 2020 Index, and household saving activity, including preferences for forms of financial assets, relevant to the development of PEPP (Table 3). The quality of public pension schemes (x_1) was most strongly and negatively correlated with the proportion of households who declared they saved for old age (x_2). Considering the design of the API 2020 Index, it must therefore be concluded that countries with low-quality public pension schemes had a clear gap in old-age provision, as a relatively small proportion of households in those countries save individually for this purpose. Households also showed a relatively low share of pension and life insurance products in their financial asset portfolios (x_4) and an increased propensity to invest savings in liquid assets, such as cash and bank deposits (x_3). Thus, there is a need for them to introduce and promote private pension products such as PEPP.

Table 3. Values of correlation coefficients (N = 27)

Variable	API 2020 (x_1)	Saved for old age (x_2)	Currency & deposits (x_3)	Insurance & pensions (x_4)
Saved for old age (x_2)	−0.5813 p = 0.001	1.000 p = ---	−0.5665 p = 0.002	0.4636 p = 0.015
Currency & deposits (x_3)	0.5797 p = 0.002	−0.5665 p = 0.002	1.000 p = ---	−0.5899 p = 0.001
Insurance & pensions (x_4)	−0.4961 p = 0.009	0.4636 p = 0.015	−0.5899 p = 0.001	1.000 p = ---

Source: authors' own elaboration.

The results above indicate the relevance of continuing to investigate the relationship between the quality of public pension schemes (x_1) and household saving ($x_2 - x_4$).

Country grouping results

As explained in Section 3, the study in Stage 2 was conducted in two steps, using hierarchical cluster analysis. Step 1 made it possible to identify the countries distinguished by public pension schemes whose quality, as expressed by the variable x_1, was low and high. Step 2, on the other hand, made it possible to refer to the conditions of PEPP implementation (favourable or hindering its development) in countries with a given quality of public schemes.

It is particularly important to assess the development prospects of PEPP in countries distinguished by the low quality of public pension schemes, as only responsible saving decisions will allow households there to improve their quality of life in old age. Assessing the possibilities of developing PEPP is therefore important for social reasons. Furthermore, it is important in our assessment to know the development prospects of PEPP in countries with high-quality public pension schemes, as the conditions there mean that households may or may not be particularly active in saving for old age themselves.

Step 1 results of country grouping

The hierarchical cluster analysis identified three subsets of countries with similar quality of public pension schemes (x_1). Two groups are of particular interest (Figure 1):

1) low-quality group (x_1), which included Croatia, Cyprus, France, Greece, Hungary, Poland, Portugal, Romania, Slovenia, Spain, and Turkey;

2) high-quality group (x_1), which included Belgium, Bulgaria, Czechia, Denmark, Ireland, Italy, Latvia, Luxemburg, the Netherlands, Slovakia, and Sweden.

