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Do we need voluntary pension schemes? The role of voluntariness in a pension system

Summary

This paper focuses on issues related to the role of voluntary schemes in a pension system in contrast to mandatory funded schemes. First, different classifications of multipillar pension systems are compared. The role and the place of voluntariness are analysed in the existing pension system typologies. Second, it discusses the justification for implementing a state policy that aims at increasing voluntary pension savings, and compares the features and macroeconomic effects of implementation of the second and the third pillar in a pension system. The analysis is supported by data collected by the OECD regarding the coverage and replacement rates obtained from voluntary pension plans.

Key words: pension system, pillars, voluntary schemes

Introduction

In the face of unfavourable demographic changes which result in increasing old-age dependency ratios, a reduction in spending for pension purposes through, among other means, raising the retirement age or lowering the level of income adequacy of public systems (measured primarily by the replacement rate) is a key issue for state policy in both

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developing and developed countries. As noted in various recommendations, for example by the World Bank, the European Commission or the OECD, one of the main means leading to improvement in the future adequacy of pension benefits is strengthening the role of funded pension schemes. In many countries, however, especially those of the CEE region, the initial reforms aimed at the development of substantial mandatory private pensions were reversed in favour of unfunded PAYG schemes. For example, in Hungary, in 2010 the second pillar was practically liquidated. A similar process took place in Poland. First, in 2011, the contribution paid to the mandatory pension funds operating in the Polish second pillar was significantly reduced. Second, in 2014, 51.5% of the assets of private pension funds were transferred to the first pillar. Additionally, mandatory participation in the open pension funds was no longer required. In Slovakia, since 2013 the second pillar has also been voluntary. Reforms oriented in such a way resulted in the increase of the significance of the unfunded pillars and at the same time extended the financial obligations of the state to future pensioners.

In many countries, reforms are being implemented to assign part of the responsibility for financial security in the period of old age to individuals, relying on their individual prudence. A manifestation of this approach is the desire of the state to reinforce the importance of voluntary pension savings in the system. However, relying solely on prior experiences with voluntary pensions that have been a part of pension systems in many countries one can pose a few questions concerning some fundamental issues. What are the objectives of voluntary pensions? Do they differ in this regard from mandatory pensions? Why is the voluntary participation in pension schemes that is supported so much by the state not simply obligatory? Is a pension system that *a priori* considers pension provision from the voluntary plans to be an important complement to public pensions not a step backwards in terms of social security?

This paper focuses on the issues related to the role of voluntary schemes in a pension system in contrast to mandatory funded schemes. First, different classifications of multipillar pension systems are compared. The role and the place of voluntariness are analysed in the pension system typologies developed by the World Bank, the OECD, the International Labour Organization and the European Commission**.** Second, it discusses the justification for implementing a state policy that aims at increasing voluntary pension savings, and compares the features and macroeconomic effects of implementing the second and the third pillar in a pension system. The analysis is supported by data collected by the OECD regarding the coverage and replacement rates obtained from voluntary pension plans.

Voluntary savings in a multi-pillar system

Voluntary pensions comprise a whole variety of plans that could be classified into the second or the third pillar. The assignment depends mainly on the adopted taxonomy of the multi-pillar systems. Conceptual confusion may arise in this matter due to different pension models or definitions proposed by international institutions. This can be a problem, especially when comparing data on voluntary pensions from different sources.

It seems that the most widely used taxonomy of pension systems is the one developed by the World Bank. As presented in Table 1, it comprises five pillars (from zero to four) and it strictly delineates between voluntary and mandatory plans. In this respect, mandatory participation is required in the case of the first and the second pillar, and participation in the third and fourth pillar depends on individual choice. However, it should be noted that the fourth pillar is of an informal nature, and as such is not a part of the pension system regulated within the legal and institutional framework. For this reason, this pillar is not included in the scope of this study. The World Bank taxonomy also includes the target groups that could benefit from participation in each pillar. The voluntary schemes in the third pillar are assigned mainly to the formal and informal sector as a source of pension benefits supplementary to the benefit obtained from the public (mandatory) pension system. It is of minor importance for the lifetime poor, as their low incomes do not allow for saving.

