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APPLICATION OF EUROPEAN DIRECTIVES AND REGULATIONS FOR EUROPEAN INVESTORS

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Abstract: *European directives are a general regulation on how investment funds should be offered to retail investors. These directives apply to the composition of the portfolio as well as to the advisory process and set the standards that European funds should follow. To standardise the fund, various directives are employed, with the most common designation for ETF funds being UCITS. These funds have a prescribed set of documents that must be provided to the investor before investing, such as a Key Investor Information Document. This document includes the risk score of the given fund, which has been calculated differently over the years in accordance with the MiFID directive. In this work, we compare the approach to individual funds and highlight the change in approach from 2014, when the calculation of risk was transitioned to a new metric, while noting the higher degree of restrictiveness of the metric used prior to 2014.*

Keywords: *UCITS, MiFID, PRIIP, KID, SRI, SRRI*

JEL Classification: C18, C23, G28, D18

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1 Introduction

Investing is becoming an increasingly attractive topic, especially for non-professional (retail) investors. These investors often lack the necessary economic education to assess which investment is best suited for them accurately. They may choose an asset that does not align with their risk profile, and under the pressure of market events, they may panic and sell their portfolio at a loss. In the long term, stock markets grow, so selling assets based on short-term declines is never the right solution for an investor. Entry points to the world of investing for retail investors are often various investment banks or tied financial agents who, based on client requirements, try to deliver the desired portfolio composition to investors. Since these are European investors, it is not possible to offer all available solutions, as the range of available products is limited by the Directive on Undertakings for Collective Investment in Transferable Securities (hereinafter referred to as UCITS). A sign that a given fund falls within this directive by its structure is the designation in the fund name, where this abbreviated name is mentioned.

In order for investors to be provided with funds through advice, the requirements of the Markets in Financial Instruments Directive (hereinafter referred to as MiFID) must be met. This directive is implemented by Act No. 566/2001 Coll. on securities and investment services, serving to enhance client protection and information transparency. In addition to the MiFID II directive, the Directive of the European Parliament and of the Council on structured retail investment and insurance products (hereinafter referred to as PRIIPs) (European Union, 2014) is also currently in use. One of the main points of this directive is that funds offered to investors must be accompanied by a document containing key information for investors (hereinafter referred to as the Key Information Document (KID)). This document discusses the composition of the fund, its description, and the risk score on a standardised scale from 1 to 7 (European Supervisory Authorities, 2023), with 7 representing the riskiest and 1 representing low risk (European Union, 2014).

In this paper, we will compare the SRI and SRRI scores resulting from changes in the calculation approach introduced in 2014. We will discuss the approach from the original synthetic risk-reward indicator (SRRI) to the summary risk indicator (SRI), which has been fully utilised since 2018. In these cases, we will observe the final results of the two metrics and determine which one is

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more restrictive, as well as how the metrics differ on a scale from 1 to 7. This will enable the determination of which approach is more restrictive from the risk management perspective for non-professional investors. This analysis will be conducted over five-year (260-week) time periods, spanning the years 2012 to 2024, with annual shifts. The assets on which the comparison will be made represent global stock indices, which are often the primary components of stock funds.

2 Literature review

European directives, regulations, and guidelines, such as MiFID, UCITS, and PRIIP, are used for non-professional clients in the European market; however, they are not widely studied scientifically, as they represent the standards set for European investors. When investing, there are several options for assessing risk. One option is to create portfolios using standard deviation and classify funds according to this measure, as was the case until 2018, in accordance with the UCITS directive. Many authors have extensively addressed the standard deviation in the past and have long served as a foundational concept in the creation and evaluation of portfolios (Markowitz, 1952). In addition to standard deviation, the existence of risk-free assets was also considered over time, allowing investors to achieve a particular appreciation without taking on risk, most often represented by government bonds (Sharpe, 1959). It can therefore be said that European directives are also indirectly based on these foundations. In addition to risk classification, the question has arisen over time of how to correctly determine the riskiness of funds for groups of investors in order to prevent premature termination of portfolio holdings. Several instruments worldwide assist investors in this regard. In the European Union, the primary regulator is the European Commission, which establishes the boundaries that European funds must comply with and outlines the approach to investors through directives and regulations. One example of such a regulation is MiFID, which focuses on working with investors (Cronstedt et al., 2021) and providing investment advice (Möllers & Brosig, 2017). There have been and are various concerns associated with MiFID regarding whether investors are truly more protected. The study *Implementation of MiFID II investor protection provisions by private banks within the European Union* focuses on private banks in Europe. The authors examine compliance with investor protection rules under the MiFID directive. The primary focus was