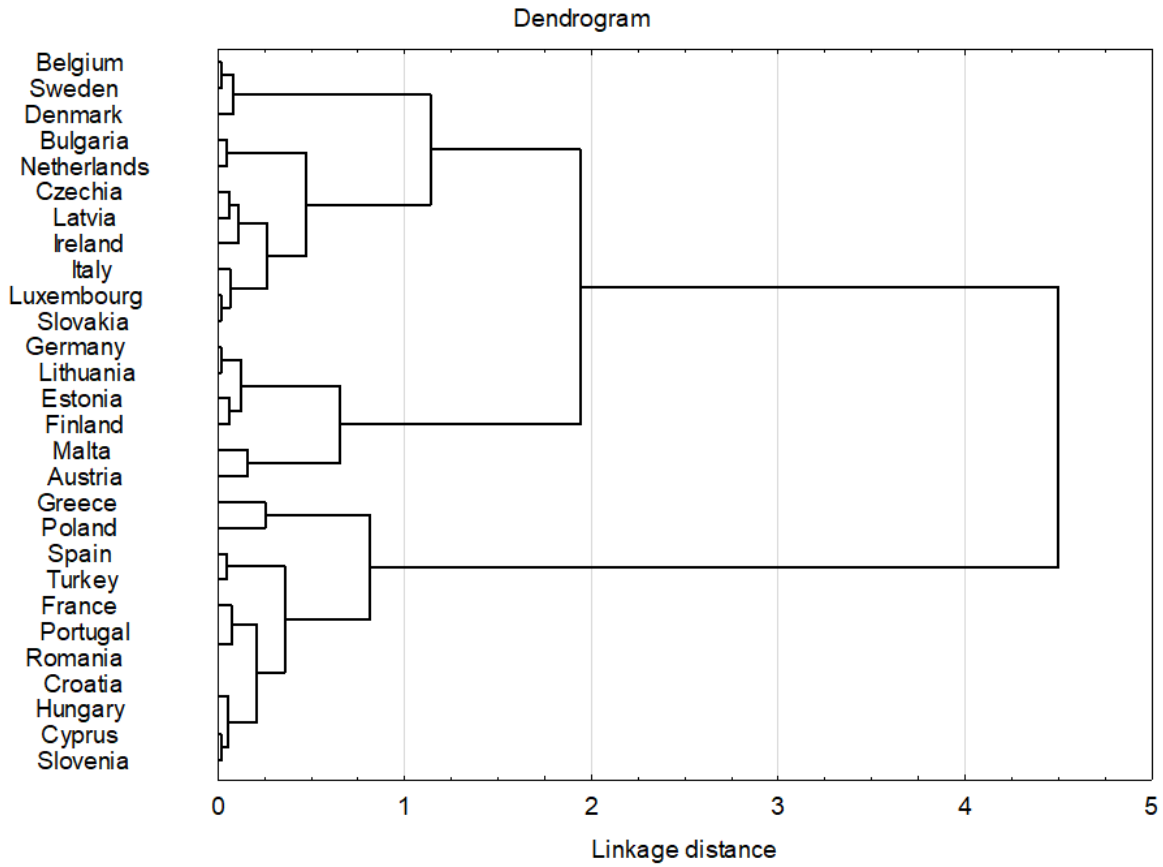

Figure 1. Results of country grouping by API 2020 value

Source: authors' own elaboration.

Step 2 results of country grouping

This part of the study focuses on households' self-provisioning for old age in the subsets identified in Step 1.

The subset of countries with low-quality public pension schemes

The subset of countries characterised by **low-quality pension schemes** (x_1) was internally diverse in terms of household attitudes towards saving for old age (Figure 2). However, it was possible to identify countries with similar rates of households engaged in reaching financial well-being in later life (x_2), such as Croatia, France, Hungary, Poland, Portugal, Slovenia, and Spain (ranging from 35.2% to 47.1%). These rates should be assessed as too low compared to the average of all 28 countries. Croatia, Poland, Portugal, and Slovenia stood out for having similar, relatively high shares of liquid assets (between 44.7% and 50.7%) in their financial asset portfolios (x_3; Figure 3). Moreover, with the exception of Croatia, those countries showed similarity in terms of the relatively low importance of private pension products and life insurance (x_4; Figure 4 and Ap-

pendix 1). The above conditions should be considered favourable for the development of PEPP, including the conversion of liquid assets held by households. However, due to the moderate proportion of old-age savers, it is advisable to continue building financial literacy in their populations.

In Cyprus, Greece, Romania, and Turkey, 75.6% to 91.0% of households remained passive about their financial situation in old age (x_2; Figure 2). In Turkey, Cyprus and Greece, the bulk of household financial assets consisted of cash and bank deposits (x_3; Figure 3 and Appendix 1). Moreover, in Turkey and Greece, there was little exposure to pension and life insurance products (x_4; Figure 4 and Appendix 1). Given these circumstances, Turkey's situation should be seen as exceptional, as only 9% of its households were saving for old age, with cash and deposits accounting for as much as 75% of their financial assets, while pension and life insurance products comprised only 8%. It can therefore be concluded that Cyprus, Greece, Romania, and Turkey stood out in the analysed subset, as well as in the full set of countries, as having an exceptionally high risk of poverty in later life due to both low-quality public pension schemes and passivity of households regarding individual saving. The introduction of PEPP would be desirable, but its development may be hampered by households' apparent reluctance to secure old age. Thus, building household financial awareness of saving for later life, including its forms, is a priority.