Table 1. World Bank multipillar pension systems taxonomy (2005)

	Target group			**Main criteria**		
Pillar	**Lifetime poor**	**Informal sector**	**Formal sector**	**Characteristics**	**Partici-pation**	**Funding or collateral**
0	**X**	X	x	"Basic" or "social pension," at least social assistance	Universal or residual	Budget or general revenues
1			**X**	Public pension plan, publicly managed (DB or NDC)	Mandated	Contributions, perhaps with some financial reserves
2			**X**	Occupational or personal pension plans (Fully funded DB or DC)	Mandated	Financial assets
3	x	**X**	**X**	Occupational or personal pension plans (partially or Fully funded DB or funded DC)	Voluntary	Financial assets
4	**X**	**X**	X	Access to informal support (family), other formal social programs (health care), and other individual financial and nonfinancial assets (homeownership)	Voluntary	Financial and non-financial assets

Note: The size and appearance of x reflect the importance of each pillar for each target group in the following increasing order of importance: x, X, **X**.

Source: Holzmann and Hinz (2005).

Gillion (2000) presents the multi-pillar approach proposed by ILO. It is similar to the World Bank classification, as it comprises four pillars: 1) social assistance, 2) PAYG, 3) mandatory, privately managed DC schemes, and 4) voluntary, privately managed schemes. There are also other multi-pillar taxonomies, which do not distinguish between mandatory and voluntary schemes. For example, in the early OECD three-tier classification the first tier comprises publicly managed and unfunded PAYG schemes (OECD 1998). The second tier includes occupational schemes based on the employment relationship (offered by employers to employees). The third tier covers personal pension plans. In this proposition the tiers are not distinguished by their mandatory or voluntary nature. Whereas the third tier is usually voluntary as it is not directly related to the employment relationship and takes a form similar to ordinary saving, the second tier may comprise both voluntary as well as mandatory occupational plans. In OECD (2011) a somewhat different distinction is presented. According to this taxonomy the first tier is of a redistributive nature and it comprises resource-tested, basic or minimum pensions. The second tier covers mandatory public plans (DB, NDC or points) and mandatory private plans (DB or DC). The third tier is voluntary and private (DC or DB). The European Parliament (2011) and European Commission (2013), similarly to OECD (1998) in their three-pillar classification, separate the third pillar from the second pillar on the basis of the dichotomy *occupational* vs *personal*, regardless of whether they are mandatory or voluntary.

This study refers to the World Bank classification from 2005 and particularly to its third pillar. It covers all voluntary pension plans that are of a formal nature and supported by the institutional setting, as opposed to the fourth pillar. However, these plans are a very broad and diverse category: from highly regulated occupational schemes, with very little room for voluntary choice, to forms of personal plans without an imposed amount of monthly savings (in terms of percentage of earnings) or frequency of payment.

Voluntary vs mandatory retirement savings

The main question addressed in this study is whether additional pension savings should be accumulated in the third (voluntary) pillar. Note, however, that this is not a question concerning the existence of the need to accumulate additional savings. Due to demographic changes, future pensioners in most European countries will face significantly lower replacement rates than those of today. To keep the current pension systems sustainable and adequate at the same time, policies implemented in this respect have to enhance sources of pension benefits other than the PAYG schemes. So the question posed in the study refers to the choice between two funded pillars: the second and the third, which means the selection between the mandatory and the voluntary option. Therefore, the deliberations in this section refer to the advantages and disadvantages of the voluntary forms of saving for old age compared to the mandatory funded pillar.

