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FAIR VALUE OF THE DEBT PORTFOLIO OF CLOSED-END INVESTMENT FUNDS

Abstract. The dynamic development of various forms of investment makes the selection of appropriate investment portfolio components an essential factor not only for individual investors but, most importantly, for institutional investors. Among institutional investors are closed-end investment funds. An important aspect in the function of an investment fund's operations is to act in the best interest of its participants. Undoubtedly, a key manifestation of this is the accurate valuation of financial instruments. The author describes the debt market in Poland, examines issues related to the recognition of receivables and their fair value as components of a closed-end investment fund's portfolio, and highlights the methods and techniques for valuing receivable portfolios from the perspective of a closed-end investment fund.
Key words: *closed-end* investment funds, fair value, receivables, capital market, stock exchange.
JEL classification: E44, G23

1. The Importance of the Dept market

The changes occurring in Poland at the turn of the 1980s and 1990s are considered by researchers to symbolize the end of the 20th century (Krzemiński 2020). The systemic transformation not only brought social changes but, above all, economic ones. The private sector expanded significantly. Between 1990 and 1994, approximately 57,000 new businesses were established, employing at least 5 people, which created around 830,000 new jobs. By the end of 1994, the number of new businesses employing at least 5 people had increased to about 1.9 million (Bałtowski, Miszewski 2006). According to the most recent data, in 2022, there were 2.35 million non-financial enterprises operating in Poland, classified as

active, i.e., entities that conducted business during the given reference period.

The liberalization of business operation regulations led to a growing demand for external financing among enterprises, which in turn brought about a new problem: the management of overdue receivables.

According to the ZPF report (ZPF 2024), the value of receivables managed by ZPF members increased from PLN 122.5 billion at the end of Q1 2020 to PLN 178.4 billion at the end of Q2 2024. In absolute terms, during this period, the receivables market grew by PLN 55.9 billion. As indicated in the ZPF report on the size of the Polish receivables market for Q2 2024, receivables managed on behalf of own receivables funds continue to dominate in the portfolio of managed receivables. The value of serviced receivables, broken down by the entity on whose behalf the portfolios are managed, in billion PLN, is presented in Chart 1.

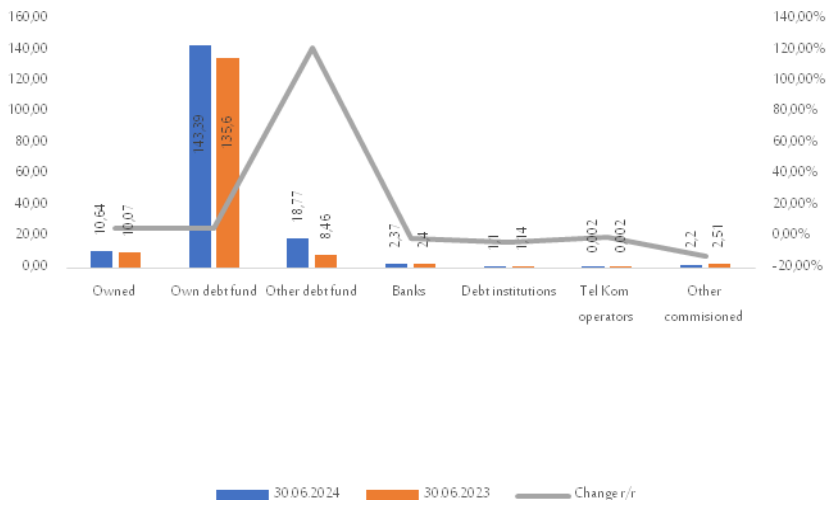


Chart 1: Value of Serviced Receivables by Entity on Whose Behalf the Portfolios Are Managed [in billion PLN]

Source: Developed based on the report *Size of the Polish Receivables Market, Q2 2024*, ZPF, Gdańsk 2024.

At the end of Q2, the largest share is held by receivables managed on behalf of own receivables funds. Their value at the end of Q2 2024 amounted to PLN 143.39 billion, which represents an increase of 5.74% compared to Q2 2023.

The importance of receivables management is not only reflected in their nominal value but also in the number of receivables being serviced. The number of serviced receivables is presented in Chart 2.

