



**NATIONAL BANK OF SERBIA**

**INSURANCE SUPERVISION DEPARTMENT**

**Pension Funds Supervision Division**

**VOLUNTARY PENSION FUNDS  
SECTOR IN SERBIA**

**Fourth Quarter Report 2022**

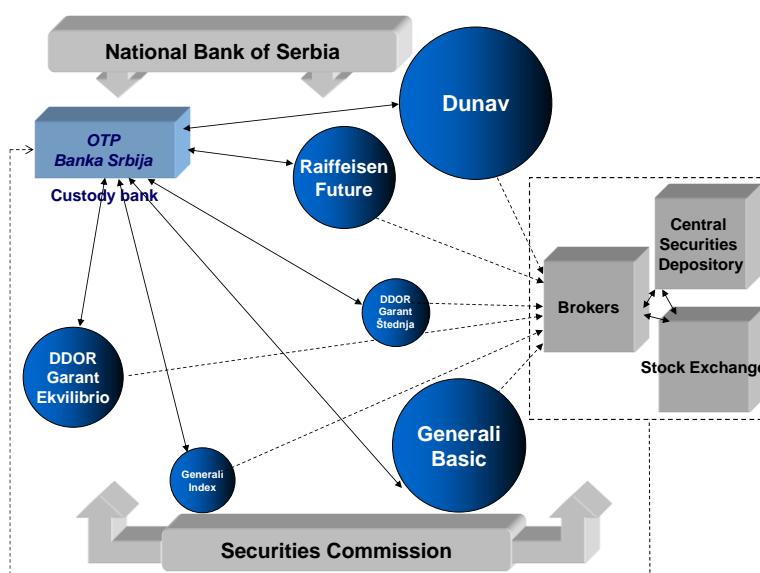
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## 1 Market participants

At end-Q4 2022, the market of voluntary pension funds (VPFs) included four companies managing seven VPFs, one custody bank, five intermediary banks and one insurance brokerage undertaking.<sup>1</sup>

Picture: Market participants



At end-Q4 2022, total employment in VPF management companies was 124, down by one from a quarter earlier.

The NBS licenses sales agents, who passed professional examinations and fulfilled other requirements, to disseminate information about VPF operation. By end-Q4 2022, a total of 1051 sales agent licences were granted.

As brokers – management companies, banks and insurance undertakings may engage sales agents. At end-Q4 2022 management companies hired 108 persons, intermediary banks 531 persons and insurance undertaking 97 persons.

## 2 Net VPF assets

At end-Q4 2022 net assets came at RSD 48.2 bn, down by 2.25% from a quarter earlier. The changes in the value of assets<sup>2</sup> reflect net contributions, withdrawals, and investment returns. In 2022, total contributions reached RSD 3,738.5 mn (up by 7.5 mn relative to 2021), withdrawals RSD 3,530.1 mn (up by RSD 1.3 bn compared to 2021), while investment losses amounted to RSD 972 mn.

*At end-2022, net assets equalled RSD 48.2 bn.*

<sup>1</sup> Raiffeisen bank a.d. Beograd, OTP banka Srbija a.d. Novi Sad, NLB Komercijalnabanka a.d. Beograd, Addiko Bank a.d. Beograd and Naša AIK Banka a.d. Beograd, joint-stock insurance undertaking DDOR Novi Sad, Novi Sad.

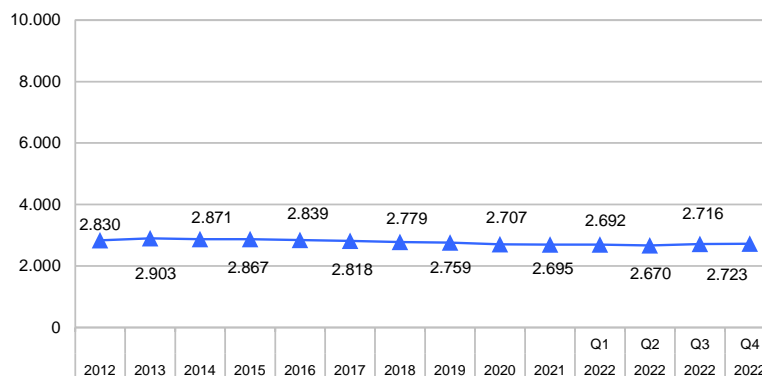
<sup>2</sup> Net contributions are total contributions minus the front-load fee.