The need for compulsion

Considering the question of why we need voluntary pension schemes, one could reverse this and think about why we need a mandatory system. First, however, let's define the overarching objective of the pension system as providing the means to finance the consumption of successive generations of retirees, with the smallest possible burden borne by generations of workers (Góra 2003). To reach this goal in respect to the whole society, full coverage is necessary, which in turn implies the mandatory participation of workers. Of course, there are groups of people that do not participate in the mandatory pension system, such as informal sector workers or permanently unemployed persons, and these are not able to finance their consumption in old-age. The universal coverage obtained through mandatory participation is also intended to prevent two effects: *myopia* and *free-riders*. The first refers to an individual who does not think about her or his future income in old age, and this lack of precaution arises from a perception defect. The second effect involves a deliberate refraining from saving in order to consume more while young. A *free-rider* expects that society will provide for her or him in the old age. Both effects differ in the individual's intentions, but have similar consequences. The propensity to save for old age is also subjected to variations over an individual's life cycle due to such factors as, for example, age. As found by Fernández-López et al. (2010) in a study covering over 6,000 individuals from eight European countries, age is one of the three main determinants of retirement savings. The propensity to save rises with age to reach its peak in the mid-to-late 40s and then declines. Also Cagetti (2003) proves that savings for retirement purposes become significant only closer to retirement, which can seriously affect the replacement rates obtained from the third pillar. Antolin and Whitehouse (2009) argue that although purely voluntary pension provision runs the risk of undersaving, there are also some disadvantages of compulsion. The mandatory schemes impose a target replacement rate, which may result in a number of people who are forced to over-save. People may also have other preferences as to saving vehicles, for example they may want to invest in their own business, and required large mandatory pension savings make this impossible.

The objectives of a pension system are often presented as two separate goals: preventing poverty among the elderly and consumption smoothing between the working years and the retirement years (Schwarz 2006). The first objective may be considered as of higher priority and in some of the mandatory pension systems only this objective is realized. This is typical especially for the Beveridgean pension systems, where the pension benefits from the mandatory system are unrelated to previous earnings (flat rate), and it is up to an individual's precaution to accumulate more savings in order not to experience a substantial drop in standard of living in old age. Therefore, the level of voluntariness in a pension system may serve as an indicator of the significance of the objective of consumption smoothing in a pension system.

Impact on national savings

A very important issue is the macroeconomic impact of pension system design especially in terms of national savings rates. Empirical results are available mostly for the United States, and they are mixed. The body of literature regarding this issue outside the US is very poor. Antón et al. (2014) find in their empirical study that tax-favoured contributions to pension funds in Spain do not increase national savings. Similar results are presented in the study by Corneo et al. (2010) conducted using the German household survey. It proves the ineffectiveness of saving incentives in the Riester scheme in terms of boosting savings rates. In the study of Murphy and Musalem (2004), which consists of 43 countries, it is demonstrated that the impact of pension funds on national savings depends on whether these funds are mandatory or voluntary. Only mandatory funds turned out to have a positive impact on savings. This influence can be explained on a microeconomic level by the low substitutability between savings for old-age in mandatory pension funds and individual savings for precautionary or bequest motives. This arises from the fact that the regulation imposed on mandatory pension plans usually does not allow for withdrawal of the accumulated assets and allocation of funds to other purposes. Especially in the case when pension contributions to the mandatory fund are perceived by an individual more as a tax than as savings, he or she may want to accumulate additional savings outside the pension system, i.e. as ordinary savings. In addition, the highly regulated voluntary pension plans (especially occupational ones) where the voluntary choice is often limited to the opt-out time window may be seen the same way. The perception of savings in voluntary plans as a substitute for ordinary savings may result in the lack of an increase in private savings as an effect of the functioning of the third pillar. The more restricted the third pillar is, i.e. the more limited choice is mostly in terms of the availability of accumulated funds, the more likely it will increase aggregate private savings[2].

Pension funds accumulated in the third pillar may increase private savings only if they are additional savings which otherwise would have been devoted to consumption. If the savings in the third pillar are simply a substitute for ordinary savings, then the effect on private savings would be neutral. However, even if the third pillar results in the creation of new savings which increase private savings, this does not necessarily mean that the national savings also increase. The high fiscal cost of tax incentives in the third pillar may offset greater household private savings. Thus, the net addition to the national savings is likely to be null or even negative.