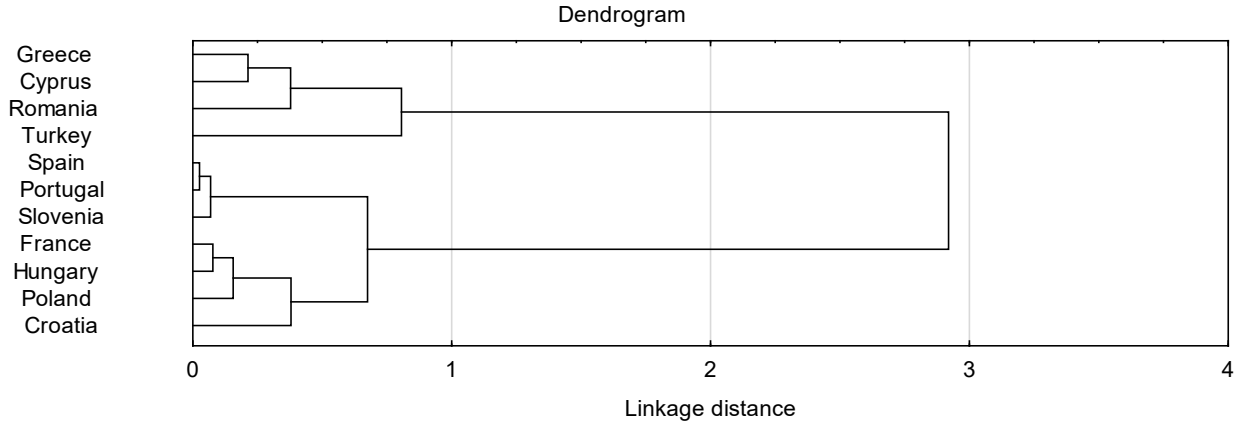

Figure 2. Results of grouping low API 2020 countries by percentage of households saving for old age in 2019

Source: authors' own elaboration.

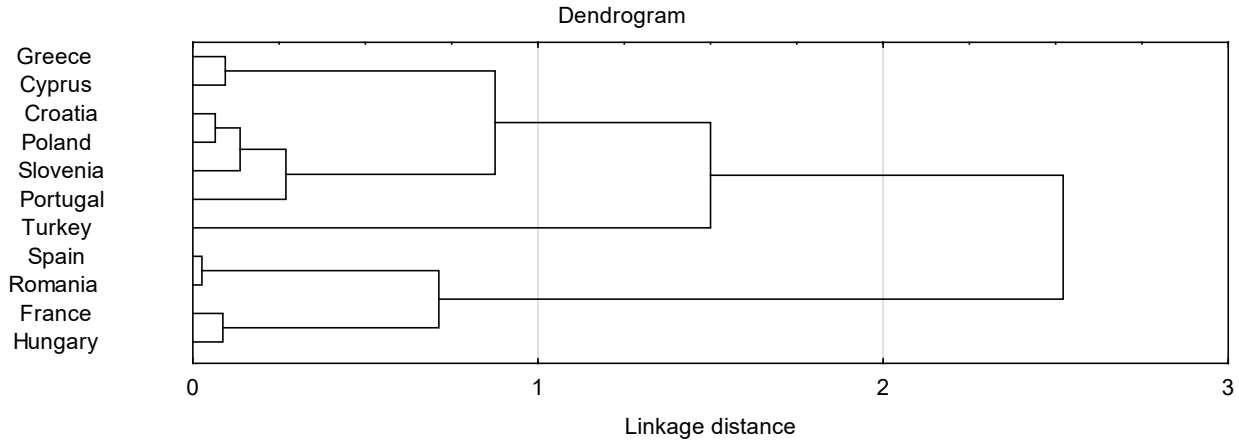

Figure 3. Results of grouping low API 2020 countries by share of liquid assets in household financial assets in 2019

Source: authors' own elaboration.

