The Polish Pension System

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Abstract Since the early twentieth century, Poland has had a Bismarckian pension system characterized by pension contributions, pension funds and equivalent pension provisions. After World War II, this system was modified by the introduction of many redistributive mechanisms. After the political and economic transformation in 1989, the need for pension reform arose, and 10 years later systemic pension reform was conducted. The most important changes included the new pension DC formula, the introduction of funding in the public pension system (open pension funds) and the implementation of occupational pension schemes. However, wide coverage (inclusion of most working careers) and a minimum pension remained unchanged and contributed to the mitigation of old-age poverty. The reform was aimed at financial sustainability, especially at the cost of the pension level. In the following years, the system has been modified by the reduction of funding in the public pension tier and the development of voluntary or quasi-voluntary pension savings. However, the pension system in Poland, where the population is aging rapidly, has to face some important challenges, such as a decrease in replacement rates from the public pension system, expansion of future poverty among older (female) beneficiaries and insufficient additional nonpublic pension savings.

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1 Demographics and Pension

1.1 Situation of the Aging Population

The demographic situation of Poland has changed over the last several dozen years. Since the 1960s, the share of the population aged 65 and more as well as the old-age dependency ratio has increased approximately three times, and in 2020 it amounted to 18.2% and 27.5%, respectively (Fig. 1). However, according to the demographic projections, the aging process is predicted to accelerate dramatically in the coming decades: in 2060, the older generations (65+) will constitute approximately one-third of the whole population, and Poland will have two persons of working age for every person aged 65 and over.

The aging process has resulted both from increasing life expectancy and consistently low levels of fertility over recent decades. In 1950, the average life expectancy in Poland was 56.1 for men and 61.7 for women. Seventy years later (2019), it increased to 74.1 years of age for men and 81.8 for women (Statistics Poland, 2019) and is estimated at 82.1 for men and 87.5 for women in 2050 (Statistics Poland, 2014).

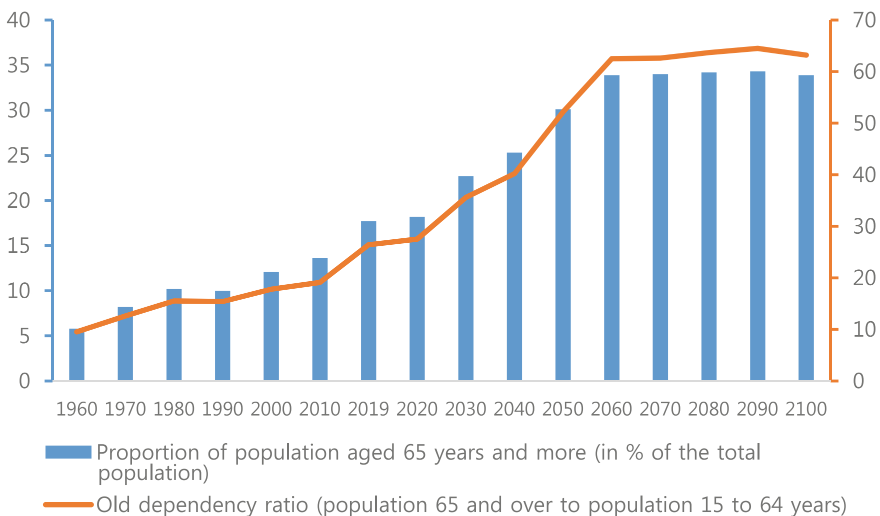

Fig. 1 Aging trends and future estimates in Poland. *Source* Eurostat database, accessed 28 August 2020

1.2 Cost of Living and Pensions for the Elderly

The public pension makes up the most important source of income for older people in Poland. This is especially the case for the one-person and two-person households of old-age pensioners (Table 1). The remaining 10% of the income was from hired work and other income, especially donations from private persons (Statistics Poland, 2020c, p. 77). This can be an indication that occupational and individual pensions do not contribute to the income of older people in Poland and that voluntary redistribution (probably within the family) toward the elderly generation takes place. The absence of income from nonpublic pension systems is due to the lack of such systems until the 1990s and their slow development after 1990.

The other issue is that the so-called "old pension system," i.e., the public system before the systemic pension reform in 1999 delivered a relatively high individual pension. The average replacement rate amounted to approximately 55–60% (see also point 3.5.1 of this chapter). Older people, who belong to the nonproductive generation and receive a public pension from the old pension system, still make up a significant part of the pension beneficiaries. It also resulted in the relatively low poverty rates of older people in Poland in comparison to the poverty rate for the whole society regardless of the poverty threshold (Table 2).

Furthermore, the inequality of income distribution (measured by the Gini coefficient) among older people has been much lower than for the whole society (Table 3). Consequently, the income of older people, which is currently mostly delivered by the (old) public pension system, flattens the income differences from the working period.

Table 1 Ratio of public pension to total available income in old-age pensioners' Households* in 2018

Number of persons in the households					
One-person (%)	Two-persons (%)	Three persons (%)	Four persons (%)	Five persons (%)	Six persons (%)
90	89	68	59	54	45

* These are households whose main source of maintenance is an old-age pension
Source Authors' own based on Statistics Poland (2020b, pp. 109–114)

Table 2 (Income) poverty rates of older people in 2016–2019

	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
	Poverty rate according to the existence minimum				Relative poverty rate*				Poverty rate according to the poverty threshold for the social assistance				Social exclusion rate of old-age pensioners' households			
Total	4.9	4.3	5.4	4.2	13.9	13.4	14.2	13	12.7	10.7	10.9	9	39.9	38.7	41.2	39.4
65 or more	3.4	3.6	4.1	3.8	10.3	11	11.5	11.8	7	6.4	6.6	6.5	34.8	36.6	37.7	36.2

* Poverty line accounts for 50% of the average household's expenditure

Source Statistics Poland (2020a), Aneks do opracowania sygnalnego "Zasięg ubóstwa ekonomicznego w Polsce w 2019 r.", pp. 5, 9

Table 3 Gini coefficient* for old-age pensioners' households in 2003, 2011 and 2018

	2003	2010	2018
Total	0.343	0.342	0.299
Old-age pensioners	0.252	0.249	0.222

* Coefficient is calculated based on available income per capita in a household. Value zero is attributed to households with minus incomes

Source Statistics Poland (2020c): Household budget survey in 2019, Warsaw, p. 337

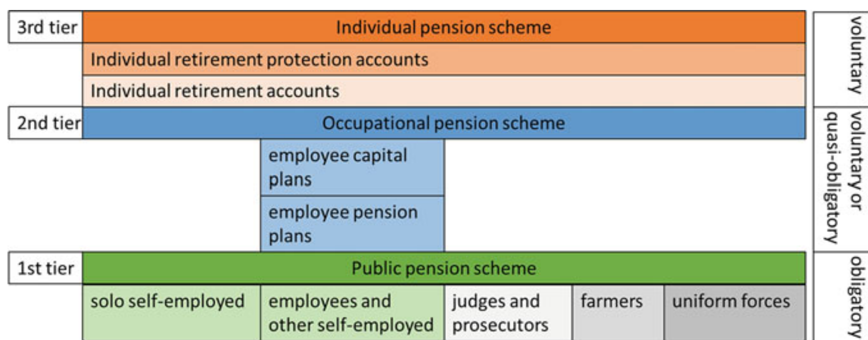

Fig. 2 Overview of the pension system in Poland. *Source* Authors' own

2 Framework of the Pension System in Poland

The Polish pension system consists of three tiers[1]: the first is the public pension, the second includes voluntary employee pension plans and quasi-obligatory employee capital plans, and the third tier comprises voluntary individual pensions (Fig. 2).

The public pension scheme covers four different subsystems for: (1) employees and self-employed, (2) judges and prosecutors, (3) farmers, and (4) uniform forces. The first one is organized as pension insurance and managed by the Social Insurance Institution (*Zakład Ubezpieczeń Społecznych*, ZUS). It is meant for the most nonagricultural society: all employees (apart from prosecutors) and self-employed as well as different groups of earners are covered by this system. It is financed by the pension insurance contribution and state subsidy. The amount of an individual pension depends on the individual pension capital and the average life expectancy at the moment of retirement. The pension system for judges and prosecutors covers those two occupational groups only. It is financed directly from the budget (Ministry

[1] We use the term "tier" instead of "pillar." The logical explanation is that one tier lies on another and the whole constitutes the pension income. In the case of pillars they bear the pension "construction" simultaneously and if one or two are missing the whole pension "construction" breaks down. Furthermore, the word "pillar" is used to explain the public pension for the self-employed and employees.

of Justice), and the individual pension amount depends on the period of service and salaries for judges or prosecutors. Farmers are included in the separate pension system run by the separate Agricultural Social Insurance Fund (*Kasa Rolniczego Ubezpieczenia Społecznego*, KRUS), which is financed both by social insurance contributions and state subsidies. The pension provision is related to the years of service. The pension provision for uniform forces is financed directly from the budget (Ministry of National Defense, Ministry of Interior and Administration), and its level depends on the years of service and salaries in the appropriate uniform occupational group.

Occupational pension schemes consist of two parts: voluntary employee pension plans (*Pracownicze Programy Emerytalne*, PPE) set in 1999 and quasi-obligatory employee capital plans (*Pracownicze Plany Kapitałowe*, PPK) introduced in 2019. A PPE can be offered in one of four forms: (a) employee pension fund run by labor pension societies, (b) investment fund managed by the investment fund companies, (c) group life insurance with an insurance capital fund, and (d) foreign management. PPEs are addressed to employees and their entrepreneurs operated as persons. A quasi-obligatory PPK can be managed by one of the following three financial institutions: (a) investment funds managed by the investment fund companies, (b) pension funds managed by general pension societies or labor pension societies, and (c) life insurance institutions. The PPK pension "product" is strictly determined by appropriate regulations and dedicated to employees. Furthermore, the quasi-obligatory PPK will have been implemented—from July 2019 until the end of 2021—gradually and according to the number of employees in a company (beginning with the largest) and business sector (beginning with the private one).

Individual pension schemes include individual retirement accounts (*Indywidualne Konta Emerytalne*, IKE) introduced in 2004 and individual retirement protection accounts (*Indywidualne Konta Zabezpieczenia Emerytalnego*, IKZE), which have been offered since 2012. Both IKE and IKZE are offered by the following five financial institutions: (1) life insurance companies, (2) investment fund companies, (3) brokerage houses, (4) banks, and (5) pension societies. Everybody is entitled to buy one IKE or IKZE, and the main difference between the two is the tax regime, contribution ceiling, and the minimum age required for obtaining pension capital.

As mentioned in point 1.2, the most important source of income in old age is the old-age pension from the first tier. In 2019, almost seven million older people received this kind of benefit (Table 4): 83% of them from the social insurance pension system, the following 13% from the farmers' system, and 4% from the uniform pension system. The income from the second and third tiers did not play any role and amounted to less than 1% of the total income of older people in 2016 (OECD, 2019, p. 185). One of the explanations is that occupational and individual pension products have been offered since the late 1990s only, and there have been only a few pension payments thus far. Furthermore, voluntary pension savings are not popular in Polish society for many reasons (see Rutecka-Góra (2019) and Point 4 of this chapter).