Impact on income inequalities

In a fully funded mandatory system individuals are forced to maintain stable retirement savings rates (determined by the contribution rates) over their working lives. In such schemes, the benefits are closely related to previous earnings. As a consequence, the income inequalities in the cohort arising from the earnings distribution are preserved in

[2] Providing that income level is sufficient, as it is the main determinant for private savings.

the post-retirement period. In a voluntary system, individuals may choose whether to save and how much to save. Therefore, under certain circumstances the income inequalities in the generation of pensioners may be even greater than in the generation of workers. A study by the European Parliament (2014) emphasizes that the voluntary nature of third--pillar pension schemes results in an unequal pattern of beneficiaries of private pension provision. Given the fact that groups such as women, less-educated people, people with migration backgrounds, less wealthy people and the atypically employed are less involved in the third pillar, an increasing significance of voluntary pension schemes may lead to greater social inequalities. This effect is not entirely offset by the means of social policy aimed at poverty alleviation in the older cohorts. Empirical studies prove that high-income earners have higher personal saving rates (Dynan et al. 2004). This group does not need incentives to save and often uses the third pillar for tax optimization. When the high--income earners prevail in the third pillar, then they benefit more from the higher rates of return relative to lower income earners. As noted by Antolin and Whitehouse (2009), for this reason the design of tax incentives is crucial. Tax relief or matching contributions should serve for the creation of new savings and should not enhance the reallocation of savings from other saving vehicles. Some studies, e.g. by Rutecka (2014) and Kawalec et al. (2015), present the view that tax incentives should be differentiated by income deciles in order to increase voluntary savings in the groups with lower incomes. Nevertheless, the efficiency of financial incentives as a tool to boost retirement savings is a highly disputable issue (see for example Bateman et al. 1993, Johnson 2012, Attanasio et al. 2004, Ayuso et al. 2007, Corneo et al. 2008).

Risk exposure

According to Gillion (2000), the following types of risk are associated with pension benefits: demographic risk, economic risk (comprising financial market risk and the risk of unexpected changes in the rate of the growth of wages), political risk, institutional risk and individual risk (uncertainty as to the future work career). It seems that private mandatory and voluntary fully funded schemes are equally subject to financial market risk and institutional risk which can be described as a risk of failure of the private financial institution managing the plan. However, the difference may occur when considering the political risk. The reduction of the role of the second pillar in Poland in 2014 and its liquidation in Hungary in 2010 was a manifestation of this kind of risk. It seems that the savings accumulated in the second pillar are likely to be more exposed to this kind of risk than in voluntary schemes.

As indicated in the study by the European Parliament (2014) behavioural risk can also be distinguished. This is related to the financial illiteracy of an individual and manifests in a tendency to incur excessive trading costs, to under-diversify the portfolio or to fail to adjust the risk profile. It can also be regarded as a tendency to save too little as a result of postponing saving until the future. Although generally the second and the third pillar are believed to be a sufficient means to overcome the common behavioural biases which

affect long-term savings, there could be some exceptions. The greater the level of choice there is in a voluntary plan, the more it is exposed to such risk. Especially in personal plans, which typically are less regulated in terms of the amounts of contributions and the frequency of payments, behavioural biases may occur. In the voluntary schemes where an individual is allowed to manage her or his own pension plan and to choose the saving vehicle, for example in the form of brokerage account (as in the case of Polish pension plans), there is a greater risk of negative returns.

Tax wedge and economic activity rates

As noted by Antolin and Whitehouse (2009), contributions to the mandatory pension plans are often perceived as a tax, which may discourage people from working. It can also be a disincentive to staying in the formal sector. Mandatory contributions to the pension system are part of the explicit labour costs, and may be seen, both by employers and employees, as a component of a (social security) tax wedge. Cigno (2006) provides a review of the empirical studies that proves the negative effect of pension contributions on either employment or labour participation. Voluntary pension contributions do not seem to be subject to such concerns. However, the question can be posed if there are any implications of increased labour cost on the employer's side in plans where the employers are forced by law to provide occupational pension plans for employees? This question has not been addressed in the existing literature so far. As presented by OECD (2014) with the example of New Zealand and the United Kingdom, the employers bore the substantial costs of the automatic enrolment system in these countries.