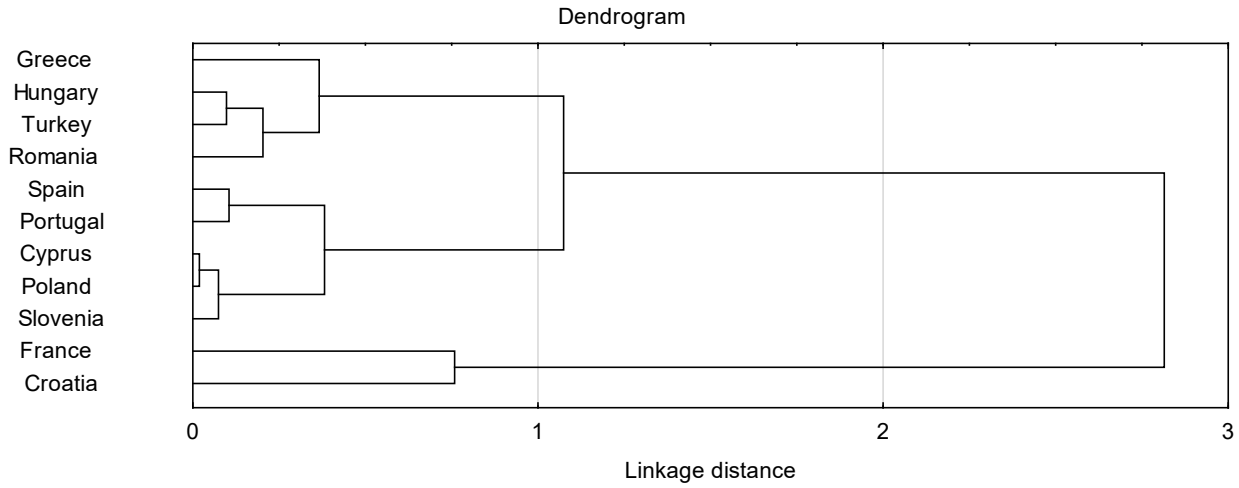

Figure 4. Results of grouping low API 2020 countries by share of pension and life insurance products in household financial assets in 2019

Source: authors' own elaboration.

The subset of countries with high-quality public pension schemes

The second subset of countries was characterised by the high quality of public pension schemes. In most of them (Belgium, Czechia, Denmark, Ireland, Netherlands, Slovakia, and Sweden), the relatively attractive conditions of public pension provision were accompanied by a high proportion (above 50%) of households who additionally saved for old age (x_2; Figure 5). It can therefore be inferred that demand for PEPP in these countries should be low. In turn, in Czechia and Slovakia, around half of the house-

holds' financial assets were liquid (x_3; Figure 6), pointing to the possibility of developing PEPP by converting the forms of savings they held.

In contrast, in Denmark, Sweden, and Netherlands, the possibility of developing PEPP should be considered particularly limited, as their households kept a small proportion of savings (up to 16.2%) in cash and bank deposits (x_3). Furthermore, in the Netherlands, pension and life insurance products (x_4) accounted for as much as 67.6% of their financial assets, and in Denmark and Sweden, 46.6% and 36.9%, respectively (Figure 7). Thus, in these three countries, PEPP would have to develop at the expense of households' existing commitment to long-term financial assets dedicated to saving for old age.