### End-of-period net assets of the VPF sector

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022			
											Q1	Q2	Q3	Q4
12.5	16.1	19.7	23.6	28.9	32.8	36.2	40.2	45.2	47.0	49.1	48.9	47.8	47.1	48.2

Source: National Bank of Serbia.

### End-of-period sector concentration (Herfindahl–Hirschman Index)



Source: National Bank of Serbia.

Measured by HHI, market concentration in the sector<sup>3</sup> at end-2022 amounted to 2,723 points, indicating high concentration in the VPF market.

According to the size of VPF net assets relative to total net assets of the sector, two funds were classified as “large” and two as “medium”. Together, they held 92% of the market share, with the largest fund accounting for around 41%.

### Number of funds by groups divided by market share (in units)

Share in net assets (%)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022			
											Q1	Q2	Q3	Q4
Large (20 and above)	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Medium (5 - 19.99)	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Small (0 - 4.99)	5	2	2	3	3	3	3	3	3	3	3	3	3	3

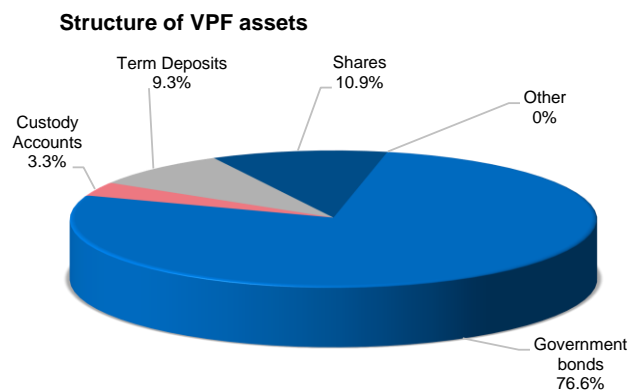
Source: National Bank of Serbia.

## 3 Structure of VPF assets

At end-Q4 2022, the structure of investment of VPF assets remained broadly unchanged from the previous period. Government bonds accounted for a major part of VPF assets – 76.6%. Balances in custody accounts and bank time deposits made up 12.6% and shares 10.9%.

*A major part of assets was invested in government debt instruments – 76.6%.*

<sup>3</sup> In terms of the share in total net assets.



Source: National Bank of Serbia.

The portfolio of government debt instruments (Republic of Serbia's bonds) kept the dominant position in total VPF assets at the end of the period, with an upward trend in the share of these instruments in VPF assets - from 76.4% at end-Q3 to 76.6%, while the share of this position in 2021 was 77%.

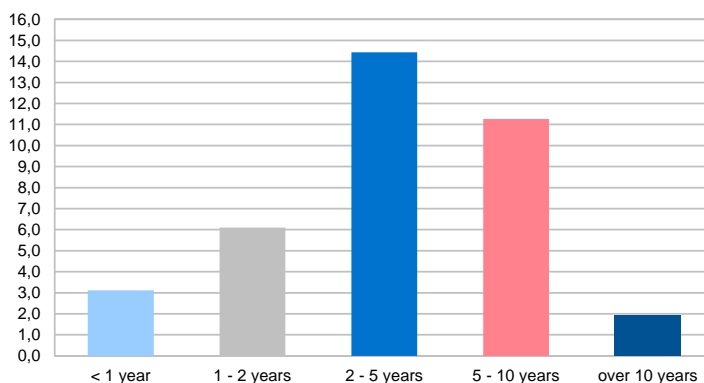
Compared to the end of the previous quarter, aggregate exposure to shares of domestic legal entities increased from 10.6% to 10.9% of total fund assets, while this percent at end-2021 stood at 13.6%.

At end-Q4 2022, 8.4% of government debt instruments were with the maturity of up to one year, 16.6% between one and two years, 39.2% two to five years, 30.6% five to ten years and 5.2% over ten years.

The average maturity of assets<sup>4</sup> invested in government debt instruments is 4.6 years.

At end-Q4, 84.7% of total assets were in dinars and 15.3% in a foreign currency (EUR).

**Maturity structure (government fixed income securities)**  
(in RSD bn)



Source: National Bank of Serbia.

<sup>4</sup> The maturity of instruments weighted by their share in total investment in government debt instruments.