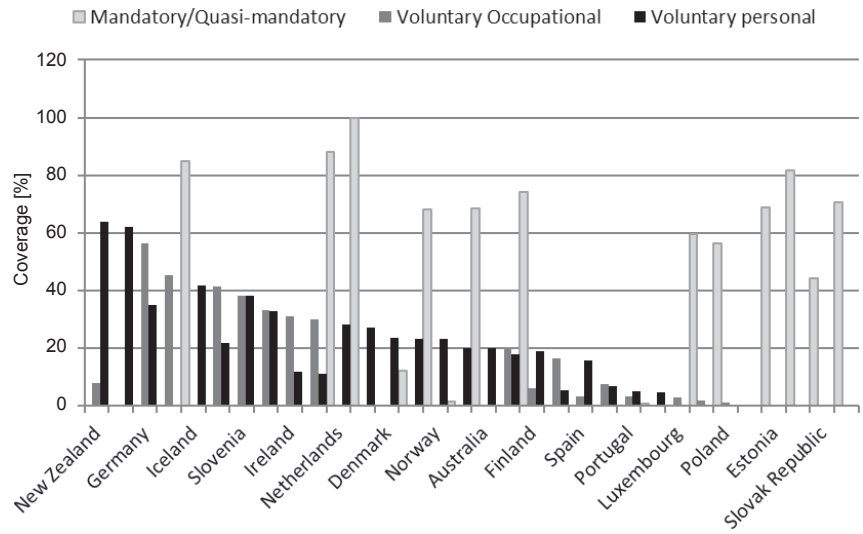
It is also ambiguous whether the perception of pension contributions is related to the nature of the contribution, i.e. whether it is paid to the unfunded pension scheme or to the funded scheme. Disney (2004) provides some empirical evidence in this matter. He finds that after breaking down public pension contributions into a tax component and a savings component, the tax component of the payroll contribution reduces economic activity rates among women while the saving component increases them. The effect for men is less conclusive. The likely positive impact on the economic activity rates of the mandatory funded pension plans can be seen as an advantage of the second pillar over the first pillar. However, there is no empirical evidence on the positive impact of the third pillar on the labour market.

The role of private mandatory and voluntary pensions in the OECD countries

This section presents an overview of private mandatory and voluntary pension schemes in the OECD countries in terms of their significance. First, the coverage expressed as the percent of the working age population is considered. As shown in Figure 1, the highest coverage of voluntary personal plans is reported for New Zealand and the Czech Republic, whereas Germany and Belgium have the highest coverage of occupational plans.

The coverage can be perceived as a derivative of the design of a pension system and the specific regulations implemented. The high coverage rates of voluntary schemes practically do not occur in the pension systems where the mandatory funded schemes are implemented. Generally, it can be concluded that the third pillar very rarely is a complement to the second pillar, they rather tend to be substitutes.