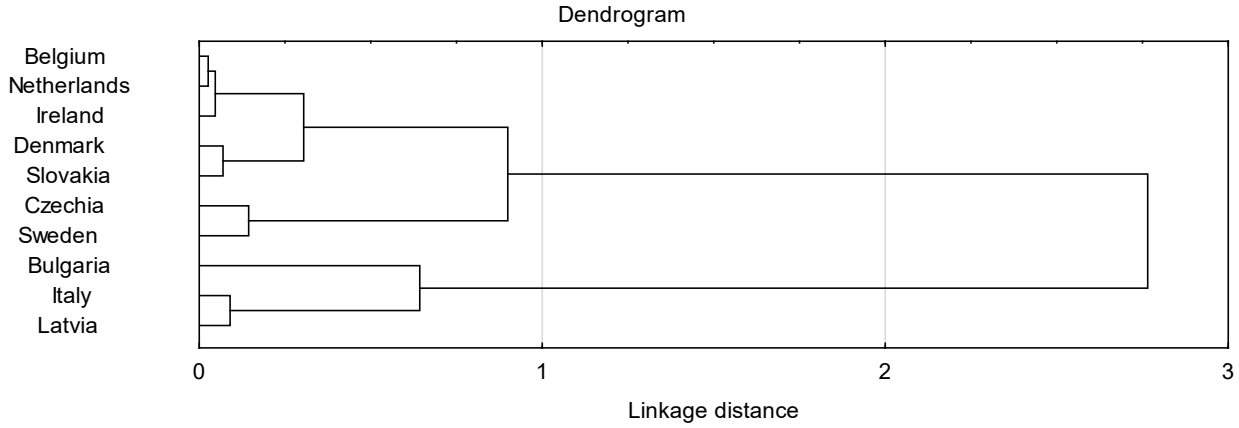

Figure 5. Results of grouping high API 2020 countries by percentage of households saving for old age in 2019

Source: authors' own elaboration.

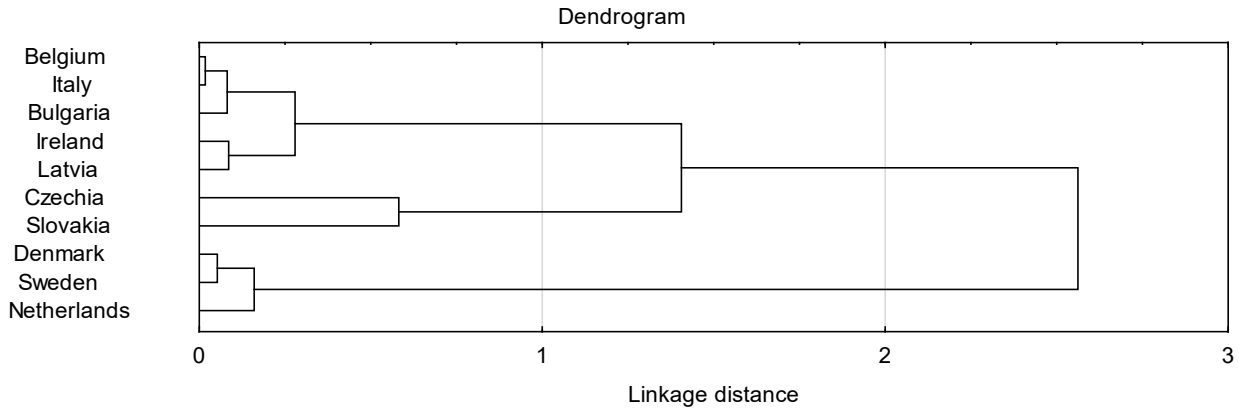

Figure 6. Results of grouping high API 2020 countries by share of liquid assets in household financial assets in 2019

Source: authors' own elaboration.

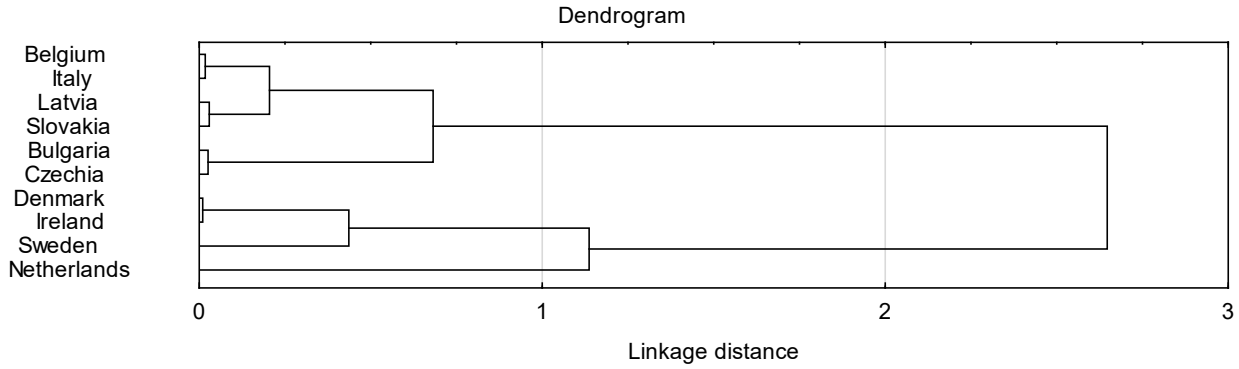

Figure 7. Results of grouping high API 2020 countries by share of pension and life insurance products in household financial assets in 2019

Source: authors' own elaboration.