## 4 Return on investment

At end-Q4 2022, the FONDex<sup>5</sup> reached 3,063.74 points.<sup>6</sup> FONDex, the weighted average return on all funds, was adjusted by -2.2% in the past year. Since the start of VPF operation,<sup>7</sup> FONDex return has equalled 7.2%. Given the structure of VPF investment, the return is influenced by: the change in the yield curve on government debt instruments,<sup>8</sup> change in the prices of shares, change in the value of investment units of open investment funds, level of the key policy rate, banks' interest rates, and changes in the dinar exchange rate against the euro.

In Q4 2022, there were no issues in the primary market of dinar-denominated government debt instruments.

### Accepted rate of issued dinar-denominated government debt instruments, by maturity

Maturity	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
3m	-	-	-	-	-
6m	-	-	-	-	-
12m	-	-	-	3.9%	-
18m	-	-	-	-	-
24m	-	2.8%	-	-	-
36m	-	-	-	-	-
60m	-	-	-	-	-
84m	-	-	-	-	-
120m	-	-	-	-	-
144m	-	-	-	-	-

Source: Ministry of Finance.

### Market value of issued dinar-denominated government debt instruments, by maturity (in RSD bn)

Maturity	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
3m	-	-	-	-	-
6m	-	-	-	-	-
12m	-	-	-	31.7	-
18m	-	-	-	-	-
24m	-	9.9	-	-	-
36m	-	-	-	-	-
60m	-	-	-	-	-
84m	-	-	-	-	-
120m	-	-	-	-	-
144m	-	-	-	-	-
Total	-	9.9	-	31.7	-

Source: Ministry of Finance.

<sup>5</sup>FONDex is the index which indicates movements in investment units of all VPFs in the market.

<sup>6</sup> The initial FONDex value on the first business day of the first VPF, 15 November 2006, was 1,000.

<sup>7</sup> Annual rate.

<sup>8</sup> A decline in interest rate leads to an increase in the prices of debt instruments and vice versa. The prices of longer-maturity instruments are more sensitive to interest rate changes.

There were also no issues of euro-denominated government debt instruments in Q4 2022.

**Accepted rate of issued euro-denominated government debt instruments, by maturity**

Maturity	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
12m	-	-	-	-	-	-
24m	-	-	0.8%	-	-	-
36m	-	-	-	-	-	-
60m	-	-	-	-	-	-
84m	-	-	-	-	-	-
120m	-	-	-	-	-	-
144m	1.6%	-	-	-	-	-
180m	-	-	-	-	-	-
240m	-	-	-	-	-	-

Source: Ministry of Finance.

**Market value of issued euro-denominated government debt instruments, by maturity**

(in EUR mln)

Maturity	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
12m	-	-	-	-	-	-
24m	-	-	200.0	-	-	-
36m	-	-	-	-	-	-
60m	-	-	-	-	-	-
84m	-	-	-	-	-	-
120m	-	-	-	-	-	-
144m	8.9	-	-	-	-	-
180m	-	-	-	-	-	-
240m	-	-	-	-	-	-
Total	8.9	-	-	-	-	-

Source: Ministry of Finance.

At end-Q4 2022, BELEX recorded a 0.3% drop in share prices measured by BELEX15 (its value at end-December was 824.61). Over the last year, index recorded a 0.5% increase.