on the rules that relate to assessing the suitability of investments for investors. The authors conducted several interviews with 25 bank representatives from ten EU countries in the study and found that although MiFID aims to create a level playing field for all countries, in practice, this does not quite work. Banks interpret and apply specific rules differently in different countries, which can impact investor protection and the subsequent provision of investment services. The research offers insight into the approach to MiFID, highlighting promising practices and potential risks that may arise in the future (Loonen & Jansen, 2018). In *Investor Protection under MiFID: Cure Worse than the Disease*, the conclusions suggest that the planned investor protection in MiFID may impose additional costs on investors, which are in the interest of investment firms. The author also points out the possible failure to deliver on the risk-reward promises arising from this directive. Burke states that the European Union is passive towards financial market failures, and thus, the effectiveness of investor protection is questionable. The author also points to the 2008 financial crisis, which confirmed that placing a professional adviser between the investor and the markets may not always be the right approach, as it may offer the investor greater uncertainty and increased risk. The author cites numerous market crashes and financial scandals, which support the author's conclusions about MiFID (Burke, 2009). There are articles on MiFID that highlight the European Commission's initiatives in the area of sustainable finance, particularly in the revisions to the MiFID II frameworks (Colaert, 2024). In addition to MiFID, which also covers the requirements for investment advice, we recognise the UCITS directive, which regulates how and what can be contained in funds offered to European investors. UCITS has also been examined in various works, as confirmed by the dissertation "*A Comparative Analysis of the Performance of AIFs and UCITS Funds*." *In this work*, the author assesses the performance of alternative investment funds (AIFs) and undertakings for collective investment in transferable securities (UCITS). The performance of the aforementioned funds was measured using methodologies such as the Treynor, Jensen, and Sharpe indices. All tests used show similar results in favour of UCITS funds, which showed better returns than riskier AIF funds. The study's results suggest that it is not always necessary to take on additional risk to achieve better returns (Farrugia, 2017).

In the case of American funds, investment funds must have their own independent directors to protect investors from conflicts of interest. This is not mandatory for European funds. In the article, the author Hazenberg refers

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to a study focusing on Luxembourg UCITS funds and examines whether greater board independence leads to lower costs or better fund performance for investors. This study found no evidence to support the existence of such a positive impact. According to the author, the more important factors influencing funds are the attitudes of the board of directors and the fund distribution model, with funds having an independent sponsor achieving better results. Hanzenberg's research questions the effectiveness of self-regulation and the requirements for independent board members (Hanzenberg, 2016).

The change that expanded the original UCITS directive was the PRIIP directive. Several articles are related to this directive, as there were changes, for example, to the methodology for assessing the risk of the fund. The revised methodology for calculating risk, from the SRRI to the SRI value, raised several questions about how the resulting value will impact the investor's risk profile. This topic, which we develop in our article, was addressed by authors from BNP Paribas, who examined the change in their own funds, while also reflecting the final value in their own KIDs. The study compares the risk calculated under the PRIIP (SRI) regulation with the risk calculated under the UCITS (SRRI) regulation. The results of the study show that most of BNP Paribas Asset Management's funds will be classified between 1 and 5 according to the PRIIP, which differs from the UCITS classification, where their funds acquired values of 1 to 7. They state that the new classification also reduces the risk scale for their offered funds. (Perchet et al., 2023). There are also articles about the passportisation of funds for European investors.

The SRRI score was also analysed in relation to pension funds, and it was found to have its strengths and limitations as a tool for communicating investment risk to non-professional investors. While empirical evidence suggests that SRRI risk classes broadly correspond to traditional investment categories and market risk exposure, studies also find that the classification provides limited insight into the risk–return characteristics of funds in higher risk classes, particularly SRRI class 5 and above. Moreover, the literature raises concerns that the discrete structure of SRRI may unintentionally encourage increased risk-taking, as relatively small changes in risk class can mask substantial shifts in underlying investment risk (Zalewska, 2021).