Conclusion

The results of the study confirmed that within the set of EU member and candidate countries, there were statistically significant linkages between the quality of public pension schemes and households' activities in saving for old age. However, households' preferences regarding financial assets varied within the subsets of countries with a given quality of public schemes. The study confirmed the potentially positive role of PEPP in incentivising households for voluntary retirement savings only in selected countries.

The subset of countries with relatively low-quality public pension schemes consisted of Croatia, Cyprus, France, Greece, Hungary, Poland, Portugal, Romania, Slovenia, Spain, and Turkey. In their case, dignified later life for households would not be ensured by public pension schemes or individual savings. Thus, PEPP should be considered a desired solution in those countries. However, in Cyprus, Greece, Romania, and Turkey, where the lowest fractions of households actively saved for later life, the development of PEPP was primarily conditioned by an increase in their financial literacy. Therefore, in their case, the spread of PEPP may require an extended period. Moreover, in selected countries with relatively low-quality public pension schemes, like Croatia, Poland, Portugal, and Slovenia, PEPP could become an alternative to households' liquid assets in their portfolios. However, in Croatia and France, it would have to compete with households' existing domestic retirement and life insurance products.

The subset of countries with relatively high-quality public pension schemes was formed by Belgium, Bulgaria, Czechia, Denmark, Ireland, Italy, Latvia, the Netherlands, Slovakia, and Sweden. Except for Bulgaria, Italy and Latvia, a dignified later life has been supported by both public pension schemes and individual savings for retirement. Therefore, the development of PEPP would be limited the most, par-

ticularly in Denmark, the Netherlands, and Sweden, where competitive domestic voluntary pension products already constitute a large portion of households' financial assets instead of liquid assets. In Czechia and Slovakia, PEPP should be recognised as an alternative to liquid assets, which still play an important role in households' portfolios. On the other hand, in Bulgaria, Latvia and Italy, households' later life has mainly been supported by robust public pension schemes. However, the prospects for PEPP development in these countries were not as promising due to the low shares of liquid assets in household financial asset portfolios. Additionally, there is likely to be competition between PEPP and voluntary pension products held by households, mainly in Italy.

Summing up, PEPP could be a desired solution, mainly in countries with low-quality public pension schemes and low personal involvement in voluntary savings for old age and a focus on liquid assets. On the other hand, countries like Denmark, the Netherlands and Sweden were recognised as the least favourable for PEPP due to their rich public pension schemes, which are among the best in Europe, and the significant shares of household saving for retirement in domestic retirement and life insurance products. Among all the countries analysed, the highest risk of poverty in later life should be assigned to households in Turkey, an EU candidate country. This risk was not only attributed to the poor public pension scheme but also to households' marginal interest in saving for old age. Significant problems in this regard were also identified in selected EU member countries, such as Cyprus, Greece, and Romania.

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Czy Ogólnoeuropejski Indywidualny Produkt Emerytalny jest odpowiedni dla wszystkich? Perspektywy jego rozwoju w krajach członkowskich i kandydujących UE