Table 4 Number of insured people and beneficiaries of old-age pension in different tiers of the pension system in Poland in 2019 (in 1,000 Persons)

	Number of insured people	Number of beneficiaries of old-age pension
First tier	**17 314.8**	**6980.3**
Social insurance pension system	16 115.5	5798
Judges and prosecutors	n.d	3.8*
Uniform forces	n.d	294.6
Farmers	1199.3	883.9
Second tier	**942**	**n.d**
Employee pension plans	613	
Employee capital plans	329	
Third tier	**1606**	**n.d**
Individual retirement accounts	951	
Individual retirement protection account	655	

* Data for 2015

n.d.—no data

Source Authors' own based on The Social Insurance Institution (2016, p. 159 and 2020, p. 7), The Agricultural Social Insurance (2020, p. 28), The Polish Financial Supervision Authority (2020d), Statistics Poland (2020c, p. 18; s. 37, 41, 45)

3 Public Pension Program

3.1 Overview of the System

As the pension insurance system is the most important from both the coverage point of view and its role in total income in old age, we will concentrate on it in the following sections concerning the public pension system.

Until 1918, Poland was split into three partitions: the Prussian, the Russian, and the Austrian, so there were three different regulations concerning old-age security. In 1889, in the Prussian partition, old-age social insurance was implemented (for blue-collar workers only and in 1912 for white-collar workers). In the Russian partition, some groups of blue-collar workers were covered by old-age security from 1912, and in the Austrian partition, in 1906 old-age security for white-collar workers was introduced. On Poland's regaining political independence in 1918, regulations common for the whole state were passed gradually. In 1920, a law concerning sickness insurance was passed; in 1923, social security for civil servants and military forces was established; and in 1924, unemployment insurance was introduced. In 1934 (using an Ordinance of the President of the Republic of Poland of 24 October 1934 on the amendment of the Act of 28 March 1933 on social insurance), the ZUS was established. It was responsible for sickness, disability, old age, survivors, and

work accident social insurance, while military forces and civil servants were covered by separate systems. After World War II, the ZUS was rebuilt. However, due to the nationalization of the economy and monopolization of the insurance market, occupational and individual pension plans were removed. The pension system relied on a public scheme characterized by wide coverage (resulting from the full employment paradigm), a highly redistributive DB formula financed solely by employers (on the total amount of paid remuneration and unified contribution for different social risks) and operating on a pay-as-you-go (PAYG) basis—it was a mix of Bismarckian and Beveridgian features (Żukowski, 1994). Starting from the mid-1970s, many different special regulations for various groups were introduced within the social insurance system, and the information asymmetry became considerable. Initially, the privileges were aimed at compensating for severe working conditions. Then, in the 1980s, they were more of a political tool to mitigate frustration resulting from day-to-day economic problems. After the political and economic collapse of the communistic system, disability and old-age pensions were used to reduce rising unemployment; as a result, the costs of pension benefits increased dramatically. It was one of the reasons for the pension reform (see Chłoń et al., 1999; Chłoń-Domińczak, 2002; Chłoń-Domińczak & Góra, 2006). There were at least three options proposed for the pension reform, although the time span/period of each of them was approximated. The first option, whose proponent was the Minister of Labor and Social Policy at the time, was aimed at stabilizing the income position of pensioners. The second option, which was delivered by the Minister of Finance, pointed out the reduction of pension costs, especially state subsidies. Both Ministers were in conflict, and it was difficult to find a common proposal for future pension reform. To solve this problem, the Government Plenipotentiary for Social Insurance Reform was constituted, who, as deputy prime minister, was beyond the mentioned conflict. His team supported the third option for the reform, which was targeted at the secondary goals of the pension system, especially financial sustainability based on the financial market. The Office of the Government Plenipotentiary for Social Insurance Reform prepared the official proposal "Security Through Diversity: Reform of the Pension System in Poland, 1997," which was inspired by the recommendations made by the World Bank in *Averting the Old Age Crisis* (1994). Poland belongs to the Central and Eastern European countries, which (following Hungary) introduced on 1 January 1999 the paradigmatic (systemic)[2] pension reform, which was funded by an obligatory system. The main principles and goals declared were (Hausner, 2002): sustainability of the pension system, security for all generations, protection of acquired rights, individual prudence, security through multisegment structure, transparency of the pension system and pension formula, freedom of choice, development of the financial market and GDP growth and support for voluntary pension savings.

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[2] The paradigmatic pension reform, unlike the parametric one, means "a deep change in the fundamentals of pension provision typically caused by the introduction of a mandatory funded pension pillar, along with a seriously reformed PAYG pillar and the expansion of opportunities for voluntary retirement savings" (Holzmann et al., 2003, pp. 8–9).

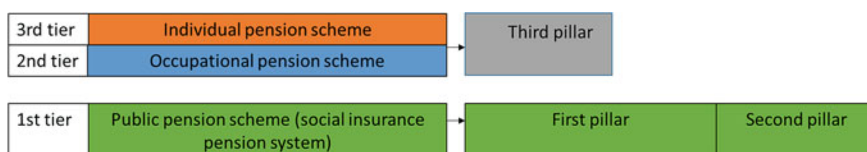

Fig. 3 Design of the pension reform 1999. *Source* Authors' own

The Polish pension system was split into obligatory and voluntary parts. The obligatory part covered the first tier and consisted of two components called pillars. The voluntary part included both occupational and individual pension systems and was called the third pillar of the pension system (Fig. 3).

3.2 Structure

The Pension Reform was introduced to ensure security through diversity. This diversity was reflected in the differentiation of both obligatory pillars (Table 5). The first one was the old-pension fund distinguished from the social security fund (FUS), which has been run by the ZUS since 1933. The administration of the first pillar is a public and monopolistic one and is supervised by the Ministry of Labor, Family and Social Policy. In the second pillar, new private financial subjects—Open Pension Funds (OPFs) managed by private pension fund companies—were introduced. They operate under private law, and competition between them is assumed. The second pillar is funded, so it is supervised by the Polish Financial Supervision Authority (KNF). The whole pension contribution (made up of 19.52% of the contribution base) is paid half by an employer, and an employee was initially split between both pillars as approximately two-thirds into the first and one-third into the second pillar. The most important change was the implementation of the defined contribution pension formula instead of the former defined benefit pension formula.

Table 5 Design of the public pension scheme (social insurance pension system) in 1999

1. Pillar	2. Pillar
Obligatory	
19.52%	
12.22%	7.3%
Individual pension account	Individual pension account
DC pension formula	
Old-age pension fund managed by a state organisational unit the polish social insurance institution (ZUS)	Open pension funds (OFE) privately managed by pension fund companies (PTE)

Source Authors' own

The new pension system started on 1 January 1999. The pension law was passed in two steps. The acts that introduced the most attractive part of the new pension system, that is, “private pension, a luxury good, for everybody” as it was called in the pension public campaign, were passed in 1997. The act that put the new pension formula into practice, namely, the DC instead of the DB one, and the new regulation for the first pension pillar was passed in autumn 1998. Because of that, the OFEs started on 1 April 1999. It was assumed that the first pension provisions from the second pillar would be paid in 10 years, i.e., 2009.

Some questions were left unanswered. There was no agreement on how to pay out pension from the second pillar, especially who should do it (there were new private companies assumed) and what kind of pension products should be offered. The political actors also decided to postpone the abolition of early pensions until 2002 entirely and gave quite a vague promise to reform special pension systems for some occupational groups. It was a result of sustaining separate pension schemes for farmers instead of including this group in the common social insurance pension system.

The pension system has been modified since 1999. The first step was to limit early pensions. It was quite risky because of the political costs, so consecutive governments postponed this decision many times. Eventually, in 2008, the law on bridging pensions, e.g., pensions for employees working in severe conditions, was passed. The new law resulted in the restriction of occupations allowing the taking of early pensions and made employees cover the costs of those pensions. Other changes concerned two topics: OFE and minimum retirement age.

Poland was one of the few EU members whose financial crisis of 2007 did not hit too much. However, although there was real GDP growth, significantly higher than the EU average, the government deficit debt increased by 5.4% points in the years 2007–2010 and the government debt by approximately 9% points in the same period. The crisis contributed to the initiation of the discussion concerning transition costs from the old into the new pension system, the deficit in the first pillar financed by PAYG and the financial implications of a relatively high contribution rate into the second pillar (which obviously reduced the income from contributions into the PAYG part of the pension system). As other post-communist countries introduced changes concerning obligatory pension funds, such as suspension of contributions to the pension fund (Estonia), reduction of the contribution rate to pension funds (Bulgaria, Latvia, Lithuania), or even shutdown of obligatory pension funds in practice (Hungary), Poland followed them and introduced a reduction of the contribution rate into the second pillar. As a result, a so-called subaccount in the first pillar was introduced, and the additional contribution rate of 5% ran from now on into this account, and the contribution rate to an OFE was reduced adequately down to 2.3%. It was assumed that the contribution rate to an OFE would be increased up to 3.5% since 2017 and that the contribution rate to the subaccount would be adequately diminished. Such a step allowed incomes to be raised from pension contributions in the first PAYG financed pillar. The differences between the individual account and individual subaccount are as follows: (1) the subaccount should imitate the funded pillar, so the valorization of contributions was set as nominal GDP growth from the

last five years; (2) hypothetical pension capital on the subaccount can be split in case of the liquidation of the matrimonial property and (3) hypothetical pension capital can be inherited in the case of the insured person's death. Therefore, from 2011, the insured person had three obligatory pension accounts: an individual account and an individual subaccount in the first pillar, and an individual account in the second pillar.

However, in August 2014, OFEs became voluntary. Every insured person could decide about splitting or not splitting their pension contributions between the first PAYG financed pillar and the second funded pillar. Such a decision could be made during the so-called "transfer windows." The first one took four months from April until July 2014, and the second took place in 2016. Every person who wanted to remain in OFE had to declare it, which meant there was an "opt-in" option that had to be used. Because many people were confused and the "transfer window" ended during the summer holiday, many of them did not take any action, which resulted in the "passive" decision to run their pension contribution from August 2014 to the first PAYG pillar only. It should be emphasized that the public campaign was very much one-sided and negative toward OFE. In 1999, pension funds were introduced as the best solution ever, while in 2014 they were presented as the weakest and most mistaken part of the obligatory pension system.