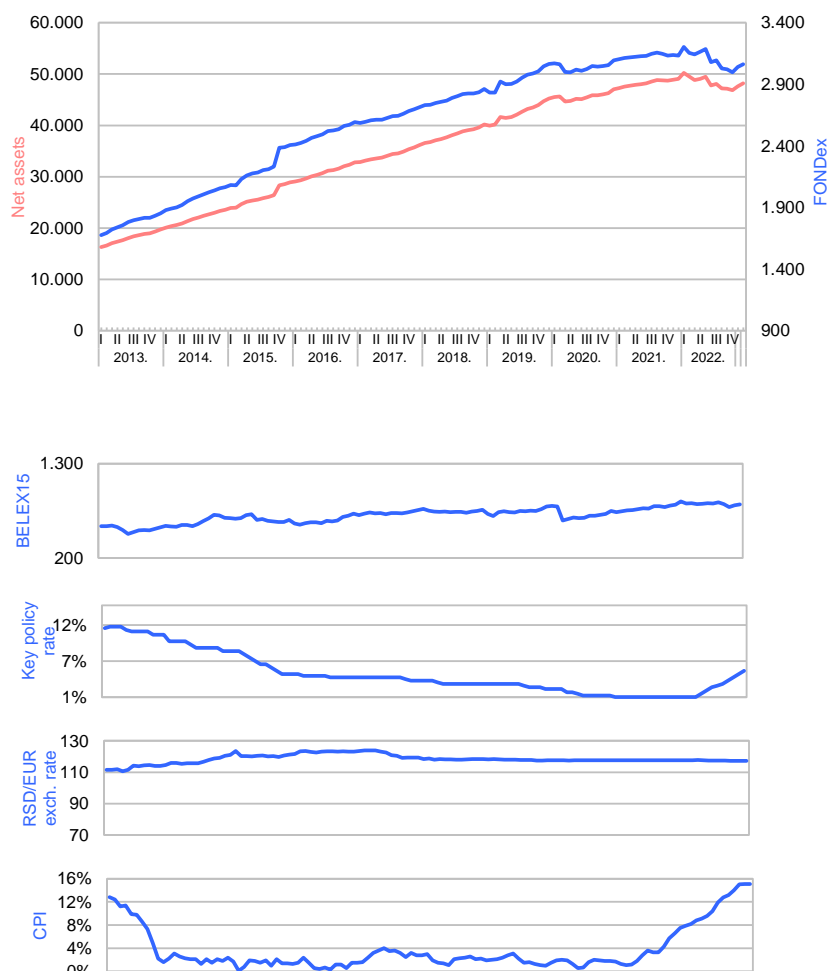
The key policy rate equalled 5% at end-December 2022. The level of interest rates earned by VPFs on dinar assets in custody accounts mirrored the movements in the key policy rate.

In Q4 2022, the dinar value vis-à-vis the euro remained almost the same as in the quarter before, coming at RSD 117.32 per euro. In the same period, the dinar gained around 8% against the US dollar.

Price growth rates came at 1.9%, 1%, and 0.5% in October, November and December, respectively. Y-o-y consumer prices gained 15.10% in December 2022.<sup>9</sup>

<sup>9</sup>Source: Statistical Office of the Republic of Serbia.

**Movements in net assets, FONDEX and key indicators of VPF**  
(in RSD mn, units, %)



Source: National Bank of Serbia, Belgrade Stock Exchange, Statistical Office.

## 5 Fees charged by management companies

The Law on Voluntary Pension Funds and Pension Schemes sets out that management companies charge fees for their services and account transfer to fund members. Management company fees entail contribution and management fees. The account transfer fee may not exceed the actual transfer costs.

Though fees are among the parameters that members should consider when choosing a fund, they should not be viewed in isolation. The level of fees is contingent on the fund's investment policy and its investment activity. As a rule, more active funds, intended for younger persons who will pay contributions over a longer horizon, invest more in more complex instruments, assuming a higher degree of risk. Such funds are expected to post higher returns, hence their fees are higher. On the other hand, a fund investing passively in safer financial instruments should charge lower fees. A fund's investment policy, i.e. planned investment of the fund members' assets, the expected



return, the level of risk assumed by funds (and members), and fees charged by companies, should all be taken into account when opting for a fund.

The contribution fee is paid only once, as a front-load fee. Though visible in the first instance, it is not the largest cost incurred by a member.

The total amount of contribution fees paid in Q4 2022 amounted to RSD 22.9 mn, and the level of the fee in the same period was 2.6% on average. The total amount of contribution fees paid in 2022 amounted to RSD 85.12 mn, and in 2021– 80.93 mn.

The management fee is calculated daily against the value of net VPF assets and is included directly in the investment unit value, meaning that the calculated and published investment unit value is exclusive of the management fee.

In Q4 2022, the total value of management fees equalled RSD 147.8 mn, which is 87% of the total fees charged. The total value of management fees in 2022 amounted to RSD 599.03 mn, almost the same as in 2021 (RSD 599.36 mn).

#### Fees charged by management companies

(in RSD mn)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022			
												Q1	Q2	Q3	Q4
Contribution fee	57.9	60.1	58.7	55.4	53.0	56.8	61.0	66.3	71.8	76.2	80.9	20.2	20.8	21.2	22.9
Management fee	220.0	284.1	357.8	432.8	514.9	614.4	678.7	474.0	526.7	567.9	599.4	151.6	151.3	148.4	147.8

Source: National Bank of Serbia.

## 6 Trading in securities

VPF trading volumes equalled RSD 1.1 bn in Q4 2022. The total volume of trading in 2022 was RSD 11.86 bn, compared to a significantly higher amount in 2021 (RSD 33.5 bn).