The gradual harmonisation of EU regulation and increased cooperation among supervisory authorities have significantly reduced distribution barriers and

supported the expansion of cross-border fund distribution. Although domestic funds still dominate the market, their share has been declining alongside a growing number of cross-border funds and registrations, indicating deeper market integration. The literature also notes a gradual weakening of traditional fund domiciles such as Luxembourg, while other Member States, including Ireland and France, have strengthened their positions. At the same time, researchers point to challenges for smaller domestic markets, data limitations, and the growing role of digitalisation and ESG-focused funds as key areas for future research (Krupa, 2024)

Table 1 provides an overview of the directives, regulations, and documents that we deal with in this work and that are essential from the perspective of investing in the euro area. All of the above represent guidelines for companies providing investment funds, as well as for investors themselves. The European Commission is thus attempting to protect investors and prevent investment risks that arise from incorrect portfolio allocation.

Table 1: Overview of directives, guidelines and documents

Abbreviation	Regulation/document	Purpose
UCITS	2009/65/EC	Rules for European collective investment funds
PRIIP / KID	1286/2014	Mandatory document for retail products
MiFID II / MiFIR	2014/65/EU a 600/2014	Regulation of investment services and securities trading
SRRI	Part of UCITS KIID	Risk indicator based on standard deviation
SRI	Part of PRIIP KID	Risk indicator based on market and credit risk

Source: own processing.

3 Methodology and methods of research

When investing in European funds and providing investment advice, several measures have been adopted within Europe to help investors choose the right investment assets, ensure proper information, and reduce the investors' risk.

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Several directives, regulations, and documents govern these activities.

3.1 MiFID

MiFID is the Markets in Financial Instruments Directive. European Union legislation regulates the functioning of financial markets within the European Union. This directive also regulates investment services, including investment advice, securities trading, and other brokerage services. This directive aims to improve investor protection. One of the objectives of the directive is to increase the transparency of financial markets and simplify the rules for European investment firms, thus enabling them to operate across borders. This cross-border operation is also referred to as a European passport. This supports competition across financial institutions. The MiFID directive has evolved into two distinct directives: MiFID I (European Union, 2009) and MiFID II (European Union, 2014), with the latter also encompassing the MiFIR European Union regulation. (2014). The MiFID I directive has been effective since November 2007 and was adopted in 2004. The rules introduced by this directive apply to:

- activities of banks and other investment firms in providing investment services
- organisation of trading, which is represented by exchanges and multilateral trading facilities (MTFs)
- basic obligations towards clients, such as categorisation into professional, non-professional clients and eligible counterparty
- the principle of best execution

This directive was extended by the MiFID II directive, which was adopted in 2014 and has been in practice since January 2018. This directive replaced the original first directive and supplemented it with the MiFIR regulation. MiFIR is divided into several chapters that address pre- and post-trade transparency, access to trading, derivatives trading, third-country access, financial instrument reference data, and data providers. The change from the original MiFID I approach to MiFID II also occurred due to the financial crisis of 2008, which exposed the shortcomings of the MiFID I directive. These shortcomings included insufficient transparency in over-the-counter trading,

weak control of derivatives markets, and inadequate investor protection for complex products and algorithmic trading, which the directive did not address. We can say that in 2007, a single market for financial services was established in Europe with the help of the MiFID I directive. In 2018, the rules were tightened, while transparency in investor protection increased. Another difference was the addition of the MiFIR regulation (European Union, 2014), which imposes directly applicable obligations in all European countries. MiFID II also imposes an obligation on companies to assess the adequacy and suitability of investment services for the client. The suitability test is used in the context of investment advice or portfolio management. The financial situation, investment objectives, experience, knowledge, and risk tolerance of the investor are determined here. When investing without advice, an appropriateness test is conducted to determine whether the client understands the risks associated with the investment product.