The reform of 2014 included more steps. One of them was the introduction of the so-called "security" slide. The pension capital in the second pillar has to be transferred during the last 10 years before reaching the minimum retirement age into the subaccount in the first pillar. The transfer starts earlier for women than for men because the minimum retirement age for women is five years lower. The argument for the "security" slide was the investment risk, which will be assumed to be too high for those shortly before retirement. It was decided that pension capital would be safer than notional pension capital in the first pillar, especially because the valorization in the subaccount could not be negative. The other step undertaken on 3 February 2014 was the redeeming of T-bills and state bonds. As of 1999, the investment strategies of the OFEs were restricted: T-bills and state bonds were the only investment instruments that were not limited. As in 2003, the ZUS debt toward OFEs was repaid by the state with state bonds and the state instruments were quite interest-bearing and low-risk in comparison to the other investment instruments, and the share of T-bills and state bonds in the OFE portfolio was relatively high, even up to 70% in some periods. It was treated by the government as rolling-up debt and used in 2013 as an argument to withhold T-bills and state bonds from the OFE portfolio first and forbid investments in those securities. The withholding of T-bills and state bonds was conducted by redeeming T-bills and state bonds by the state in an amount of 51.5% of assets, i.e., approximately 153 billion Polish zloty (PLN) at the beginning of February 2014. The percentage of 51.5% was the average share of those securities in the investment portfolio of all OFEs. The redeeming meant that the pension capital reflected by 51.5% was taken as a notional pension capital in the subaccounts in the first pillar, and the T-bills and state bonds were written off. Redeeming of T-bills and state bonds was accompanied by a change in investment regulations for OFEs. As before 2014, no share limit for T-bills and state bonds was

set, since 3 February OFEs have not been allowed to invest in those securities at all. They were obliged to put at least 75% of assets into the companies listed on the regular market in 2014 instead. This obligatory share decreased and amounted to 55% in 2015, 35% in 2016, and 15% at the end of 2017. The argument for such a step was to maintain the positive influence of OFE investments on the capital market, especially the Warsaw Stock Exchange (WSE). At the end of 2016, OFEs made up approximately 10% of the capitalization of the WSE and 20% of the capitalization of domestic companies listed on the WSE. Due to the prohibition of investments in T-bills and state bonds, OFEs became quite risky pension funds. At the same time, the mechanism of the minimum return rate was removed, and the contribution fee was reduced.

As a result of the conducted reforms, the social insurance pension system has been restricted step by step to the public PAYG-financed first pillar at the cost of the funded second pillar. However, the scope of the public pension system has not been changed—the total contribution rate has remained at the same level (Table 6).

The government plans to terminate the OFE. The pension capital kept in OFEs should be either transferred to the individual retirement account (IKE), which is a default option, or to the individual account in the first pillar on the future pensioner request. IKEs are part of the individual pension tier, but transferring the OFE-pension capital to an IKE will result in a reduction of the pension capital by 15% (the transfer fee). Transfer to the individual account in the public first pillar means no possibility of inheritance in the case of death.

The second stream of changes in the Polish pension system focused on the minimum retirement age, which is different for women (60) and men (65). It has to be stressed that since the middle of the 1990s, some attempts to equalize the retirement age of women and men have been taken. This issue also arose during

Table 6 Design of public pension scheme (social insurance pension system) in January 2021

1. Pillar		2. Pillar
Obligatory		Voluntary
19.52%		
12.22%	4.38% or	2.92% or
12.22%	7,3%	0%
Individual pension account	Individual pension sub-account	Individual pension account
DC pension formula		No pension payments; pension capital transferred to the pension sub-account in the 1. pillar (“security” slide)
Old-age pension fund managed by a state organizational unit the polish social insurance institution (ZUS)		Open pension funds (OFE) privately managed by pension fund companies (PTE)

Source Authors’ own

the preparation of the paradigmatic pension reform once again—a common retirement age at 62 was proposed (*Office of the Government Plenipotentiary for Social Security Reform*, 1997, p. 7), but both trade unions and women, especially those working in severe conditions, were against it. In 2003, in the "Green Book—Rationalization of Social Costs" (MGPiPS, 2003, s. 44) raising the female retirement age to 65 in the years 2010–2019, six months annually, was recommended and subsequently rejected. Moreover, in 2007, the Ombudsman put forward a motion to the Constitutional Tribunal in which he appealed against the difference in retirement age of men and women. The Ombudsman justified the motion by claiming that the new pension system was discriminating against women (K 63/07). In 2012, a new law on increasing and equalizing the minimum retirement age of women and men was passed. From 2013, the minimum retirement age had to be increased by one month every quarter up to 67 years in 2040 for women and 67 years in 2020 for men. The process started, but both the SLD (Democratic Left Alliance) and PiS (Law and Justice) were against it and declared to make a complaint to the Constitutional Tribunal and even cancel the process of raising the retirement age if they won the earlier election. It actually happened as Andrzej Duda, the president supported by PiS, won the election and fulfilled the promise—the reform was canceled in October 2017 and the return to the retirement ages of 60/65 took place.

3.3 Coverage

The coverage of the obligatory old-age pension is very wide and includes employees, except for public prosecutors, members of agricultural production cooperatives, contractors (persons employed under a mandatory contract or agency contract or another contract for the provision of services), persons running a nonagricultural business activity, members of the clergy, members of Parliament receiving remuneration, recipients of unemployment benefits, persons on child-care leave or receiving maternity allowance or benefits at the rate of the maternity allowance, and members of supervisory boards. There is also a possibility of voluntary participation in the social insurance pension system: this option was opened for the whole society in 2013 (before it was limited to a few groups). However, it is quite rarely used. As of 31 December 2020, there have been 15.8 million persons insured, and only approximately 0.03% are those subject to voluntary pension insurance.

In the pension reform of 1999, age was the criterion for distinguishing people covered by the new pension regulation (Table 7). The older people were excluded from the new pension system to avoid rapid changes before retirement. Everybody, below the age of 50 on the 1 January 1999 was obligatorily involved in the new pension system. However, those up to the age of 30 had to split their contribution between the first and second pillars, and those who were between 30 and 50 were not obliged to do so. They could target the whole pension contribution into the first pillar. The insured persons belonging to this group were given one year to make their

Table 7 Coverage of the new pension system of 1999

Coverage	1. Pillar	2. Pillar
Born after 31 December 1968	Obligatory	
Born after 31 December 1948 but before 1 January 1969	Obligatory	Voluntary
Born before 1 January 1948	Not covered	Not covered
Special schemes for (1) farmers, (2) selected civil servants, (3) judges and prosecutors, (4) special rules for miners		

Source Authors' own

decision. In the pension reform documents, it was assumed that approximately 50% of those aged 30–50 would choose both the first and second pillars. In fact, it was over 80%, which resulted in higher transition costs from the old to the new pension system.

3.4 OFEs

Open pension funds (OFEs) were set as a result of the 1999 pension reform. They are private pension funds run by pension societies (*Powszechne Towarzystwo Emerytalne*, PTE), which operate as joint-stock companies. One PTE is allowed to manage only one OFE. The money itself as well as financial transactions are held by one of the custodian banks (*Bank Depozytariusz*). Custodian banks are obliged to report any violation of the law or charter to the Polish Financial Supervision Authority (KNF) and may be responsible for more than one OFE at the same time. The division of the OFE and PTE is aimed at the security of OFE members' capital in the case of the bankruptcy of a PTE. An OFE itself is not allowed to collapse; it can only merge with or be taken over by another OFE. The insured person can choose one of the OFEs and has the right to change it at any time, so each OFE has to compete against the others for contributions. However, the insured person has no direct influence on the investment strategy of the chosen OFE or the level of its fees, which determine the level of his or her individual pension capital. For security reasons, an OFE investment strategy has been strictly regulated. Until 2014, there were no investment limits for treasury bills and bonds only, which resulted in a relatively high share of those instruments in OFE portfolios. The latter was called "rolling the public debt" by the Minister of Finance at the time, as in his opinion, treasury bills and bonds were mostly issued to cover the deficit in the first PAYG pension pillar. As a result, the redeeming of bonds held by the OFEs took place in 2014, and since then OFEs have not been allowed to invest in the treasury bills and bonds and have been obliged to put a given share of assets into listed stocks (Fig. 4).

Furthermore, to control the investment risk in the (until 2014) obligatory part of the social insurance pension system, the minimum return rate has been implemented. However, its calculation weighted the larger OFEs in favor of smaller ones and did

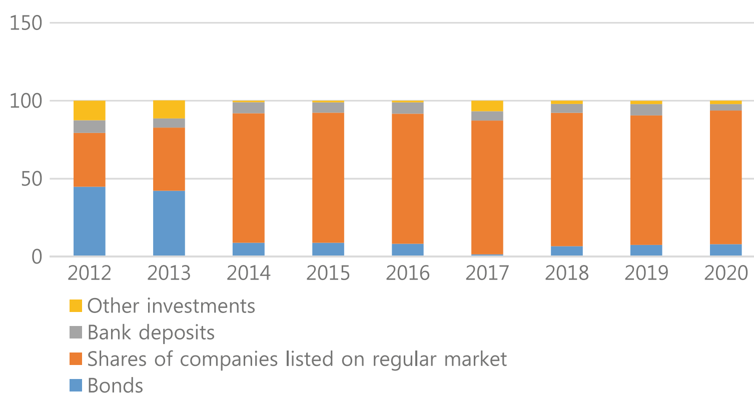

Fig. 4 Investment strategy of OFEs in 2012–2020. *Source* Authors' own based on data published by the Polish Financial Supervision Authority

not refer to possible performance in the financial market at that time, which was the reason for subsequent modifications. The high concentration on the OFE market has been a feature from the very beginning (Table 8), and OFEs have been important actors in the financial market (Fig. 5). Another issue was the level of fees collected by PTE (management fee, contribution fee, and transition fee): at the very beginning, the contribution fee was not limited.

Table 8 OFE market at the end of 2020

OFE	Market share according to the number of members (%)	Market share according to the amount of assets (%)
Nationale-Nederlanden OFE	18.8	26.1
Aviva OFE Aviva Santander	15.9	21.8
OFE PZU "Złota Jesień"	15.1	13.7
AEGON OFE	11.3	8.7
MetLife OFE	9.7	7.7
AXA OFE	7.1	6.4
Allianz Polska OFE	6.6	4.6
Generali OFE	6.2	4.9
PKO BP Bankowy OFE	5.8	4.4
OFE Pocztylion	3.6	1.8

* Dane liczbowe dotyczą członków OFE zgodnie z zapisami w Centralnym Rejestrze Członków OFE w ZUS

* Data concerns number of OFEs' members according to Central Register of OFEs' members in social insurance institution (ZUS).

Source Authors' own based on data published by the Polish Financial Supervision Authority

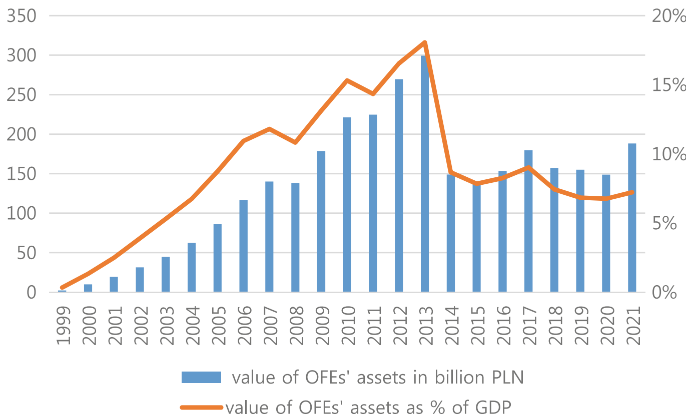

Fig. 5 Value of OFE assets in 1999–2021. *Source* Authors' own based on data published by the Polish Financial Supervision Authority

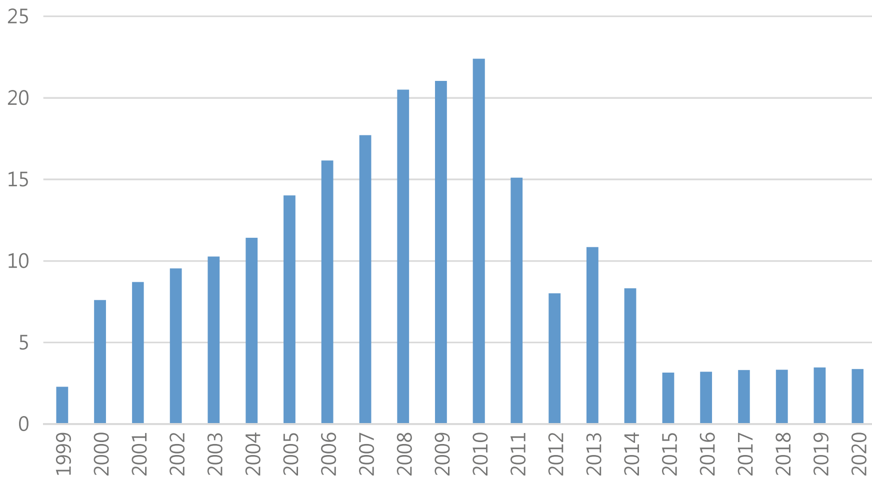

Fig. 6 Contributions and interests transferred to OFEs in years 1999–2020 (in Billion Zloty). *Source* Authors' own compilation based on data published by the Polish Financial Supervision Authority

It changed only some years later (especially in 2004, 2009 and 2014). It has to be stressed that the contribution to the second pillar (Fig. 6) is treated as part of the (pension) public contribution, although some regulations (a division of pension capital in case of divorce or separation and inheritance of pension capital at the accumulation stage) were aimed to mimic the private pension capital.