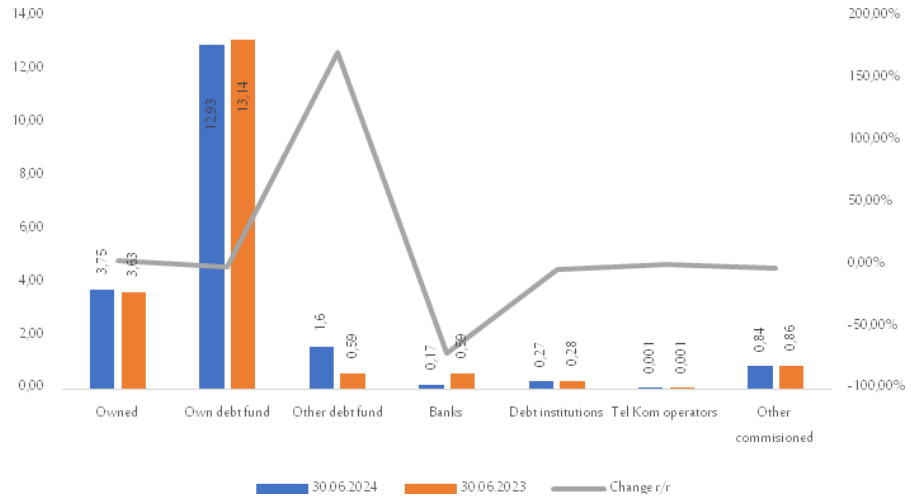


Chart 2: Number of Serviced Receivables by Entity on Whose Behalf the Portfolios Are Managed [in million units]
Source: Developed based on the report Size of the Polish Receivables Market, Q2 2024, ZPF, Gdańsk 2024.

The development of the receivables market has made this instrument a subject of investment, including for closed-end investment funds.

2. Receivables as an Investment Object for a Fund

The definition of receivables should be sought in the provisions of the Civil Code, although the law does not explicitly provide such a definition. According to Article 353 §1 of the Civil Code, an obligation entails that the creditor may demand performance from the debtor, and the debtor is required to fulfill that performance. From this provision, it follows that the essence of an obligation consists of the creditor's rights and the debtor's duties. The debtor's duty, therefore, involves a specific action or omission (Gnel 2012). In the view of above, it can be stated that an obligation creates a receivable for the creditor and a debt for the debtor

(Gniewek, Machnikowski 2014). Receivables are thus a property right and, as such, can be transferable—they are subject to trade. This situation is utilized, among others, by institutional participants in the financial market seeking opportunities to invest financial resources.

The investment objective of the fund is to generate income from the fund's net investments, increase the value of the fund's assets, and achieve profits from the sale of the fund's assets. The fund achieves its investment objective primarily by investing its resources in investment certificates of closed-end investment funds, portfolios of receivables, and rights to claims arising from these receivables. The fund pursues its investment objective by adhering to investment restrictions specified in the law and the fund's statutes. The fund does not guarantee the achievement of its investment objective.

The Fund's activity involves investing financial resources, collected through non-public offerings of investment certificates, in investment certificates of other funds and in securities, money market instruments, receivables, real estate, and other property rights specified in its statutes.

The Fund's other investment objects may include:

- Money market instruments,
- Receivables meeting the conditions specified in the statutes,
- Real estate,
- Shares in limited joint-stock partnerships and joint-stock companies,
- Shares in limited liability companies,
- Units in money market funds,
- Deposits in domestic banks or credit institutions,
- Non-standardized derivatives,
- Debt securities.

A portion of the financial resources, sufficient to cover current liabilities, is maintained by the Fund in bank accounts.

3. Receivables Funds in Poland

Receivables funds are a specialized type of closed-end investment funds, classified as alternative investment funds subject to strict investment restrictions. Their activity is primarily focused on investing in receivables portfolios, securities incorporating monetary receivables, and rights to claims arising from specific receivables. These funds are often part of a capital group centered around a debt collection company, enabling the acquisition of bank receivables portfolios. Receivables funds are also created as investment vehicles for passive investors—in such cases, investing in the fund's investment certificates serves as an attractive alternative to traditional financial instruments.

Receivables funds can operate in two variants (Forum TFI 2024): standardized and non-standardized:

- **Standardized receivables funds** are established as funds with designated sub-funds.
- **Non-standardized receivables funds** may, but are not required to, have designated sub-funds.

A receivables fund cannot grant loans, guarantees, or sureties. Receivables funds can invest in: a specified pool of receivables, securities incorporating monetary receivables, or rights to benefits arising from specific receivables.

An essential element of investment fund activity is acting in the best interest of the fund participants. Formal conditions that allow for determining whether this obligation is being fulfilled include, among others, the implementation and application by the Investment Fund Management Company managing the fund of an appropriate valuation model and system that ensures correct and transparent determination of the value of assets managed by the company.

The Investment Fund Management Company, in fulfilling the above obligation, establishes a schedule for the valuation of assets allocated to the investment certificates. Table 1 presents selected securitization funds in Poland, along with the frequency of asset valuation for each fund.

Table 1 shows the frequency of net asset valuation for selected securitization funds.