3.2 UCITS

The UCITS Directive is a European directive that regulates the activities of funds that are publicly offered in the European Union. The main idea of UCITS was to make funds available to investors across Europe and to grant these funds a European passport, which enables the distribution of funds to non-professional investors across the European Union without the need for additional permits. UCITS sets several restrictive conditions that funds must comply with. The first is a maximum investment of 10% of a single security in the portfolio. Another restrictive condition is that the sum of assets with a weight in the portfolio above 5% does not exceed the total value of the portfolio, which is 40%. If a fund wants to invest in another UCITS fund, it is possible to do so with a maximum weight of 20%. The liquidity of the fund must be enabled at least twice a month, and the fund must be valued daily to ensure its value is transparent and readily known. Each fund must have a depositary, which is responsible for safeguarding the assets in the fund. The depositary also supervises the company's administrative conduct in accordance with legal regulations and the fund's statute. Each UCITS fund must meet the conditions for investor protection and provide investors with an investor information document, known as the KIID (now replaced by the KID document in PRIIPs). One of the values in the KIID document was the summary risk and return indicator SRRI, which was the original approach to calculating risk and was introduced by the European Commission regulation

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on the UCITS IV directive. It was valid from 1.7.2012. Each fund was required to have a KIID (now only a KID) with the SRRI indicator (1-7). The historical volatility of returns was measured here by the standard deviation of the fund, with a period of approximately 5 years, which expresses the risk and potential return of the fund until its end of validity in 2022. We illustrate this relationship with the formula:

$$\sigma = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(r_i - r')^2} \qquad (1)$$

Where σ is standard deviation (volatility), r_i represents weekly return in week i, r' is the average weekly return and n stands for the number of weeks (in our case, it is 260 weeks).

After calculating volatility, a score was assigned according to the SRRI matrix, which corresponded to the riskiness and potential return of the fund. This matrix is shown in Table 1.

Table 2: Matrix for computing the SRRI

SRRI	Volatility (σ)
1	0 % - 0,5 %
2	0,5 % - 2 %
3	2 % - 5 %
4	5 % - 10 %
5	10 % - 15 %
6	15 % - 25 %
7	> 25 %

Source: own processing.

3.3 PRIIP

PRIIPs, together with UCITS, represent some of the most important standards for collective investment and investment products for non-professional investors. PRIIP is the abbreviated name for Regulation (EU) No. 1286/2014 on key information documents for packaged retail and insurance products.

PRIIP is not a directive like MiFID, but a regulation adopted in 2014, which has been in force since January 2018 and is valid and binding for all Member States of the European Union. This regulation unifies the way in which non-professional investors are informed about investment products. The aim of this regulation is for every investor to know what the product is, what risks they are taking and what the fees of the product are. The basis here is product clarity, comparability and transparency.

A PRIIP is any packaged product (mutual fund, ETF, structured bond) where the return on investment for the non-professional investor is directly dependent on the development of the price of the underlying assets. Products that do not fall under PRIIPs are individual shares, bonds or term deposits. Each PRIIP must have its own document, which the investor receives before making an investment. This is a three-page document that contains a product description, risks and rewards (SRI), product costs, recommended investment horizon, issuer default risk and contact information for the regulator, or how to file a complaint. This document must be a maximum of three pages in the language of the Member State where the product is sold without marketing wording. The PRIIP product must therefore have a risk assessment using SRI (until 2014 SRRI), performance scenarios and the total expense ratio of the product. In Slovakia, the supervisory authority is the National Bank of Slovakia. When determining risk, two different approaches must be distinguished: SRI and SRRI. SRI was an extension of SRRI and belongs to PRIIPs. Both scores were used in the Key Investor Information Document (KIID or KID).

Between the independence of the use of SRI and therefore also KID, there was a bridging period during which UCITS funds from 2018 to 2022 still used the SRRI metric in the KIID document, while new PRIIPs investment products already used the SRI and KID designations. In this new metric, we approach it based on two key data points: the market risk measure (hereinafter referred to as MRM) and the credit risk measure (hereinafter referred to as CRM). The MRM results in values ranging from 1 to 7, with these values representing different risk levels. It is still true that a lower level indicates lower risk (volatility). The MRM is calculated based on the volatility value VEV, the calculation of which is shown by the following mathematical formula:

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$$VaR_{spacereturn} = \sigma\sqrt{N} * \left(-1{,}96 + 0{,}474 * \frac{\mu_1}{\sqrt{N}} - 0{,}0687 * \frac{\mu_2}{\sqrt{N}} + 0{,}146\,\frac{{\mu_1}^2}{\sqrt{N}}\right) - 0{,}5\,\sigma^2 N \quad (2)$$

Where N represents the trading period by recommended holding period, σ is volatility, μ_1 represents skewness, and μ_2 is the excess kurtosis, which is measured from the distribution of return. After calculating the $VaR_{SPACERETURN}$ value we can determine the *VEV* value, which is used to determine the MRM item score. *T* in the following formula recommended for holding the period that is recommended to hold the asset, where the period is specified in years.

$$VEV = \frac{\sqrt{(3{,}842 - 2 * VaR_{SPACERETURN}) - 1{,}96}}{\sqrt{T}} \quad (3)$$

Where T is the horizon for recommended holding period of portfolio.