3.5 *Public Pension Benefits*

3.5.1 Old-Age Pension Benefits

Although the introduction of OFEs was announced as the main and most important part of the pension reform, there was another crucial issue that influenced the situation of a single future pensioner to a much greater extent, namely, the change in the pension formula. The new pension formula was a DC one (instead of DB), which means that the pension provision depends on the pension capital directly and is inversely proportional to the further life expectancy at the moment of retirement, which is unisex (and results in the redistribution toward women). For those who were covered by the pension system before the reform, so-called initial capital (hypothetical pension from the old pension system) was calculated. There was a debate concerning separate and unisex tables of life expectancy, but the latter ones were finally chosen because of the obligatory nature of both pillars.

$$P = \frac{K}{\mathrm{LE}}$$

where:

P pension provision (monthly)

K individual capital from the individual account in the first pillar and individual subaccount in the first pillar (plus initial capital for some insured), indexed annually

LE further life expectancy in months at the moment of retirement, unisex; according to tables published by the Central Statistical Office.

There is a minimum pension in the social insurance system: the government fills in the difference between the minimum pension level and the individual pension provision. However, the requirements for obtaining pension provision itself and minimum pension are different. As for becoming eligible for an individual pension, only the achievement of the minimum retirement, different for women (60) and men (65), is necessary; having the right to a minimum pension requires a vesting period (required insurance period) of 25 years for men and 20 for women. The vesting period consists of contributory periods and noncontributory periods, but the latter are counted up to one-third of contributory periods. Furthermore, persons voluntarily insured during a period of more than 10 years are not eligible for a minimum pension.

As mentioned above, there is a possibility for individual subaccounts in the first pillar and individual accounts in the second pillar of splitting the pension capital in the case of the liquidation of the matrimonial property and inheritance in the case of death of the insured person. In the case of separation or divorce, the pension capital acquired during the common property is split *pari passu* between wife and husband. In case of the death, the spouse obligatorily inherits 50% of the pension capital of the deceased, and the remaining 50% can be transferred to the persons named by the deceased (it can also be the spouse).

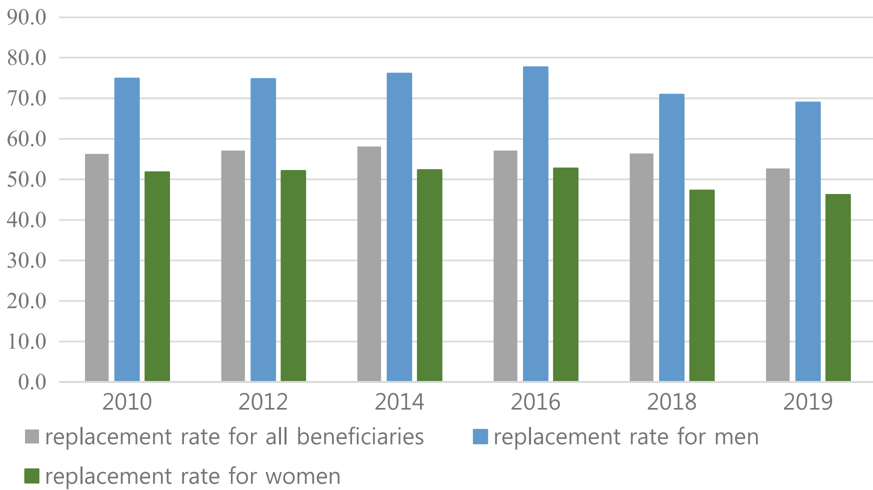

Fig. 7 Replacement rate of the insurance pension system in Poland. *Source* The Social Insurance Institution, statistical database

The replacement rate from the insurance pension system (calculated as the average pension provision in relation to the average monthly wage/salary reduced by obligatory social insurance contributions paid by the insured) has been reduced and is much lower for women than for men (Fig. 7).

A decline in the replacement rate is related to the increase in the number of pensions calculated according to the new DC pension formula, which have been paid since 2009. The strictly equivalent DC pension formula contributes to the relatively higher pension provision for men and lower pension provision for women. The latter have not only weaker working biographies but also a five-year lower minimum retirement age. As a result, the gender pension gap (calculated as the relation of difference between median men's and women's pension provisions in relation to the median men's pension provision) has increased up to 38% in the new pension system (in comparison to the 28% in the old pension system) in 2018 (Fig. 8). This can lead to the rising importance of survivor benefits for older female beneficiaries of pensions, as the derived pension rights of the deceased may occur much higher than the individual pension.

3.5.2 Disability Pension Benefits

The disability pension of persons who have reached the normal retirement age is replaced *ex officio* with the social insurance pension. The disability pension is calculated according to the old DB formula, which depends on (1) the so-called social amount (24% of the average wage in the economy deducted by the social insurance contributions), (2) the number of contributory and noncontributory periods and (3)

Fig. 8 Pension provision from the old and new pension systems by gender and the gender pension gap. *Source* The Social Insurance Institution, statistical database, authors' calculation

individual earnings during the foregoing working careers. The amount of disability pension provision is lower in the case of partial incapacity for work (75% of the calculated full disability benefit). For persons with long working biographies and relatively low earnings, the option to become unable to work and obtain the disability pension benefit, which will be automatically converted into an old-age pension, could be seen as an attractive opportunity.

3.5.3 Survivor Pension Benefits

Acquiring a survivor pension by the widow or widower requires meeting one of the following conditions: (1) at the time of death of the spouse was over 50 or was incapable of work; (2) brings up at least one of the children, grandchildren or siblings who are entitled to the survivors' pension after the deceased spouse and are under 16 or 18 years old (if they are in education)[3]; or (3) takes care of a child who is totally incapable of work and independent existence or who is totally incapable of work and entitled to the survivors' pension. The derived pension is paid out as one total provision for all eligible persons, e.g., the spouse, children, or grandchildren. If there is only one family member entitled to the survivor pension, the benefit amounts

[3] The condition (1) and (2) can be reached within five years after the death of his/her spouse or since he/she stopped raising legitimate children.

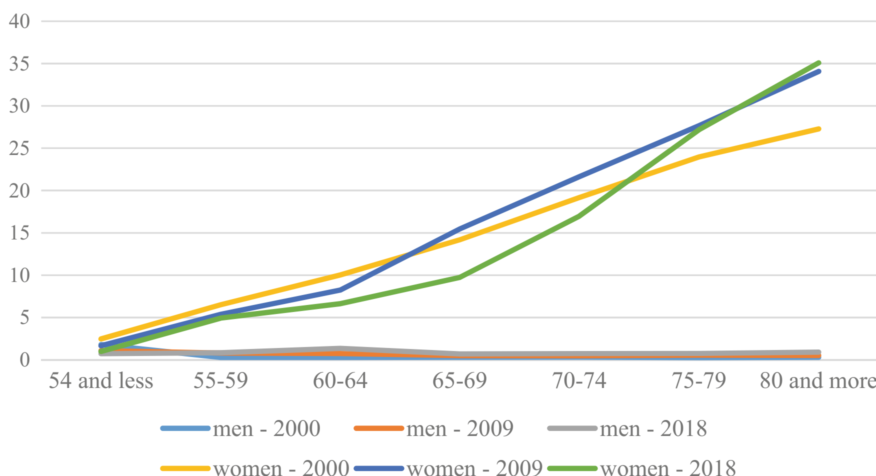

Fig. 9 Beneficiaries of survivor pension by gender and age (in % of the Group in a Given Age). *Source* The Social Insurance Institution, statistical database, authors' calculation

to 85% of the benefit that the deceased would be entitled to. It has to be stressed that a spouse who has obtained the survivor pension and has the right to receive the individual old-age pension has to choose one of the provisions. Because of the aforementioned gender pension gap, older women often choose the derived pension instead of individual old-age provisions—approximately 35% of women at the age of 80 and above and only 1% of men at the same age receive the survivor pension (Fig. 9).

3.6 Finance of Public Pensions

3.6.1 Overview

Old-age pensions are mostly financed by the pension contribution, which amounts to 19.52% of the contribution base. The contribution base covers all: remuneration, overtime payment, holiday pay and indirect compensation. It is paid half by the employee and the employer (apart from self-employed) up to the contribution ceiling, which amounts to 30-fold of the projected average monthly wage/salary in the national economy for a given calendar year. As mentioned above, the pension contribution is split: (1) between individual account and individual subaccount in the first pillar or—in the case the insured person has declared to join the second pillar—(2) between individual account and individual subaccount in the first pillar and individual account in the second pillar. The first pillar is a PAYG one, and the second pillar is funded.

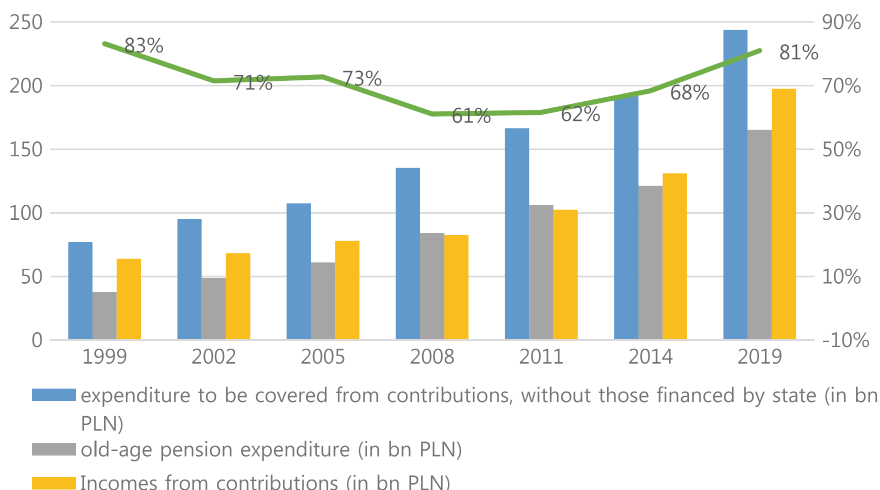

Fig. 10 Finances of social insurance fund (FUS) in the Years 1999–2019. *Source* The Social Insurance Institution, statistical database, authors' calculation

The pension contribution is part of the social contribution in Poland collected by the ZUS. The latter consists of the contributions for pension insurance, disability insurance, sickness insurance and work accident insurance. There are also separate funds: pension fund (which is the first pillar of the insurance pension system), disability fund, sickness fund and work accident fund, which are components of the Social Insurance Fund (FUS), whose financial resources are administered by the ZUS. Theoretically, every fund should be financially independent, but in practice the surplus in one fund is used to cover the deficit in another fund. The whole social contribution is collected by the ZUS; then, it is split between separate funds. If there is any deficit in the FUS, it has to be financed by state subsidies.