The average share of VPFs in BELEX trading in this quarter was 3.2%.

#### VPF securities trading

(in RSD bn)

	2015	2016	2017	2018	2019	2020	2021	2022			
								Q1	Q2	Q3	Q4
Securities trading	14.5	11.5	24.2	16.1	48.7	26.3	33.5	5.6	0.8	0.8	1.1
Purchases	7.9	6.4	14.7	9.3	27.1	13.8	18.6	3.2	0.0	0.0	0.9
Belgrade Stock Exchange	0.9	1.1	3.7	2.7	3.2	2.7	1.9	0.8	0.0	0.0	0.2
Unregulated market	1.8	1.1	5.8	3.2	16.7	7.6	13.7	0.4	0.2	0.2	0.7
Auctions of government secur	5.2	4.2	5.1	3.4	7.1	3.6	3.0	2.1	0.0	0.0	0.0
Sales	3.6	3.0	7.4	5.5	19.6	11.2	12.0	0.9	0.0	0.0	0.2
Belgrade Stock Exchange	0.5	1.9	2.7	3.2	1.4	3.1	3.7	0.6	0.0	0.0	0.1
Unregulated market	3.2	1.1	4.7	2.3	18.1	8.1	8.3	0.2	0.0	0.0	0.1
Maturity	2.9	2.1	2.2	1.3	2.1	1.4	3.0	1.6	0.5	0.5	0.0
Purchase to sale and maturity ratio	1.2	7.5	1.5	1.4	1.3	1.1	1.2	1.3	0.4	0.6	4.8
Share in total BSE trading (in%)	6.1%	6.7%	33.0%	9.4%	5.1%	11.9%	13.5%	17.0%	0.4%	9.8%	3.2%

Source: National Bank of Serbia, Belgrade Stock Exchange.

## 7 Transaction costs

Transaction costs incurred in the purchase, sale and transfer of securities (Central Securities Depository fees, stock exchange fees, tax charges) and the costs of current maintenance of real estate property that fund assets are invested in are charged against fund assets. Other costs are charged against the assets of management companies.

Transaction costs totalled RSD 0.9 mn in Q4 and RSD 5.9 mn in 2022 – a rise by RSD 1.12 mn from 2021. In the same period, speaking of fees charged against VPF assets, Central Securities Depository fees exceeded stock exchange fees, whereas in costs paid by management companies from their assets, custody bank fees made up a larger share compared to brokerage fees.

### Amount of transaction costs

(in RSD mn)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022			
										Q1	Q2	Q3	Q4
Total	6.0	6.2	5.6	7.3	10.5	8.3	17.2	10.3	4.8	2.5	0.6	1.9	0.9
Brokerage fees	2.5	2.0	1.3	2.3	4.4	3.0	8.0	3.7	0.7	0.6	0.1	0.2	0.2
Custody bank fees	1.9	2.0	2.0	2.0	1.9	1.8	3.1	2.3	1.6	0.5	0.3	0.3	0.3
Stock exchange fees	0.6	0.6	0.8	1.0	1.8	1.3	1.9	1.3	0.5	0.4	0.1	0.1	0.1
Central Securities Depository fees	0.9	1.6	1.6	2.0	1.8	1.6	3.4	2.2	1.7	1.1	0.1	1.3	0.3
Other fees	0.1	0.0	-	0.0	0.6	0.6	0.7	0.9	0.0	0.0	0.0	0.0	0.0

Source: National Bank of Serbia.

## 8 Number and structure of VPF users

At end-2022,<sup>10</sup> 215,451 users were in the accumulation phase<sup>11</sup> (an increase by 4,754 from 2021), with 294,519 membership contracts (5,785 contracts more than in 2021).<sup>12</sup>

VPF users make up 10.63% of the total number of employees.<sup>13</sup>

### Number of contracts and users

(in thousands)

	2014	2015	2016	2017	2018	2019	2020	2021	2022			
									Q1	Q2	Q3	Q4
No of contracts	252.1	258.1	250.5	253.9	261.7	275.8	279.5	288.7	290.2	295.5	293.9	294.5
No of users	188.0	190.5	183.6	185.4	192.3	201.6	205.0	210.7	211.9	214.0	214.9	215.5
Percentage of active users (in %)	31.3%	25.3%	28.5%	33.6%	33.4%	34.4%	35.3%	35.9%	32.4%	32.4%	36.0%	36.5%

Source: National Bank of Serbia.