Table 3: Matrix for calculating MRM

MRM	VEV
1	0 % - 0,5 %
2	0,5 % - 5 %
3	5 % - 12 %
4	12 % - 20 %
5	20 % - 30 %
6	30 % - 80 %
7	> 80 %

Source: own processing.

The second part of the SRI calculation is the credit risk component of the CRM. CRM represents the second quantity used to calculate the SRI, with values ranging from 1 to 6. Credit risk is assigned and assessed by various rating agencies and represents the probability of default of the issuer of the product, and indicates how likely it is that the issuer of the product will default. The credit risk value is given from the best score, AAA, to the worst score, CCC. Credit risk is assessed mainly according to the credit rating, and a detailed assessment and calculation of this score is available in the European

Commission Regulation. In Table 4, we show the final matrix for calculating the SRI score according to the combination of CRM and MRM values.

Table 4: Matrix for calculating the SRI

Class MRM / Class CRM	MR1	MR2	MR3	MR4	MR5	MR6	MR7
CR1	1	2	3	4	5	6	7
CR2	1	2	3	4	5	6	7
CR3	3	3	3	4	5	6	7
CR4	5	5	5	5	5	6	7
CR5	5	5	5	5	5	6	7
CR6	6	6	6	6	6	6	7

Source: own processing.

4 Comparison of risk management approaches

In this chapter, we will apply the knowledge acquired and calculate how the values of SRI and SRRI change across periods for individual stock indices. These values are key in the creation of investment portfolios, as well as in the investment advisory service itself, which determines the available set of funds that can be offered to the investor. In the case where the investor requests to invest in a higher-risk fund that does not meet their risk profile, this fund cannot be provided through the form of investment advisory, since the client did not classify themselves for its purchase. The requirement to achieve high returns is associated with increased risk, which many investors cannot handle. Consequently, in difficult times, they realise losses on their portfolios. It is the European Commission, with the help of PRIIPs, that helps classify the risk score of funds, and this score must be transparently displayed in the KID document. In this work, we have chosen stock indices for comparison, since they constitute the majority of all freely tradable funds and are therefore a standard tool used in investor portfolios. The most widely traded global passive funds tend to track US stock indices, such as the Standard & Poor's 500 or the Nasdaq 100, in the majority of their composition. Often, the preferred European indices are the Euro Stoxx 50, Euro Stoxx 600, or the German DAX stock index. We will utilise the Python programming language within the Jupyter Notebook environment as our software solution for all calculations. This environment allows the use of several libraries, from which

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we will use pandas, NumPy and SciPy. Pandas is a library used for working with tabular data. We can use it to read CSV files, filter them, and do quick analysis using Dataframes and Series. The second library is NumPy, which we use for numerical calculations. Thanks to it, we can utilise, for example, multidimensional arrays, mathematical operations, and linear algebra. The third library, which is used for advanced statistical functions, is SciPy. We use it to calculate SRI values, since it contains functions for calculating skewness and kurtosis.

The first step was to define the functions for calculating SRRI (1) and SRI with the use of $VaR_{SPACERETURN}$ (2), and volatility internval VEV (3), the values of which we will examine over a 5-year period (260 weeks). We calculate the first five-year investment period based on weekly closing prices. We will advance this five-year period by one year (52 weeks) to examine the resulting values from these two approaches. The application of the mathematical definitions is shown in Figure 1.