It must be emphasized that the changes in the social insurance pension system, which have been aimed at the limitation of the funded pillar, led to improvement of the financial situation of the FUS (Fig. 10) (see: Bielawska et al., 2015).

3.6.2 Indexation

Two issues are subject to adjustment: (1) the pension capital collected during working life and (2) the pension provision paid out during the retirement period.

Old-age pension contributions are indexed differently according to the pillar and type of pension account. The individual pension account in the PAYG first pillar is indexed by the rate depending on the increase in the total contribution basis. The individual pension subaccount in the PAYG first pillar (which is a result of cutting the contribution rate to the funded second pillar) is adjusted by the rate of GDP growth in the previous five years. The indexation in the first pillar cannot be negative

and takes place annually on 1 June. The pension contributions in the funded second pillar are invested in the capital market, and their value depends on the investment performance.

The pension provision is valorized by the index of an average annual price index of consumer goods and services for the preceding calendar year increased by at least 20% of the real growth of the average monthly remuneration in the preceding calendar year. However, in some years, flat-rate valorization took place, which favored the beneficiaries of the lowest pension provisions. The pension adjustment is carried out annually from 1 March.

3.7 Social Security Agreement and Pensions

Poland belongs to the European Union, which means that social security systems are coordinated[4] and social protection is provided for people moving and working in another country (such as EU27, Iceland, Liechtenstein, Norway, Switzerland, and to some extent the United Kingdom[5]). It is based on four fundamental principles: (1) unity of applicable legislation, (2) equal treatment and no discrimination, (3) aggregation of periods, and (4) exportability. The first means that one may be covered by the legislation of one country at a time and pay (pension) contributions in one country. This country, according to the given rules, is appointed by social security institutions. The second principle of the coordination of social security systems means that one has the same rights and obligations as the nationals of the country where he or she is insured. No direct and indirect discrimination is allowed. The third principle allows us to add all periods of insurance, work or residence to satisfy the requirements (e.g., minimum waiting period) under national law to be entitled to a certain benefit. The fourth rule allows retention of acquired rights in another member state or EFTA state or Switzerland.

Furthermore, Poland has 10 bilateral agreements on social security, covering 13 countries and related to the acquisition and calculation of invalidity and old-age pensions.

[4] However, not harmonized, because member states are granted exclusive competencies in the area of social security systems, including first tier of the pension system.

[5] Social security coordination no longer applies to and in the UK as of 1 January 2021, unless the rights of persons are covered by the Withdrawal Agreement.

4 Private Pension Programs

4.1 Occupational Pensions

4.1.1 Development and Reorganization of Occupational Pensions

Occupational pensions[6] in Poland are treated as the 2nd tier of the pension system. The Polish occupational pensions consist of two separate programs:

- the Employee Pension Plans (*Pracownicze Programy Emerytalne,* PPEs), introduced in 1999, and
- the Employee Capital Plans (*Pracownicze Plany Kapitałowe,* PPKs) set up in 2018.

As a principle, the Polish second tier is voluntary. However, it appears to be a necessity. The assumptions of the pension reform of 1999 indicated that a retiring person would receive a benefit in the amount of approximately 50–60% of the last salary from the obligatory first tier. Current estimates mention even lower payouts. Hence, to maintain an adequately decent standard of living in retirement, it is necessary to take care of their retirement through the second and third tiers. That is why, already at the stage of reforming the pension system, voluntary pension programs were proposed, which were to provide an additional pension. The first solution in this regard was PPEs, which became available from the very beginning of the new pension system, i.e., from 1999. Unfortunately, only the largest employers took advantage of the possibility of creating PPEs. After a few years of their operation, approximately 1,000 such programs were created, covering approximately one million employees. At that time, legislators focused on creating more individualized solutions, independent of the will of employers (see next paragraph). However, these individual pension programs did not mean that a significant part of working Poles has an optional retirement pension. Therefore, in 2018, PPKs, which are quasi-obligatory (default option), were launched. PPKs were being introduced gradually, i.e., from July 2019 until the beginning of 2021 (according to the size and sector of the entity).

Both programs are funded. The pension program can be run by the employer (in the case of a PPE) or managed by private institutions such as banks, investment companies, insurance companies or brokerage houses.

The defined contribution (DC) pension formula is implemented in both corporate plans.

4.1.2 Employee Pension Plans

The PPE is a voluntary form of collective saving for an old-age pension, organized by the employer in cooperation with employees. The basic contribution is financed by

[6] We use the term “occupational pension” instead of “corporate pension.”.

the employer, and the employee may declare the payment of additional contribution, which is withheld from remuneration.

Contributions are calculated and paid by the employer to the selected financial institution that collects and manages these funds. The PPE itself is only an agreement (a set of agreements) defining the mutual obligations of the employer and employees in connection with the employer's running of the scheme. Legal regulations precisely define the principles of creating and operating programs. Detailed regulations on the conditions of participation in the program, contained in the Act on PPEs, are intended to protect the interests of program participants. Throughout the entire period of operation of the employee pension scheme, it is subject to the supervision of the Polish Financial Supervision Authority (KNF). In particular, the supervisory authority checks whether the conditions for participation in the program are in accordance with the law and guarantees the protection of the interests of fraudsters under the PPE. The proper implementation of the program by the employer is also supervised. In the event of obtaining information justifying the suspicion of irregularities in the functioning of the program, the KNF is entitled to demand from the employer or the managing entity any information, documents and explanations related thereto.

When creating a PPE, the employer transfers to and on behalf of employees two types of contributions: a basic (up to 7% of each employee's remuneration—up to this limit it is exempted from the ZUS contribution—coming from the employer's funds) and an additional sum (in the amount voluntarily declared by the given employee, derived from his/her net salary). A brief profile of the premiums is presented in Table 9.

Table 9 Basic versus additional contributions to PPEs

Basic contribution	Additional contribution
Financed by the employer	Financed by the participant from his remuneration
Up to 7% of the employee's remuneration	The participant may change the amount of the contribution or resign from paying it
The value of the contribution is not included in the remuneration constituting the basis for determining compulsory social security contributions	Deducted from the remuneration after its taxation
The amount of the contribution is specified in the company agreement	The participant declares him/herself and determines the amount of the contribution from his remuneration
The amount of the contribution is determined – as a percentage of the participant's remuneration or – in the same amount for all participants or – as a percentage of the remuneration, specifying the maximum amount	The sum of additional contributions paid by the participant up to one PPE during the year cannot exceed 450% of the forecasted average wage in the national economy (23,665.50 zloty in 2021)

Source Authors' own based on the Act of 20 April 2004 on employee pension programs

There are four forms of PPEs based on the criterion of the institution running the program:

- employee pension fund,
- an agreement with an investment fund,
- group life insurance agreement with a capital fund,
- foreign management.

The program may be run by the employer independently (company program) or jointly with other employers who have decided to implement it on the same terms (intercompany program). Therefore, a PPE is not a financial institution—funds under the program go to already existing financial institutions operating according to their own rules, such as an insurance company or investment fund, or are managed by a foreign manager. The exception is the PFE, which is an entity created specifically for the accumulation of funds from PPEs, usually created jointly for several programs. A PFE is managed by the Employee Pension Society established solely for this purpose—similar to the OFE and the PTE that manage them. In this case, we are dealing with a financial institution established specifically to handle PPEs.

The PPE created in the form of group life insurance includes, apart from the investment element, also a protection element. In accordance with the law, at least 85% of the basic contribution (but not more than 99%) is invested in insurance capital funds to secure the employee's pension. The remaining part of the basic contribution (1–15%) is intended to cover the costs of insurance coverage for all participants (employees) of the employer that established the employee pension plan.

The funds collected under the program are the property of the participant and may be disbursed after obtaining retirement rights, transferred to another PPE or an individual retirement account (IKE), or, in special cases, may be returned to the participant. The provisions of the law, although allowing in some cases payment before reaching retirement rights, are aimed at ensuring long-term savings so that the accumulated funds are used for retirement purposes. The payout may be, depending on the participant's or beneficiary's request, made once[7] or in installments. The basic rules for withdrawing funds can be found in Table 10.

At the end of 2019, there were 1,907 PPEs, including (The Polish Financial Supervision Authority, 2020a):

- 590 in the form of a contract with an insurance company (31%),
- 1,290 in the form of a contract with an investment fund (68%),
- 27 with the occupational/employee pension fund (1%).

At the end of 2019, 612,900 people participated in PPEs: 16% in insurance companies, 79% in investment funds and 5% in PFEs, which accounted for 3.7% of the total number of employees. In 2019, employers who ran PPEs paid 1,830.7 million zloty[8] of basic contributions (19% to insurance companies, 75% to investment funds and 6% to PFEs), while the voluntary contributions of PPE participants amounted to

[7] One-off payments generally do not meet the pension objective, however are available.

[8] As of 4 January 2021, 1 US$ = 3.7 zloty; 1 zloty = 0.27 US$.

Table 10 Payouts in PPEs

Savings accumulated in the program may be subject to	Premises
Payment to the participant or beneficiaries	• At the participant's request: upon reaching the age of 60 or upon presentation of the decision on granting the right to retirement pension and reaching the age of 55 • Automatically: after the participant turns 70 if the participant has not applied for the payment of funds earlier (unless the participant is still an employee of the employer running the program) • At the request of the entitled person—in the event of the participant's death
Transfer payment-transfer to another PPE or an individual retirement account (IKE)	• At the participant's request, the accumulated funds are transferred to another PPE in which the given person participates or to IKE • In the event of the participant's death, at the request of the authorized person, the collected funds may be transferred to this person's IKE
In a special case to be returned to the participant	In the event of liquidation of the employee program, if there are no grounds for the payment or transfer or if there are grounds for a transfer payment, but the PPE participant did not indicate the account number to which it can be made within the specified deadline

Source Authors' own based on the Act of 20 April 2004 on employee pension programs

65.1 million zloty (10% to insurance companies, 84% to investment funds and 6% to PFEs). In total, contributions transferred to PPEs (from 1999 to 2019) amounted to 16.8 billion zloty (27.5% to insurance companies, 56.8% to investment funds and 15.7% to PFEs). The average annual basic contribution per PPE participant in 2019 was 2,987 zloty, while the average annual additional contribution was 106 zloty. At the end of 2019, the value of assets accumulated in PPEs was 14.5 billion zloty (22% in insurance companies, 65% in investment funds and 13% in PFEs), and it has increased by 12% compared to the previous year (The Polish Financial Supervision Authority, 2020a).