Figure 1. Coverage of private pension schemes by type of plan, 2011

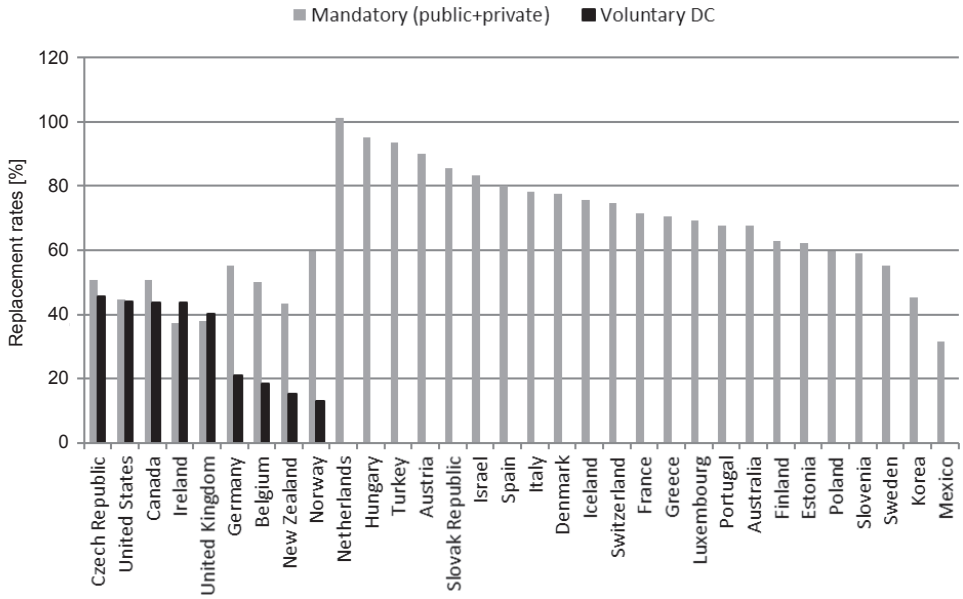


Source: OECD (2013).

The analysis of the modelled replacement rates from the voluntary and mandatory (public and private) schemes also provides some interesting findings. Figure 2 presents the OECD estimates of the replacement rates modelled under certain assumptions[3]. They are determined for 20-year-old people, single, earning the average wage, entering the labour market in 2012 and continuing their careers without interruption, until retirement age as stipulated by law in each country. The calculations are adjusted to the rules characteristic for pension system in each country at the moment the model was created (assuming the rules are constant over time) and relate to the expected pension benefits from both the public and from private pension plans, including those quasi-mandatory, only if they cover at least 85% of the working population. The separate replacement rates from the voluntary plans are modelled for the countries where voluntary pension schemes have substantial coverage (between 40%–65%).

[3] These assumptions refer also to the economic parameters such as price inflation, wage growth, rate of return, etc. For details see OECD (2013).

Figure 2. Modelled net pension replacement rates from public, mandatory private and voluntary private pension schemes



Source: OECD (2013).

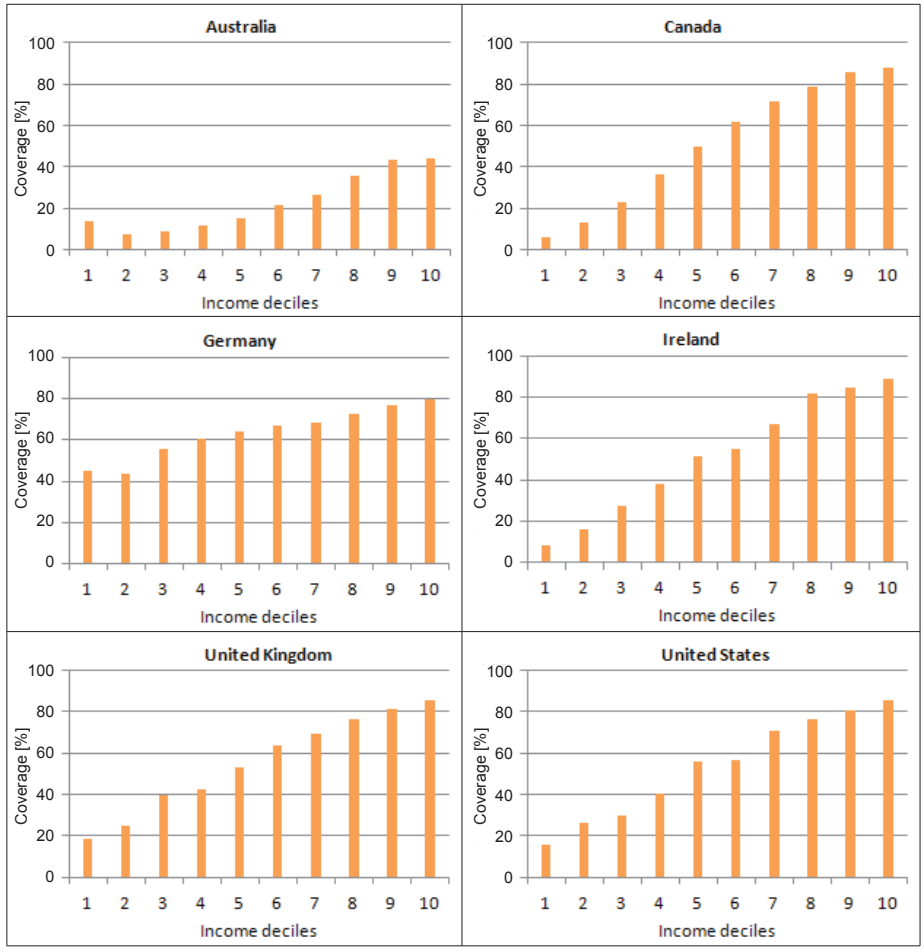
As shown in Figure 2, in the countries where replacement rates provided by the mandatory system are higher the voluntary schemes are not popular. Voluntary savings are a substantial supplement of pension provision only to those less generous public pensions. However, the majority of the OECD countries do have a formally set third pillar within their pension systems (for a review see for example Yermo 2002). The low coverage rates of the voluntary schemes may arise from the greater generosity of public pensions, but also from other factors, such as the lack of sufficient incentives, complicated regulations or the lack of financial education in terms of the need for savings.