Figure 1: Defining calculation of an SRI and an SRRI

```
# --- Function for SRRI calculation ---
def volatility_to_srri(vol):
    if vol < 0.5: return 1
    elif vol < 2: return 2
    elif vol < 5: return 3
    elif vol < 10: return 4
    elif vol < 15: return 5
    elif vol < 25: return 6
    else: return 7

# --- Function for SRI (MRM) and VEV calculation ---
def calculate_sri_and_vev(simple_returns):
    """For given weekly returns in the window, it calculates the VEV and SRI (MRM) for each column."""
    results = {}
    z = norm.ppf(0.975)

    for col in simple_returns.columns:
        r = simple_returns[col].dropna()
        if len(r) < 5:
            results[col] = {"VEV": np.nan, "SRI(MRM)": np.nan}
            continue

        mu = r.mean()
        sigma = r.std()
        s = skew(r)
        k = kurtosis(r, fisher=False)

        z_cf = (z + (1/6)*(z**2 - 1)*s
                  + (1/24)*(z**3 - 3*z)*k
                  - (1/36)*(2*z**3 - 5*z)*s**2)

        mu_1y = mu * 52
        sigma_1y = sigma * np.sqrt(52)
        worst_case = mu_1y + z_cf * sigma_1y
        vev = abs(worst_case / z)

        # categorization by scope
        sri = 1 if vev < 0.005 else 2 if vev < 0.05 else 3 if vev < 0.12 else \
              4 if vev < 0.20 else 5 if vev < 0.30 else 6 if vev < 0.80 else 7

        results[col] = {"VEV": round(vev, 6), "SRI(MRM)": sri}

    return results
```

Source: own processing

After defining the calculations, we proceeded to iterate across periods. The initial period begins in 2012, as this is the year in which we acquired data on all indices simultaneously – our database was created by the investing.com website. Here, we calculate the values on five-year floating windows and record their comparison in separate columns for both established approaches. After calculating the floating windows from 2012 to 2024, which formed five-year investment intervals, we display the results of ten indices. As shown in Figure 2, the SRI value introduced in 2018 is less restrictive than the SRRI value. This means that if a fund had the same composition and performance

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as another, the SRRI value would almost always be higher for the fund. This fact indicates a reduction in the riskiness of funds and their greater accessibility to non-professional investors. This SRI indicator makes riskier funds available to investors who, until 2014, did not have the same ability to take risk with the SRRI metric, usually by one risk point in the indicator. We can observe in Figure 2 that, when comparing the three American indices (SP500, NASDAQ100, and DJI30), the changes in values from SRRI to SRI of SP500 and DJI30 are almost identical, which also aligns with their very similar returns during the five-year period from 2013 to 2022. NASDAQ100, on the other hand, showed a significant excess return in this period and its riskiness (volatility), represented by the SRI value, did not decrease as sharply as in the other two indices. If we examine the European indices, we see that the diversified European index, STOXX 600, which comprises 600 companies, generally has lower values than the less diversified STOXX 50 index. In both indices, the riskiness decreased when comparing the SRRI and SRI values.

The last step was to set up conditional formatting that would determine which value in the pair is the larger (shown in green) and which is the smaller value (shown in red), as illustrated in Figure 2.

Figure 2: Output comparison of SRI and SRRI values

Period	SP500_SRRI	SP500_SRI	NASDAQ100_SRRI	NASDAQ100_SRI	DJI30_SRRI	DJI30_SRI	STOXX600_SRRI	STOXX600_SRI	STOXX50_SRRI	STOXX50_SRI
2012-01-01 - 2016-12-18	5	5	5	5	5	5	5	5	6	5
2012-12-30 - 2017-12-17	5	5	5	5	5	5	5	5	6	5
2013-12-29 - 2018-12-16	5	4	6	5	5	4	5	4	6	5
2014-12-28 - 2019-12-15	5	4	6	5	5	5	5	5	6	5
2015-12-27 - 2020-12-13	6	5	6	6	6	5	6	5	6	6
2016-12-25 - 2021-12-12	6	5	6	6	6	5	6	5	6	6
2017-12-24 - 2022-12-11	6	5	6	6	6	5	6	5	6	6
2018-12-23 - 2023-12-10	6	6	6	6	6	6	6	5	6	6
2019-12-22 - 2024-12-08	6	6	6	6	6	6	6	5	6	6