4.1.3 Employee Capital Plans

The PPKs are regulated by the Act of 4 October 2018 on employee capital plans. It is a voluntary (default option) savings program for retirement. Voluntary for employees, but obligatory for employers—in principle, each company is obliged to introduce PPK by selecting a financial institution to run the program. From 1 January 2021, PPKs will automatically cover all employees between 18 and 54 years of age, for

Table 11 When companies have to create PPK

Employment volume	Implementation of PPK	Deadline to conclude a PPK management agreement	Deadline to conclude a PPK agreement
Companies employing at least 250 people (as of 31 December 2018)	From 1 July 2019	25 October 2019	12 November 2019
Companies employing at least 50 people (as of 30 June 2019)	From 1 January 2020	27 October 2020	10 November 2020
Employing at least 20 people (as of 31 December 2019)	From 1 July 2020	27 October 2020	10 November 2020
Other employing entities and units of the public finance sector	From 1 January 2021	26 March 2021	10 April 2021

Source Authors' own based on the Act of 4 October 2018 on employee capital plans

whom the employer pays pension contributions. The program will not cover self-employed persons, uniformed service employees and farmers. Employees between 55 and 69 years of age will be able to participate in PPKs based on a declaration of intent. Supervision over the PPK is exercised by the Polish Financial Supervision Authority, taking into account compliance with the law and the interests of PPK participants.

The introduction date of PPKs depended on the number of employees in the company. From 1 July 2019, this program started with the largest companies (with more than 250 employees), and then gradually smaller entities were entailed to create PPKs (see Table 11).

Similar to PPEs, the PPK itself is only an agreement (sets of agreements) defining the mutual obligations of the employer and employees in connection with the employer's running of the scheme. Contributions are calculated and paid by the employer (partly from its funds and partly from the employee's salary) to the selected financial institution that collects and manages these funds. Thus, again, a PPK is not a financial institution—funds under the program go to already existing financial institutions operating according to their own rules.

The PPKs constitute a compulsory package of employee benefits. The employer is obliged to select an institution running a PPK and to create a PPK for its employees.

There are two kinds of contributions: basic (compulsory) and additional (voluntary) and they are paid both by the employee and the employer (for details, see Table 12). In addition, a PPK participant may receive a special subsidy financed from the Labor Fund.

In the case of a PPK participant whose remuneration is less than 120% of the minimum wage/salary (even from various sources), a reduced contribution is also possible (based on his/her request)—from 0.5 to 2% of the gross remuneration.

Table 12 The amount of contributions transferred to the account of a PPK participant

	Contribution from the employee's gross remuneration, to be paid by	
	The employer (%)	The employee (%)
Basic compulsory contribution	1.5	2
Additional voluntary contribution	Up to 2.5	Up to 2

Source Authors' own based on the Act of 4 October 2018 on employee capital plans

Each PPK participant receives a welcome payment of 250 zloty. In addition, a PPK participant will receive an annual subsidy of 240 zloty if the amount of paid basic and additional contributions is equal to the amount of basic contributions due to six minimum wages/salaries. When a basic contribution of a PPK participant is reduced to 0.5%, he/she is entitled to an annual subsidy if the amount of basic and additional payments in a given year is equal to 25% of the basic payments due to six minimum wages/salaries.

These payments are not included in the remuneration, which is the basis for assessing the amount of pension contributions. However, they may be classified as deductible costs.

Financial institutions that may offer management of funds collected under the PPK are only:

- investment funds,
- general pension societies,
- employee pension societies,
- life insurance companies.

Each institution that undertakes to operate the PPK is required to establish a minimum of five defined-date funds. Each investment portfolio should be designed in a way ensuring that the investment risk decreases with the progressive age of a PPK member.

The funds accumulated on the accounts of PPK participants are invested in investment funds that differentiate the level of risk depending on the age of the participant, i.e., funds of a defined date. Each participating employee is automatically assigned to the fund depending on his/her date of birth. A PPK participant invests with one fund throughout collecting funds, and this fund, as the participant approaches the age of 60, is obliged to adjust the investment policy in such a way as to ensure the proper security of the funds entrusted.

Age-based funds consist of two parts:

- Share part—refers to assets invested in equity instruments, such as shares, subscription rights or units of collective investment institutions.
- Debt part—these are assets invested in debt instruments, i.e., bonds, treasury bills, mortgage bonds, certificates of deposit or other transferable securities.

The share of individual asset classes determines not only the security of the collected funds but also the potential for rates of return. Rules for investing funds in relation to the age of a PPK participant (Table 13).

The limit of the total costs of managing a PPK account by the financial institution may not exceed 0.6% of the assets accumulated on it: up to 0.5% of the fund's net assets value for the management and a performance bonus of a maximum of 0.1% of the value of collected assets. In practice, each financial institution proposes different fees for management depending on the age-based funds. As of 15 February 2021, the lowest fee is 0.16% (TFI Allianz Polska S.A.—fund 2025), and the highest value is 0.47% (Esaliens TFI S.A.—fund 2060). The average of different funds for a single institution varies between 0.29 and 0.43%, and the average for companies is 0.35% (Moje PPK, 2021).

Accumulated funds are owned by a PPK participant. Funds may be disbursed to a PPK participant:

- upon reaching the age of 60 years by the participant,
- before the participant has reached the age of 60 years.

A PPK participant who has reached 60 years of age will not incur additional costs if he/she makes a one-off withdrawal of 25% of the accumulated funds and withdraws the remaining 75% in at least 120 monthly installments. It is also possible to withdraw funds in the form of a matrimonial benefit—if both persons are over 60 years old and have PPK accounts in the same institution. PPK funds may also be transferred to a term bank deposit if there is a payment in installments for at least 120 months.

A PPK participant who is under 60 years old will be able to withdraw his/her funds:

- in the case of a serious illness (including malignant tumor, stroke, myocardial infarction, encephalitis, atrophic lateral sclerosis, Alzheimer's disease, Parkinson's disease) of the PPK participant, his/her spouse or child; this is a nonrefundable payment of up to 25% of the funds accumulated in the PPK account;
- for own contribution (in connection with taking out a mortgage loan) in case of building or rebuilding a home/house—for persons under 45 years of age; it is

Table 13 Rules for investing funds in relation to the age of a PPK participant

Employment volume	Equity part (%)	Debt part (%)
From the creation of the fund up to 20 years before the age of 60	60–80	20–40
20 years before the age of 60	40–70	30–60
10 years before the age of 60	25–50	50–75
5 years before the age of 60	10–30	70–90
Reaching the age of 60	Max. 15	Min. 85

Source Authors' own based on the Act of 4 October 2018 on employee capital plans

a withdrawal of up to 100% of the accumulated capital with the obligation to return it; however, the return may not start later than five years from the date of withdrawal and may not last longer than 15 years from the date of withdrawal.

Pension capital withdrawal before the age of 60 will result in the loss of 30% of contributions paid by the employer (they will be transferred to the ZUS) and all subsidies from the government. The PPK participant will also be obliged to pay income tax on capital gains (currently, the tax rate is 19%).

Before reaching the age of 60, the PPK member may at any time transfer funds to another PPK, to an IKE or to a PPE—his/her own or one belonging to an entitled person.

When a PPK member turns 60 and starts to withdraw funds, even if he/she continues to work, neither contributions nor subsidies from the government will be transferred to his/her account.

Due to the short history of PPKs, little statistical data are available on them. When introducing the PPK, the government counted on the participation of 75% of eligible employees in the program. We have already had three stages of implementing the PPKs. They have already been implemented in companies with up to 20 employees. The fourth stage remains—the smallest companies and public institutions. According to the data of the Polish Development Fund, as many as 77% of eligible persons have opted out of the PPK. Only 23% out of almost 7.4 million employees who have been entitled thus far have decided to stay in the program. The main reasons are the lack of trust in the state and receiving a lower salary. The smaller the company is, the smaller the percentage of people enrolled in the PPK (Szymczak, 2021):

- In companies employing over 250 people, it is 30.5%.
- From 50 to 249 employees—16.4%.
- In companies with 20–49 employees—9.7%.

As of 1 January 2021, there were 20 financial institutions offering PPKs, including:

- 1 insurance company (5%)
- 16 investment funds (80%)
- 3 general pension societies (15%).

At the end of 2020, the net value of assets accumulated in PPKs was 2.8 billion zloty (1% in insurance companies, 83% in investment funds and 16% in general pension societies) (The Polish Financial Supervision Authority, 2021c).

4.2 Personal Pensions

4.2.1 Personal Pension Cover Status

Personal pensions in Poland are treated as the third tier of the pension system. As we underlined earlier, this tier is also voluntary; however, it seems to be a necessity.

Even with public pensions and corporate pensions, there are many cases where the expected pension will probably not be sufficient for future retirees. In addition, we should mention that for many people, corporate pensions are not available, e.g., for the self-employed.

The Polish personal pensions consist of two separate programs:

- the Individual Retirement Accounts (*Indywidualne Konta Emerytalne,* IKEs), introduced in 2004, and
- the Individual Retirement Protection Accounts (*Indywidualne Konta Zabezpieczenia Emerytalnego,* IKZEs) set up in 2012.

After a few years of operation of the second tier, only in the form of the PPE, the need to create a form of individual pension security was noticed in Poland, as only a few percent of working Poles could be covered by PPEs. For this reason, the third tier (individual pension schemes) was introduced by establishing IKEs. Selected financial institutions were allowed to create such accounts and offer them to society. Several years later, simultaneous with some changes in the functioning of OFEs, the second form of personal pension was introduced, the IKZE. Both solutions are quite similar. The main difference is connected with tax issues and limits of contributions.

Both IKEs and IKZEs operate under the supervision of the Polish Financial Supervision Authority, taking into account compliance with the law and the interests of participants. The defined contribution (DC) pension formula is implemented in both individual plans.

Apart from IKEs and IKZEs, each individual can voluntarily arrange by himself/herself additional old-age insurance (e.g., unit-linked insurance) or any other way of securing savings for old age; however, it is not treated as a part of the formalized pension system.

4.2.2 Individual Retirement Accounts (IKEs)

An individual retirement account is a type of personal retirement plan, consisting of accumulating savings in five selected types of financial institutions (only and exclusively: investment funds, entities conducting brokerage activities, life insurance companies, banks and general pension societies[9]) and investing in them through this institution. The IKE can function as:

(1) A separate account in the register of investment fund participants.

Savers who decide to use this form of saving in an IKE have the option of saving in various investment funds (in the so-called family of investment funds) managed by the same investment fund company. In this case, the savers sign an IKE agreement with each fund. The sum of payments made during the year to these funds cannot exceed the annual limit of payments to IKE. Thanks to this solution, the saver is able to diversify the investment risk. Conversion of shares between funds managed by the

[9] From 1 January 2012.

same society is also exempt from capital gains tax. If such an operation is performed outside the IKE account, it is subject to taxation. Such a solution allows savers to change the investment policy of the funds they accumulate in line with changes in the financial market or their preferences, without prejudice to the capital accumulated thus far.

(2) A separate securities account and a cash account used for its servicing in the entity conducting brokerage activities.

If this form of saving is chosen in an IKE, savers can invest in securities admitted to public trading. Investments in derivative rights may only be aimed at reducing the investment risk. People who have accounts with entities conducting brokerage activities can accumulate savings in an IKE under existing agreements.

(3) A separate account in an insurance capital fund.