<sup>10</sup>VPF membership has two phases – the accumulation phase (when contributions are made) and the withdrawal phase (when the accumulated funds are withdrawn).

<sup>11</sup> The number of users is the number of people who are members of VPF(s). This number is lower than the number of membership contracts, as there is a significant number of users with more than one membership contract in one or several VPFs.

<sup>12</sup> The number of membership contracts is the sum total of individual membership contracts and the number of members of all pension schemes.

<sup>13</sup> Source for the number of employees: NBS.

### Structure of users by payment dynamics

(in units and %)

	Period	No of users	Share (%)
Users making contributions	1 month	78.722	36.5%
	3 months	85.470	39.7%
	6 months	88.273	41.0%
	12 months	93.568	43.4%
	From the start of membership (1)	193.112	89.6%
No holdings (2)		22.339	10.4%
Total (1+2)		215.451	

Source: National Bank of Serbia.

The amount of accumulated funds depends on the amount of contributions, return earned by funds, level of fees, and the length of the accumulation phase. As the level of contributions and the period of accumulation increase and funds earn returns, average balances in members' individual accounts go up. The average amount of funds accumulated in the accounts of members who have made at least one contribution payment was RSD 249.6 thousand. At end-Q4 2022, the number of users who are members of two or more VPFs was 43,719 or around 20% of the total number of users.

### Average accumulated funds at end-period

2012	2013	2014	2015	2016	2017	2018,0	2019	2020	2021	2022			
										Q1	Q2	Q3	Q4
105.3	127.3	148.3	179.4	200.6	219.3	235.8	239.9	257.4	260.0	257.7	249.3	244.9	249.6

Source: National Bank of Serbia.

In terms of gender composition and the respective amounts of funds, Q4 2022 saw no significant changes relative to prior periods. Men remained dominant, accounting for 56.3% of all users.

### Number of users by number of funds in which they are members

(in units)	
No of funds	No of users
1	171.732
2	37.094
3	6.334
4	264
5	20
6	4
7	3
Total	215.451

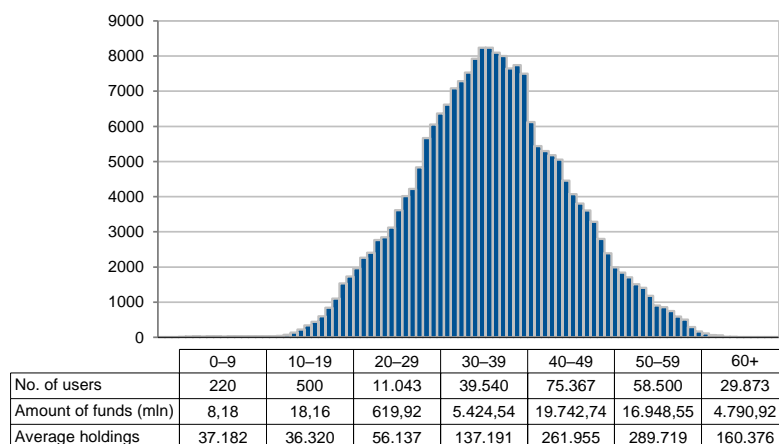
Source: National Bank of Serbia.

### Number of users by membership contract

(in units)	
No of contracts	No of users
1	155.943
2	45.770
3	9.415
4	3.279
5	695
6	268
7	58
8	21
9	2
Total	215.451

Source: National Bank of Serbia.

**Distribution of users and accumulated funds by age**  
(in units, RSD)



Source: National Bank of Serbia.