Fund name	frequency of valuation
Eques Creditum FIZ NFW	monthly
Eques Debitum FIZ NFW	monthly
Eques Dividend Loans FIZ NFW	monthly
Credit Inkaso III NFIZW	quarterly
Lumen Profit 14 NFIZW	quarterly
Lumen Profit 15 NFIZW	quarterly
Lumen Profit 16 NFIZW	quarterly
Lumen Profit 18 NFIZW	quarterly
Lumen Profit 20 NFIZW	quarterly
Lumen Profit 21 NFIZW	quarterly
Lumen Profit 22 NFIZW	quarterly
Lumen Profit 23 NFIZW	quarterly
Lumen Profit 24 NFIZW	quarterly
Lumen Profit 30 NFIZW	quarterly

Source: Own study based on analizy.pl

Above the table presents the most commonly used frequencies for the valuation of assets in debt funds. It should be noted that the fund's statute may impose specific guidelines in this regard.

4. Approaches, Techniques, and Methods for Estimating the Fair Value of the Investment component of debt funds

In accordance with Article 28, paragraph 6 of the Accounting Act, fair value is defined as the amount at which a given asset could be exchanged,

and a liability settled, in an arm's length transaction between interested and knowledgeable, unrelated parties.

In accordance with paragraphs 30.1 and 30.2 of the Regulation on Accounting Principles for Investment Funds, fair value is considered reliably estimated when determined by:

- Assessing the value of the investment component by a specialized, independent entity providing such services, provided that the entity can reliably estimate the cash flows related to the component.
- Applying an appropriate valuation model for the investment component, provided that the input data for the model is sourced from an active market.
- Estimating the value of the investment component using generally accepted estimation methods.
- Estimating the value of an investment component for which no active market exists, on the basis of a publicly quoted price in an active market for a not materially different component, in particular one with a similar legal structure and economic purpose.

4.1 The Fair Value Measurement Process

The process of measuring assets at fair value is discussed in International Financial Reporting Standard 13 'Fair Value Measurement'. The purpose of the standard is, among other things, to standardise the procedures involved in estimating fair value.

The standard indicated above designates the approaches presented in Table 2 for estimating fair value.

Table 2: Approaches to Fair Value Measurement

	Specification
Market price	Represents the price at which entities actively operating in the market (buy and sell).
Reproduction price	Represents the price appropriate for an entity that wants to recreate a given asset with specific characteristics.

Sale price	Represents the price appropriate for an entity intending to sell a given asset in specific market conditions.
Discounted cash flows	Represents the price appropriate for the cash flows generated by the given asset during its economic useful life.

Source: Own study based on International Financial Reporting Standard 13 - Fair Value Measurement

The International Financial Reporting Standard 13 defines fair value (price) in a way similar to the approaches mentioned earlier. Specifically, according to its provisions, fair value is the price that would be received for the sale of an asset or paid for the transfer of a liability in an ordinary transaction between market participants.

Fair value therefore refers to a specific asset, the characteristics of which include:

- Its condition
- Restrictions (if any) regarding the disposal of the asset

Identifying the specific characteristics and restrictions related to the fair value estimation Impacts the asset valuation process and the way in which market participants consider these features and limitations regarding the asset's transferability. However, IFRS 13 assists the valuer by indicating a valuation procedure that should follow the steps outlined below:

1) Determination of the unit of account
2) Determination of the best possible use of the asset being valued
3) Determination of the most advantageous market
4) Determination of the valuation technique

4.2 Fair value hierarchy

The estimation of the fair value of a fund's asset (deposit component) depends on the availability and reliability of the data acquired and processed. International Financial Reporting Standard 13 defines a strict hierar-

chy in this respect as shown in Table 3 (Szczepankiewicz, Janowicz 2015).

Table 3 Fair Value Levels

Fair Value Levels	Specification
Level 1	Prices quoted in active markets, such as those subject to valuation.
Level 2	Observable data other than quoted prices for identical assets.
Level 3	All data that are unobservable, where there is no active market.

Source: Own work based on International Financial Reporting Standard 13 - Fair Value Measurement

4.3 Design of income models

The operation of a closed-end investment fund should be based on the best interests of the fund's participants. Translating this into the practice of fair value measurement, one should ask the question: how should the valuation model be constructed to ensure that the principle of acting in the best interest of the participants is fulfilled?

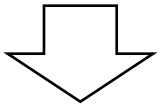
In the author's opinion, the optimal solution is to treat the fund's investment as an asset that brings specific economic benefits in the form of cash flows. Thus, in constructing an income model for the valuation of closed-end investment fund deposits such as receivables.

The focus will be on:

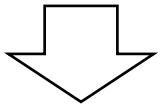
- The forecast of future cash flows that, according to expectations, the entity may receive from owning a given asset
- Expectations regarding changes in the amounts or timing related to the estimated future cash flows.
- The time value of money reflected by the current risk-free rate.
- The price that incorporates uncertainty associated with the given asset.
- Factors other than those mentioned above that market participants may incorporate into the valuation.