The payment to the IKE of the saver in the life insurance company is fully transferred to the insurance capital fund; therefore, the saver, together with the insurance company, has to define the insurance premium from which the costs of his/her insurance protection are covered. In addition, the IKE maintenance agreement specifies the rules on which the insurance company distinguishes from the paid premium the part intended for the IKE account in the insurance capital fund and what part of the premium is deducted for insurance purposes under the contract. If there is a desire to make a transfer payment to another financial institution of the funds accumulated in the fund(s) managed by the life insurance company, the parties to the life insurance contract under which the IKE was kept are able to continue the insurance cover on the terms specified therein. For people who currently have insurance contracts with a capital fund, the Act on IKEs and IKZEs provides an opportunity to accumulate savings in an IKE under existing contracts.

(4) A separate bank account at the bank.

An IKE can only be operated by domestic banks. The law guarantees the savers that if during the term of the bank account agreement, a transfer payment or return of funds accumulated in an IKE, interest is added to the previously accumulated capital in the IKE as if he/she was making a withdrawal. In this way, the situation in which the saver is deprived of interest for breaking the contract with the bank or the interest is underestimated, which could inhibit the saver from transferring funds to another financial institution if the saver was not satisfied with keeping the IKE in the bank, is avoided.

(5) Voluntary pension fund.

Since 2012, the choice of institutions maintaining IKEs has been extended to include a voluntary pension fund. It was created by a general pension society in accordance with the provisions of the Act of 28 August 1997, on the organization and operation of pension funds, and it operates on the same principles as the OFE in the first tier (second pillar) or the PFE (a form of PPE) in the second tier.

A person who is 16 years of age or older is entitled to make payments into an IKE. When depositing savings in IKEs, the consequences of such a step should be taken into account. First, the funds accumulated in IKEs cannot be freely disposed of. In general, if a person wishes to retain the right to exempt these resources from the capital gains tax, he/she must keep them in the pension system until retirement. Before this moment, the funds may only be transferred from the IKE account to another IKE account or the PPE. Of course, it is possible to terminate the IKE agreement, but then the due capital gains tax will be deducted from the funds paid out, i.e., 19% of the generated profits. Second, there is an annual limit of funds that can be paid in to an IKE, equal to 300% of the average wage in the national economy (in 2021, it is 15,777 zloty). Third, it is allowed to have only one active IKE at a time.

A person who decides to establish an IKE and after some time is not satisfied with the way the account is kept by a given financial institution can transfer the accumulated capital to another institution at any time.

The saver is also entitled to transfer the funds accumulated under the employee pension plan to an IKE in the event of resignation from further participation in the scheme and termination of work with the employer running the scheme or in the event of the scheme's liquidation. It is allowed for the saver to transfer a payment from an IKE to a PPE. This transfer of funds is also exempt from capital gains tax. On the other hand, financial institutions maintaining IKEs may charge the saver an additional fee for making a transfer payment if it takes place within 12 months from the date of signing the IKE agreement. Institutions are not required to charge this fee. If they decide to charge it, the amount of the fee is included in the IKE maintenance agreement.

In the event of a transfer payment to a life insurance company, the transferred funds are credited in full to the saver's account in the insurance capital fund. This means that the life insurance company cannot cover the costs of insurance protection or other costs related to the conduct of a life insurance contract with a capital fund from the funds transferred.

> At the time of deciding to transfer the accumulated capital to another financial institution, the saver – before making the transfer – should conclude an IKE agreement with the new institution and submit to the existing institution a confirmation of concluding a new agreement and submit a transfer order. In such a case, the institution that has thus far kept the IKE should send the collected funds within 14 days from the date of submission of the transfer order. The situation is similar in the case of transfers between an IKE and a PPE.

It is assumed that the individual retirement account is to be used to save for an additional retirement pension; therefore, tax relief is only available to persons who withdraw their savings only after the age of 60. Persons who are entitled to retire before the age of 60 can withdraw funds if they are 55 years old. In addition, to be eligible for exemption from the capital gains tax, it is required to make payments into an IKE in at least any five calendar years, or more than half of the value of payments to an IKE at least five years before the date of applying for payment by the unsuccessful.

The moment of withdrawal of funds accumulated in an IKE depends on the saver. The withdrawal is made at the saver's request and could be made as a single payment or in installments. There is no obligation to withdraw funds accumulated in an IKE within a specified period (e.g., after reaching the age of 70 or after retirement).

Before making a payment, the financial institution maintaining the IKE should notify the tax office that it is competent for the saver. If the saver is under the age of 60, he/she must also present to the financial institution the decision of the pension body to award the pension. After making the withdrawal, the saver cannot set up an IKE again because the tax exemption for accumulating savings in an IKE is only granted once!

When concluding an IKE agreement, the saver may indicate a person (or several people) to whom the funds will be paid after his/her death. Such an instruction can be changed at any time. On the other hand, if the saver does not designate such a person, the funds accumulated in an IKE go to the heirs, and in the case of an IKE maintained by life insurance companies, funds granted under the insurance contract are granted to the insured's immediate family in the order determined in the general terms and conditions of insurance.

The entitled person (designated person, heir, immediate family of the saver) may pay them out or transfer them to their IKE or the PPK. In both cases, these funds are exempt from both capital gains tax and inheritance and donation tax.

As of 31 December 2020, Individual Pension Accounts were maintained by 63 financial institutions, including (The Polish Financial Supervision Authority, 2021a):

- 15 life insurance companies (24%),
- 22 investment fund companies (35%),
- 7 entities conducting brokerage activities (11%),
- 14 banks (22%),
- 5 general pension societies (8%).

At the end of 2020, IKEs were held by 741,600 people—over 200,000 less than in the previous year (27.0% in life insurers, 53.0% in investment funds, 7.5% in entities conducting brokerage activities, 11.5% in banks and 1.0% in general pension societies), i.e., 4.5% of the working population. The total value of IKE accounts increased from 10.2 billion zloty in 2019 to 11.9 billion zloty in 2020 (24.6% in life insurers, 33.3% in investment funds, 20.4% in entities conducting brokerage activities, 20.7% in banks, and 1.0% in general pension societies). The average value of a single account was approximately 16,100 zloty (50% more than in 2019). In 2020, all savers paid 1,958.3 million zloty in contributions (15% more than in 2019), with 4,800 zloty as an average. The value of withdrawals was 369.5 million zloty (42% more than in 2019), with 18,900 as an average. Only 2.8% of withdrawals were in installments, and the rest was in single payments (The Polish Financial Supervision Authority, 2020b, 2020d, 2021a).

4.2.3 Individual Retirement Protection Accounts

As part of the third, voluntary pension tier, apart from the already known IKEs, IKZEs have been operating since 2012. IKZEs are in many respects similar to IKEs, but it is impossible to ignore the significant differences.

In the case of IKZEs, most of the provisions for IKEs apply. The basic difference mainly concerns tax preferences. Contributions to IKZE can be deducted from the tax base (but in the future pensioners will have to pay income tax—and it does not matter when funds are withdrawn, whether in retirement or before). In the case of an IKE, the issue of income tax does not arise.

Similar to IKEs, IKZEs can be operated by five types of financial institutions: banks, investment funds, brokerage houses, life insurance companies and voluntary pension funds. IKEs and IKZEs, by definition, operate in parallel. It is allowed to have only one IKE and only one IKZE in the financial institution of the saver's choice (it is possible to have an IKE and an IKZE in different institutions as well as to possess only one kind of those accounts or neither of them).

An IKZE may be opened by 16-year-old person who has income from an employment contract. In addition, payments to IKZEs may be deducted from the tax base by persons running a business.

Similar to an IKE, it is allowed to have only one active IKZE at a time. The annual limit of funds that can be sent to an IKZE equals 120% (180% in the case of self-employed) of the average wage in the national economy (in 2021 it is 6,310.80 zloty; 9,466.20 zloty for self-employed). Up to these limits, payments to an IKZE are exempt from personal income tax (they decrease the tax base) and capital gains tax. The funds accumulated in IKZEs cannot be totally freely disposed of. In general, if a person wishes to retain the right to the above tax preferences, he/she must keep them in an IKZE until the age of 65 years (both for women and men) and make payments for at least five calendar years. Before this moment, the funds may only be transferred to another IKZE account.

Of course, it is possible to terminate the IKZE agreement, but then the tax due to capital gains will be deducted from the funds paid out. In addition, the received amount will be added to other revenues and will be charged with personal income tax (according to a tax scale: 17, 19 or 32%).

When the saver reaches the age of 65 and on the condition that payments are made at least in five calendar years, he/she is entitled to receive back the funds accumulated in the IKZE. The withdrawal is made at the saver's request and could be made as a single payment or in installments (depending on the saver's request). In the second case, the funds are paid in installments for at least 10 years. If payments into an IKZE were made for less than 10 years, the payment in installments may be spread over a period equal to the period in which the payments were made. The saver who made a one-off payment or payment of the first installment may not start collecting savings in an IKZE again. Similarly, the saver cannot make payments into an IKZE if the first installment has been paid. The amount of the payments is subject to a flat-rate 10% income tax, thus much less than with a progressive scale.

In the IKZE agreement, the saver may indicate one or more people to whom the funds accumulated on IKZE will be paid in the event of his/her death. This instruction may be changed at any time. If the saver has indicated several persons entitled to receive funds after his/her death and has not marked their share in these funds or the sum of the market shares is not equal to 1, the shares of these persons are deemed to be equal. The indication of the person entitled to receive funds after the death of the saver becomes ineffective if that person died before the saver's death. In such a case, the share that was intended for the deceased falls in equal parts to the other indicated persons, unless the saver orders the share otherwise. In the absence of persons indicated by the saver, the funds accumulated in an IKZE fall into decline.

Funds from IKZEs are inheritable, and we do not pay taxes on inheritance and donations on them. The heirs of IKZE accounts will have to pay, similar to the saver, a flat-rate 10% income tax. The only possibility not to pay the tax is to transfer these funds to their own IKZE, i.e., keeping it in the third tier (however, an income tax will be paid at the moment of withdrawal of the funds from his/her IKZE).

Tax issues differentiate IKEs and IKZEs most visibly. In the case of an IKE, we are dealing with tax preferences on exit (no income tax on the withdrawal), and in the case of an IKZE on entry (deduction of funds paid in an IKZE from the tax base). Of course, both IKE and IKZE holders will not pay the capital gains tax—as long as the funds are kept in the third tier until they acquire pension rights.

As of 31 December 2020, Individual Pension Security Accounts were maintained by 46 financial institutions (The Polish Financial Supervision Authority, 2021b):

- 10 life insurance companies (22%)
- 20 investment fund companies (43%)
- 6 entities conducting brokerage activities (13%)
- 3 banks (7%)
- 7 general pension societies (15%).

At the end of 2020, IKZEs were held by 407,600 people—almost 250,000 less than in the previous year (23.7% in life insurers, 47.0% in investment funds, 7.7% in entities conducting brokerage activities, 6.9% in banks and 14.7% in general pension societies), i.e., 2.4% of the working population. The total value of IKZE accounts increased from 3.3 billion zloty in 2019 to 4.6 billion zloty in 2020 (20.9% in life insurers, 49.3% in investment funds, 8.5% in entities conducting brokerage activities, 6.7% in banks and 14.6% in general pension societies). The average value of a single account was approximately 11,200 zloty (124% more than in 2019). In 2020, all savers paid 1,176.5 million zloty in contributions (27% more than in 2019), with 4,200 zloty as an average. The value of withdrawals was just 28.9 million zloty (163% more than in 2019), 104,300 on average. Only seven out of 2017 withdrawals were in installments, and the rest was in single payments (The Polish Financial Supervision Authority, 2020c, 2020d, 2021b).