Period	DAX40_SRRI	DAX40_SRI	ATX20_SRRI	ATX20_SRI	NIKKEI225_SRRI	NIKKEI225_SRI	HSI50_SRRI	HSI50_SRI	FTSE100_SRRI	FTSE100_SRI
2012-01-01 - 2016-12-18	6	6	6	5	6	6	6	5	5	4
2012-12-30 - 2017-12-17	6	6	6	5	6	6	6	5	5	4
2013-12-29 - 2018-12-16	6	5	6	5	6	5	6	5	5	4
2014-12-28 - 2019-12-15	6	5	6	5	6	5	6	5	5	4
2015-12-27 - 2020-12-13	6	5	7	6	6	6	6	5	6	5
2016-12-25 - 2021-12-12	6	5	6	6	6	6	6	5	6	5
2017-12-24 - 2022-12-11	6	5	7	6	6	6	6	5	6	5
2018-12-23 - 2023-12-10	6	6	7	6	6	6	6	5	6	5
2019-12-22 - 2024-12-08	6	6	7	6	6	6	6	5	6	5

Source: own processing

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5 Conclusion

At the end of the work, we will evaluate the results achieved through the analysis carried out. The work contains a description of several European directives and regulations that are used in the construction of funds provided for non-professional investors or in the process of investment advice, which has been expanding in recent years, not only by consulting companies that have their subordinate financial agents, but also by digital online solutions from banks or foreign platforms. In order for the European non-professional client to be able to correctly choose the instrument for the appreciation of his capital, the UCITS, MIFID and PRIIP directives and regulations are used, based on which we can provide the investor with the right funds according to the standard, which the investor can access based on his investment profile. At the beginning of the work, we set ourselves the goal of examining the riskiness of stock indices using two European metrics. We used the currently used SRI and the outdated SRRI, which was used until 2018. We developed a program code that calculates the resulting values of these two metrics for the interval from one to seven over the investment period from 2012 to 2024. We always considered a five-year investment period (260 weeks), during which we examined the SRI and SRRI values of ten global stock indices. For nine time periods, we showed that the SRI and SRRI values were always different in at least one of the periods. We observed the most significant difference with the English FTSE index, where the SRI value, the new metric used, is always one value lower. We also observe this result with the Hang Seng index. The index where all but one value was different is the Austrian ATX index. On the other hand, the minor differences were with the American indices. Based on the above, it is possible to demonstrate that the new metric, based on the SRI score, is less restrictive and allows investors to purchase assets that would not have met their risk profile by 2018.

The question arises whether the European Commission intended to make investing in equity funds more accessible to a broader range of investors and thereby expand the market, or whether their original model was too restrictive. The introduction of the new directive means expansion of equity fund investors, which also supports the growth of securities in these indices. Since the investment funds are mostly passive, following the structure of the index, this boosts not only the value of the stocks but also the value of the investment funds that contain such stocks. We cannot forget the snowball effect - when

an investor invests in a fund and buys shares that are also in another fund, the value of both funds grows simultaneously. If we consider that most investors (including pension funds) are guided to invest in equity funds, the price of shares must grow in the long term. This growth is also driven, for example, by regular orders that are executed on a monthly basis. Investors purchase shares in funds, thereby becoming co-owners of the shares, either through pension funds or by purchasing funds from various intermediaries, such as banks, investment companies, or brokers. Our results reflect the most well-known and widely used global indices, which expand the set analysed by BNP Paribas, as they examined only their own funds, from which they subsequently concluded risk.

In our opinion, the regulations introduced by the European Commission provide a suitable basis for reducing investors' risk if used correctly. At the same time, it is unclear whether the original calculation methodology was insufficient or whether the primary purpose of these changes was to make the market more accessible to a broader range of investors. However, such a step can be considered appropriate, as stock markets have historically demonstrated long-term growth. Thanks to this, a larger number of investors can participate in the growth of stock markets through the so-called snowball effect, where each investor supports the growth of stock markets with regular purchases.

In future research, we anticipate opportunities for several extensions of these analyses. Currently, we have only operated with stock indices. The extension can include examining other bond indices, real estate indices, as well as commodity prices, such as gold or silver. Another possible direction for further research is the question of investor behaviour in a situation where the riskiness of an investment fund changes over time. If an investor is classified into a specific risk profile when entering an investment and the riskiness of the fund subsequently increases, the regulatory framework generally does not require them to limit further investment, sell shares, or otherwise reduce their exposure to the given fund. Additionally, longer investment horizons may be more suitable in the context of pension funds, from which investors cannot withdraw their money. These funds are allocated for decades.

It could also be interesting to analyse real investors and determine whether current guidelines and investing according to assigned risk profiles help hold European portfolios for longer investment horizons or increase investors' returns due to pre-emption during periods of market shocks, such as sharp

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declines or economic crises.

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