Figure 3 presents the coverage of voluntary pension plans by income deciles in selected OECD countries, where the coverage of voluntary plans is substantial. Except for Germany, the distributions display a quite common pattern. The participants and future beneficiaries of the third pillar are mainly persons with high incomes. The higher the income the greater involvement in the voluntary pension schemes in terms of coverage.

As presented in Figure 4, there are some countries where the projected income adequacy of pension benefits is about equal for high income earners (earning 1.5 of the average wage) and for low income earners (earning 0.5 of the average wage). This group consists of the Netherlands, Turkey, Hungary, Austria, Slovakia, Spain, Portugal, Finland, Sweden, Poland and Germany. Except for Germany these countries have not developed a third pillar of a significant importance. If they were to develop a third pillar with substantial participation only in high income groups, this pillar could contribute to greater income

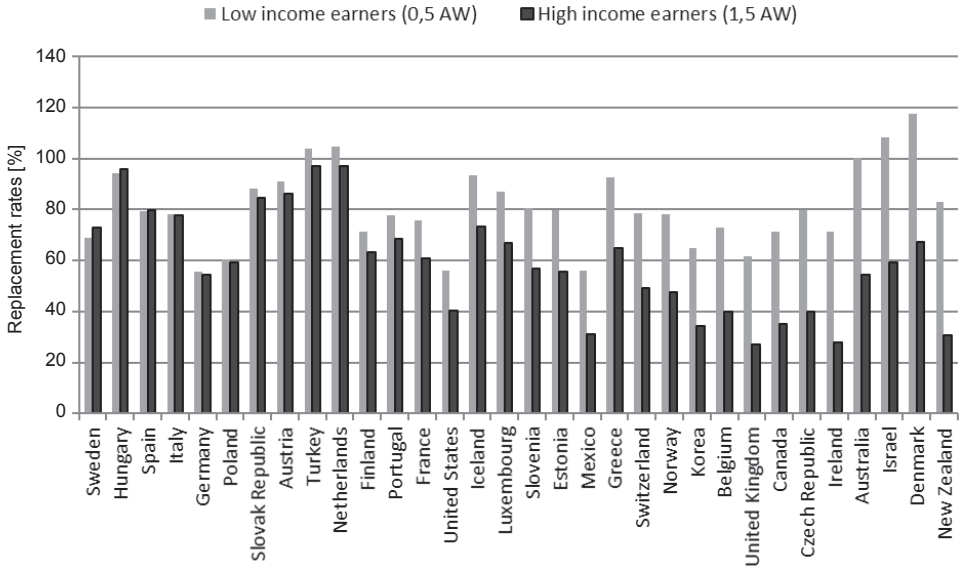
inequalities in the old age generation. In the rest of the countries, there is a sharp inequality between high and low income earners in terms of projected pension adequacy. The differences between those two income groups determine the potential for consumption smoothing for high income earners. In many countries low-income earners have projected replacement rates at a relatively high level of around 80% or even higher. The relatively low replacement rates for the high income groups reflect the progressive pattern of the pension provision from the mandatory schemes. In order to smooth their consumption, the high income earners need to save more for the retirement. And as shown in the Figure 3, they indeed are more involved in the third pillar.