5 Home Equity Release

5.1 General Remarks

Many people, especially seniors, are looking for additional ways to help save the home budget. One of the ways to obtain additional funds that can be used for any purpose is a reverse mortgage, or in a broader sense, the so-called *equity release*. It is a financial service targeted at the elderly. It allows for the transformation of illiquid capital accumulated in real estate into liquid financial resources that can supplement retirement benefits with no need to move out of the real estate. The condition, however, is that you have the right to real estate, mainly real estate ownership. There are two equity release models in developed markets: the sales model (*home revision*) and the credit model (*reverse mortgage*).

What makes these two models different is, first of all, the moment of transferring the right to the real estate to the service provider and the method of securing the interests of the beneficiary's heirs. In the case of *home revision*, the service provider undertakes to pay benefits to a person in return for the transfer of the right to the property at the time of signing the contract for the provision of such a service, and the recipient has the right to live in the property for life. However, in the case of the *reverse mortgage*, the lender also undertakes to pay the borrower, with the transfer of the property right to the lender upon the borrower's death. In this model, repayment is made from the amount obtained from the sale of the real estate on which mortgage security was established.

Regardless of the equity release model, however, the basic role of this service is to improve the standard of living of the elderly after they leave their working lives. Equity release solutions are available in 13 out of 27 European Union countries, including Poland. It should be emphasized that this service, regardless of its form, is not treated by law as pension security. It is a relatively new financial service in Poland, as the first solution appeared in 2008 when the Fundusz Hipoteczny DOM S.A. was established on the Polish market, offering equity release as the *home revision*. In 2014, the issue of equity release in the credit model was regulated in the Act on the Reverse Mortgage Loan. However, thus far, no bank in Poland offers such a solution. Therefore, currently, the only form of equity release available to Poles is the sales model in which the beneficiaries receive a lifetime annuity/benefit.

*5.2 The Sales Model (*Home Revision*)*

In the sales model, the entity offering such an instrument (service provider) undertakes to pay benefits to a person (recipient) in exchange for the transfer of the right to the property at the time of signing the contract for the provision of such a service, and the recipient has the right to live in the property for life. For this reason, the costs of maintaining the property, as a rule, are borne by the entity offering this service. As

a consequence of the transfer of the ownership right, the heirs of the home revision recipient completely lose their rights to the real estate.

Due to the lack of separate legal regulations in Poland, the solutions used in the sales model are currently based on the provisions of the Civil Code, which allow for the party obligated to provide lifetime benefits to be not only a natural person but also a legal entity. This fact is used by institutions called mortgage funds, which offer lifetime benefits on commercial terms. What is worth emphasizing, despite the use of the name "mortgage fund," is that these entities are not subject to the act on investment funds and are not registered in the register of funds. Moreover, they are not subject to control by the Polish Financial Supervision Authority and are not required to disclose their financial results to the public (the exception is Fundusz Hipoteczny DOM S.A., whose shares are publicly traded).

In the current legal status of the Polish market, entrepreneurs offering lifetime benefits may use various solutions, using the provisions of the Civil Code on basically life annuity agreements (life estates) or annuity contracts.

In the first case, in return for the transfer of ownership of the real estate, the vendor determines the activities to be performed by the buyer. Usually, these activities are personal and concern the provision of comprehensive care to an elderly person. For this reason, the use of this structure is intended mainly to regulate family relations. Nevertheless, the life annuity agreements also found commercial applications. If a party to the contract is an institution offering a lifetime annuity, the term "lifelong maintenance" is most often understood as providing the beneficiary with periodic cash payments while maintaining the possibility of living in the premises. Based on these provisions, contracts with seniors are offered by, among others, Fundusz Hipoteczny DOM S.A. and Fundusz Hipoteczny Omnes Sp. z o.o. The last of them offers seniors under an annuity agreement the following benefits: cash benefits, benefits related to housing (e.g., payment of rent, electricity, utilities), medical and health benefits (e.g., provision of additional health insurance, private health care), benefits related to the needs of everyday life (broadly understood assistance of a personal assistant for several hours a week), and other benefits (e.g., providing a computer skills course, assistance in the event of a failure of electronic equipment, burial).

If the commercial lifetime annuity is to be paid based on the provisions on an annuity contract, then in return for the transfer of ownership of the property as remuneration, the beneficiary may count on periodic cash payments and the right to live in the property until death. Due to the necessity to transfer the ownership of the real estate to the entrepreneur, the concluded contract is treated as an annuity with remuneration, to which the provisions on sale also apply. Lifetime benefits are offered under an annuity contract by Fundusz Hipoteczny DOM S.A. and Fundusz Hipoteczny Familia S.A.

The lifetime annuity (home revision) is usually chosen by people whose retirement income does not meet their current needs and who want to obtain additional lifetime retirement income. The amounts obtained from the lifetime annuity are allocated to current needs and help people to live with dignity until death.

Currently, several specialized mortgage funds are operating on the Polish market that offer an equity release sales model. The largest market share, nearly 70%, is

held by Fundusz Hipoteczny DOM S.A., the most important competitor of which is Fundusz Hipoteczny Familia S.A. At the end of 2019, its portfolio included 232 properties with a market value (according to the property valuation as at the date of the conclusion of the contract) exceeding 55 million zloty (and their value is constantly increasing), of which two properties were released and intended for sale. Over the 12 years of operation (until the end of 2020), this fund paid over 15 million zloty as annuity benefits. The average age of the beneficiary (average number of years at the time of signing the contract) using the sales model in 2010–2017 was in the range of 74.9–79.4 years (Fundusz Hipoteczny DOM, 2020).

5.3 *The Credit Model (***Reverse Mortgage***)*

A reverse mortgage is offered only by banks and is a loan secured by a mortgage. It is aimed mainly at people whose retirement income is sufficient for a dignified life, and this loan allows them to increase their income only for a specific period. Usually, after a few years, the reverse mortgage ceases to be paid out. Currently, no bank in Poland offers a reverse mortgage loan, but the available legal solutions will be described in this section. This issue is regulated by the Act of 23 October 2014 on the reverse mortgage loan, which entered into force at the end of 2014.

> Article 4 of that law states that, by way of the reverse mortgage loan agreement, the bank undertakes to put at the borrower's disposal for an indefinite period a certain amount of money, the repayment of which will take place after his death. Based on the same agreement, the customer undertakes the obligation to establish security for the repayment of this sum together with the interest due and other costs.

The market value of the property plays a key role in a reverse mortgage. On this basis, the future borrower will be able to determine whether the reverse mortgage pays off. It should be emphasized that the market value will be the estimated amount that on the valuation date the borrower can obtain for the property in a sale transaction between the buyer and seller who have a firm intention to enter into a contract, act with discernment and act prudently and are not in a forced situation. This appraisal is made by a real estate appraiser, who takes into account, in particular, the purpose of the appraisal, the type, and location of the real estate, the purpose in the local plan, the condition of the real estate, and available data on prices, income and similar properties. The market value of the real estate determined by the appraiser does not yet determine the amount of the loan. It is only the basis for determining the amount of the reverse mortgage. The loan amount granted depends not only on the value of the property (present and expected future) and the cost of the loan but also on the gender and age of the owner and sometimes on their health. The most common range here is from 60% to only 30% of the property value.

The amount of the reverse mortgage is paid out once or in installments, for the period and in the amount specified in the reverse mortgage loan agreement, but no longer than until the borrower's death. A client wishing to use a reverse mortgage

must be the owner of a property on which he/she can establish a mortgage and enter it for the benefit of the bank in the land and mortgage register. When making the transfer of property rights in such a case, the borrower is guaranteed the right to use his/her apartment or house lifetime.

Banks may not conclude a reverse mortgage contract contingent on other contracts, except real estate insurance. During the term of the reverse mortgage contract, the borrower is required to (1) take out homeowner's insurance for this real estate, if required by the bank; (2) keep the property in a nondeteriorated condition, taking into account the normal use of things in accordance with its intended purpose, in particular carrying out ongoing repairs and renovations; and (3) make timely payments of taxes and mandatory fees related to the use of the property.

In the case of a reverse mortgage, there is no classic mortgage payment, but it is settled on one of two dates:

- upon the expiration of the notice period for the reverse mortgage loan,
- one year after the borrower's death.

If the reverse mortgage contract is provided for more than one customer, settlement of the loan occurs one year after the death of the last borrower. After the death of the beneficiary, his/her heirs may decide to repay the loan and retain the right to the property. If the heirs decide not to pay it off, the property is generally transferred to the lending institution that sells the property. If the difference between the value of the bank's claim and the funds obtained from the sale of real estate is positive, the heirs are entitled to it. If the difference is negative, the lender has no right to demand that the heirs pay the difference.

If the entire repayment of the reverse loan is made by the client's heirs, the security in the form of a mortgage on the residential property will expire. Otherwise, a claim for the transfer of ownership of real estate or the right to premises becomes due.

6 Summary of Current Issues

The Polish pension system underwent systemic pension reform in 1999. The main issue implemented was the change in the pension formula to the DC formula. From the technical point of view, the implementation of privately funded funds in the mandatory pension system and splitting the social insurance pension contribution between nonfinanced (PAYG) and financed (funded) parts of the pension system was an important modification. It has to be emphasized that the reform was based on a coherent concept and political consensus. However, it was aimed especially at the secondary goals of the pension system.

As the demographic problem was predicted to accelerate and the costs of the pension system had increased since the political and economic transformation in 1989, the introduction of the DC pension formula had to lead to the long-term financial sustainability of the social insurance pension system. From the microeconomic point of view, the change in the pension formula has contributed to the significant

decrease in the replacement rate for individuals, especially for women and persons with unstable working biographies. As the minimum retirement age is five years lower for women, the gender pension gap has become increasingly larger. On the other hand, wide coverage of the social insurance pension system, systematic valorization of pension benefits and provisioning with the minimum pension for long-term insurers contribute to poverty relief for a great part of the older population. Nevertheless, the problem of very low pension provisions for short-term insured people as well as a decrease in individual replacement rates for those with weak working biographies has not been addressed. Furthermore, the introduction of the DC pension formula will lead to the flattening of the distribution of social insurance pension provisions among beneficiaries and will result in a much higher number of minimum pension beneficiaries, especially among women. The latter will cause not only higher costs of minimum pensions for the state in the future but also "hidden" evolution toward a flat-rate pension system.

The case of the Polish pension system shows high sensitivity to political risk, particularly in the funded part of the pension system, which was assumed to be resistant to such a risk. The retreat from the privatization of the social insurance pension system has taken place (Manor & Ratajczak, 2020), and the termination of the funded part of the pension system was announced in 2021. All of this contributes to a significant decline in public trust in the pension (funded) system and financial market. In combination with poor public knowledge about finance and risk management, it has led to low participation in occupational and individual pension arrangements, especially in the newest corporate quasi-obligatory PPK system introduced in the years 2019–2021.

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