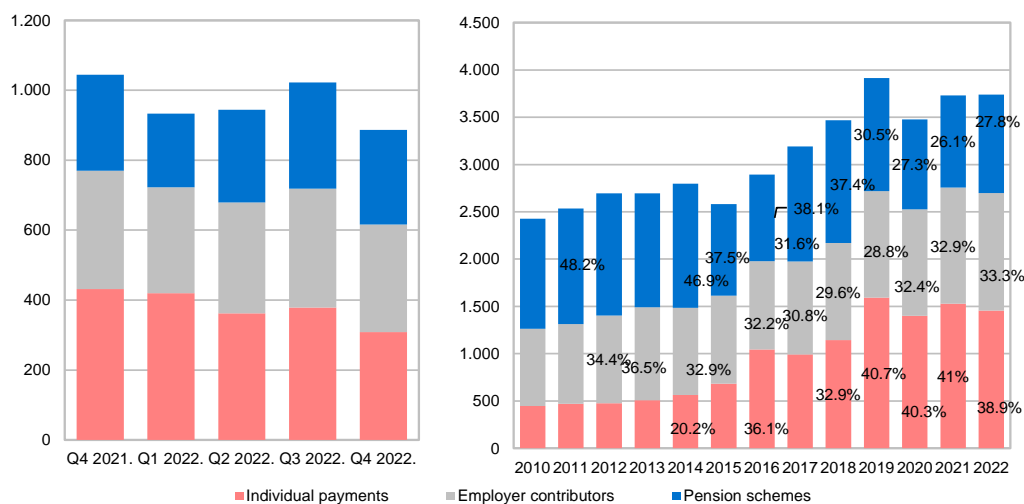
At end-Q4 2022, the average age of VPF users was around 47 years, with users aged 40–60 making up the dominant share of 62%. Also, the percentage of users above the age of 53 was similar as in prior years, accounting for 30.5%, while the percentage of users above the age of 58 accounted for 17.9%.

## 9 Contributions, withdrawals, and transfers

Of total contributions in Q4 2022, individual payments accounted for 34.8%, employer contributions for 34.7%, and pension schemes for 30.5%. The total contributions to VPFs in Q4 2022 amounted to RSD 887 mn.

*Net contributions came at RSD 3.65 bn in 2022.*

**Volume and structure of total contributions**  
(in RSD mn, %)



Source: National Bank of Serbia.

### Total contributions

(in RSD bn)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022			
										Q1	Q2	Q3	Q4
2.70	2.70	2.80	2.58	2.89	3.19	3.47	3.92	3.48	3.73	0.93	0.90	1.02	0.89

Source: National Bank of Serbia.

Most contributions are made through employers who place the assets in their employees' fund, thus displaying a high level of responsibility. The last quarter saw a noticeable decrease in individual contributions compared to a quarter before. In this sense, there is ample potential for a further increase in the number of VPF members both via individuals, who increasingly recognise the importance of saving for old age, and via companies, especially bearing in mind that only one in ten employees have an account in a VPF. This way, employees and employers can save up since contributions from employer's funds up to RSD 6,541<sup>14</sup> per employee per month are exempt from the household income tax and contributions for mandatory social insurance. Payments in the same amount made by the employer through wage garnishment are also tax-exempt. This represents an additional incentive to employees and employers to direct a part of the wage to saving in VPFs.

Withdrawals are generally lump sum. Since the withdrawals are made by the members who fulfil the requirements, and are usually not long-standing fund members, their accumulated sum is relatively small, and this kind of withdrawals is expected, even though it contradicts the nature of VPFs which assumes the use of accumulated funds over a longer period. The share of scheduled and other types of withdrawals rises with the lengthening of the accumulation periods and increase in the accumulated sums. In Q4 2022, lump sum withdrawals accounted for the bulk of withdrawals (RSD 509.6 mn), while scheduled withdrawals measured RSD 104 mn.

### Total withdrawals

(in RSD mn)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022			
										Q1	Q2	Q3	Q4
751.7	945.2	1213.4	1226.2	1195.6	1342.4	1412.0	1679.8	2159.6	2223.5	1227.3	948.0	733.4	621.5

Source: National Bank of Serbia.

Total withdrawals rise from year to year. In 2022 they amounted to RSD 3.53 bn, as a result of system development. Namely, as contributions and net assets increase and the VPF system matures, the amount of withdrawals will also rise in absolute terms.

*In 2022, total withdrawals amounted to RSD 3.53 bn.*

Transfers represent inter-fund transfers. A member may transfer a part or all his assets from one fund to another, covering only the actual transfer costs.

*In 2022, transfers came at RSD 748.4 mn.*

<sup>14</sup> Under Government decree, this amount is adjusted for previous-year inflation once a year. As of February 2023, it amounts to RSD 7,529.

The total amount of assets transferred to another fund equalled RSD 45 mn in Q4 2022 and RSD 748.4 mn in 2022, which is RSD 549.4 mn more than in 2021.

**Total inter-fund transfers**

(in RSD mn)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022			
										Q1	Q2	Q3	Q4
72.3	137.2	126.3	219.7	267.5	263.0	229.7	210.3	252.6	199.0	387.4	247.7	68.3	45.0

Source: National Bank of Serbia.