Figure 3. Coverage of voluntary private pension plans by income deciles



Source: OECD (2011).

Figure 4. Modelled net pension replacement rates from public and mandatory private pension schemes for low and high income earners



Source: OECD (2013).

Conclusion

This study is focused on the analysis two opposite concepts: voluntariness versus compulsion in a pension system, or more specifically in funded pension schemes. Some comparisons have been made between the second and the third pillar in terms of their features and macroeconomic effects. Compared to funded mandatory schemes, voluntary pension schemes do not tend to increase national savings and under certain circumstances may foster income inequalities in old age. One may also conclude that where the second pillar is more exposed to political risk, in the third pillar — depending on the regulations implemented — behavioural risk can play a greater role. The greater advantage of the third pillar over the second pillar is the lack of negative impact on the tax wedge.

As presented using the data collected by the OECD the second pillar and the third pillar very rarely coexist in pension systems as complements in terms of coverage and replacement rates. The analysis of differences in the modelled replacement rates between high and low income groups and across countries can also shed some light on the phenomenon of their unequal involvement in the third pillar. The voluntary schemes play an important role only in countries where mandatory schemes (private and public) are less generous. Additionally, these are only countries with substantially less adequate benefits for high income groups than for low income groups from the mandatory system. Therefore, the need for consumption smoothing can possibly explain the extensive involvement of the more affluent in the third pillar. The question arises whether they should be a target

group for the third pillar which is financially supported by the state or save rather outside the pension system.

The conducted study has its limitations which arise from the discrepancy between the WB (2005) and OECD (2011) definitions of the third pillar. When analysing the OECD dataset one should bear in mind that in the presented estimates the voluntary pension plans with near-universal coverage (above 85%) are classified as quasi-mandatory. Another issue that may influence the interpretation of the empirical results is the OECD division of occupational pension plans into mandatory and voluntary ones from the employer's perspective.

The paper supports the view that voluntary pension plans can serve only as a tool for consumption smoothing, not for poverty alleviation. Thus, it cannot be perceived as a means of ensuring the adequacy of a pension system, equivalent or alternative to the mandatory schemes. Many studies show that only in the countries where quasi-mandatory solutions, such as automatic enrolment, are implemented, the coverage of voluntary schemes is significant (see for example OECD 2014). However, such instruments, similar to the passive choice mechanism or hindered withdrawal of assets from voluntary plans, cause that the voluntary schemes imitate the mandatory ones and this, in turn, undermines the idea of voluntariness.

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Streszczenie

Tematyka artykułu dotyczy roli dobrowolnych planów emerytalnych w zestawieniu z obowiązkowym systemem. Przedstawione w pierwszej części rozważania dotyczą porównania różnych typologii wielofilarowych systemów emerytalnych dokonanego pod kątem miejsca i roli dobrowolności. Ponadto dyskusji poddano zasadność polityki zmierzającej do zwiększenia dobrowolnych oszczędności emerytalnych poprzez porównanie makroekonomicznych efektów funkcjonowania drugiego i trzeciego filaru systemu emerytalnego. Przedstawione wnioski uzupełnia analiza danych dotyczących upowszechnienia dobrowolnych planów emerytalnych oraz stóp zastąpienia w krajach OECD.

Słowa kluczowe: system emerytalny, filary, dobrowolne plany emerytalne

Cytowanie

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