Celem niniejszego artykułu jest ocena perspektyw rozwojowych Ogólnoeuropejskiego Indywidualnego Produktu Emerytalnego (OIPE), mającego na celu poprawę życia rezydentów UE na emeryturze. Uwagę skoncentrowano na związkach pomiędzy jakością krajowych publicznych systemów emerytalnych a oszczędnościami gospodarstw domowych na starość, w zbiorowości krajów członkowskich UE i krajów kandydujących. Badanie przeprowadzono w dwóch etapach. W pierwszym etapie, na podstawie współczynników korelacji Pearsona, ocenie poddano współzależności pomiędzy publicznymi programami emerytalnymi i postawami gospodarstw domowych względem indywidualnego oszczędzania na starość. W drugim etapie hierarchiczna analiza skupień pozwoliła zidentyfikować podzbiory krajów o wysokiej oraz o niskiej jakości publicznych systemów emerytalnych. Wyniki badania wskazały przy tym na istotne związki pomiędzy obowiązkowym i dobrowolnym oszczędzaniem gospodarstw domowych na emeryturę w obu powyższych podzbiorach. Ponadto podzbiory te cechowały się wewnętrznym zróżnicowaniem pod względem preferowanych aktywów finansowych przez gospodarstwa domowe. Powyższe wyniki pozwoliły odnieść się do potencjału rozwojowego OIPE. Najlepsze warunki do jego upowszechnienia zidentyfikowano w Chorwacji, na Cyprze, we Francji, w Grecji, na Węgrzech, a także w Polsce, Portugalii, Rumunii, Słowenii, Hiszpanii oraz Turcji. W większości tych krajów (z wyjątkiem Francji, Węgier, Rumunii i Hiszpanii) rozwój OIPE mógłby odbywać się poprzez konwersję płynnych aktywów, którymi dysponowały dotąd tamtejsze gospodarstwa domowe. Jednak w Chorwacji, Francji i we Włoszech PEPP został uznany za konkurencyjny względem istniejących produktów emerytalnych i ubezpieczeń na życie, co mogłoby negatywnie wpływać na jego rozwój. Niniejsze opracowanie jest pierwszym kompleksowym badaniem dotyczącym perspektyw rozwojowych OIPE w tak dużej grupie krajów. Jego wyniki dostarczają wiedzy ważnej społecznie, dotyczącej znaczenia prywatnych oszczędności, w tym PEPP, w uzupełnianiu dochodów emerytalnych, pochodzących z programów publicznych.

Słowa kluczowe: Ogólnoeuropejski Indywidualny Produkt Emerytalny, publiczne systemy emerytalne, oszczędności na starość, gospodarstwo domowe, emerytura

APPENDIX 1

Data used in the study

Country	API 2020 (x_1)	Saving for old age (25+) (x_2)	Share in HHs financial assets		
			Currency & deposits (x_3)	Insurance & pensions (x_4)	Equity & investment fund shares (*not applied*)
Austria	3.84	74.64%	40.17%	20.01%	34.06%
Belgium	2.92	57.60%	31.91%	23.33%	41.02%
Bulgaria	3.16	28.74%	33.45%	11.14%	47.10%

Country	API 2020 (x_1)	Saving for old age (25+) (x_2)	Share in HHs financial assets		
			Currency & deposits (x_3)	Insurance & pensions (x_4)	Equity & investment fund shares (*not applied*)
Croatia	4.05	35.22%	49.41%	27.07%	20.51%
Cyprus	4.08	21.32%	60.01%	12.81%	20.29%
Czechia	3.23	68.75%	44.37%	10.47%	39.96%
Denmark	2.96	62.69%	14.00%	46.60%	34.94%
Estonia	3.53	58.69%	25.20%	14.97%	57.10%
Finland	3.49	53.98%	30.74%	16.65%	49.71%
France	4.16	42.59%	28.17%	37.10%	27.76%
Germany	3.56	65.66%	39.58%	35.51%	22.19%
Greece	4.43	17.32%	58.09%	4.83%	31.87%
Hungary	4.05	41.14%	26.39%	7.36%	41.00%
Ireland	3.31	58.66%	35.19%	46.87%	15.70%
Italy	3.39	40.62%	32.25%	23.80%	37.00%
Latvia	3.27	38.84%	36.85%	20.17%	34.86%
Lithuania	3.57	48.99%	38.26%	11.37%	38.78%
Malta	3.74	52.69%	46.89%	9.30%	26.83%
Netherlands	3.13	58.12%	16.17%	67.61%	14.19%
Poland	4.27	39.33%	50.74%	13.06%	24.72%
Portugal	4.12	45.78%	44.79%	17.17%	28.82%
Romania	4.12	25.44%	37.25%	10.33%	26.27%
Slovakia	3.36	61.32%	55.60%	19.41%	18.83%
Slovenia	4.07	47.14%	47.66%	13.79%	30.63%
Spain	3.98	46.27%	37.79%	15.78%	43.48%
Sweden	2.91	71.60%	12.99%	36.90%	47.45%
Turkey	3.95	9.04%	75.06%	8.65%	11.75%

Note: all data relate to 2019.
Source: authors' own elaboration, based on data derived from Allianz Pension Report 2000; Eurostat, World Bank FINDEX (see Table 1).