Thus, preparing the valuation using the income approach consists of several stages, which include:

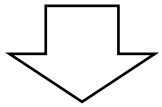
Stage 1
Preparation of the financial forecast



Stage 2
Calculation of the discount rate



Stage 3
Determination of the residual value, insofar as the specific valuation of the asset takes into account the existence of cash flows after the detailed forecast period



Stage 4
Calculation and verification of valuation results

Therefore, it can be stated that the valuation of receivables (or portfolios of receivables) is carried out by discounting future net cash flows, i.e., recoveries reduced by costs, to the present value as of the valuation date using the appropriate discount rate. Furthermore, when making the estimate, additional assumptions should be made:

- The value of a portfolio of receivables results from its ability to generate cash flows for its holder.

- The valuation consists of discounting the forecasted future net cash flows to present value using the discount rate.
- Changes in the value of the portfolio are reflected dynamically.

5. Receivables Portfolio Valuation Methodology

On each valuation date, the fair value of the receivables portfolio is determined using an estimation model, which is based on discounting the estimated future cash flows. Therefore, the fair value of the receivables portfolio can be estimated using the following formula:

$$WA_d = \sum_{m=1}^{M} \frac{CF_m}{(1+r)^{\frac{m-md}{12}}}$$

WA_d – discounted value of the debt portfolio at the valuation date

m - indication of the first month of occurrence of the expected cash flow

M - indication of the last month of occurrence of the expected cash flow

CF_m – value of expected discounted cash flows in month (m)

r – annual discount rate

md - designation of the month in which the valuation of the debt portfolio falls

d - indication of the date on which the valuation of the debt portfolio is due to take place

5.1 Interest Rate

The purpose of the interest rate r is to reflect the time value of money as of the valuation date, d, and the current credit risk associated with the

receivables being valued. The discount rate determined as of the valuation date consists of two elements:

- r_b – the base rate, which represents the risk-free rate – determined based on the yields of treasury bills or bonds,
- m_k – the credit margin, which constitutes the compensation for the buyer due to taking on the credit risk of the receivables portfolio.

The interest rate used when discounting the expected future cash flows is updated in response to changing market conditions by:

- updating the base rate r_b in relation to the current publicly available quotes of treasury bills or bonds,
- updating the credit margin m_k if there are indications that it should be adjusted.

The update of the credit margin m_k is possible when:

- The model analysis will reveal incorrectly assumed model assumptions, such as the portfolio repayments being lower than the originally anticipated recoveries.
- The market transaction analysis will show a change in the margin, for example, due to a change in market competitiveness.
- The analysis of future expected cash flows will indicate a constant change in the trend.

5.2 Future Cash Flows Forecast

Future cash flows CFm represent the amounts of money expected to be recovered through debt collection or asset sale, forming the income of the investment fund.

The forecast of future cash flows can be divided into two stages:

- Forecast of recoveries from the debt portfolio
- Forecast of recovery costs and collection costs

A fundamental element is the forecast of the amounts of money that can be recovered from the debt portfolio.

Key determinants for estimating the amount of recoverable money from the debt portfolio include the factors presented in Table 4.

Table 4: Determinants of Estimating Cash Flow Values for Debt Portfolio

Criterion	Specification
Portfolio segmentation	Achieving homogeneous groups of debtors
Analysis of historical segment data	How debtors' repayment capacity is evolving
Recovery prediction	Use of an appropriate estimation method

Source: Own work

The forecast of recovery costs consists of determining the remuneration for the manager of the receivables portfolio and forecasting enforcement and legal costs. The manager's remuneration is calculated as the product of the forecasted recoveries and the management fee rate specified in the portfolio management agreement. The forecast of enforcement and legal costs is prepared based on current costs for civil proceedings and the number and value of obligations that are planned to be referred to judicial and enforcement processes.

5.3 Back-testing of the debt portfolio

Backtesting is conducted for portfolios subject to a certain history. It is assumed that the minimum life of the portfolio is 6 months. The backtesting process consists of comparing a forecast of the amounts recovered during the historical period to the flows actually realised. Backtesting makes it possible to determine whether, given a known level of collection activity, the model accurately forecasts recoveries.

Summary

Acting in the best interests of a fund participant involves actions that ensure the protection of their interests. One such action undertaken by a closed-end investment fund is ensuring the accuracy of asset valuation. The diversity of financial instruments within investment fund portfolios necessitates the separate valuation of each fund investment. Notably, debt

fund investments represent a unique category within fund investments. This text presents the methodology for determining the fair value of a debt portfolio that constitutes an investment of a closed-end investment fund. Key challenges associated with estimating fair value include the assessment of the discount rate, cash flow estimation, and, at the final stage, conducting a backtesting of the debt portfolio.

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