




Justus-Liebig-University Gießen

Department 02: Economics

Chair of Financial Services BWL V

Prof. Dr. Andreas Walter | 

Retail Investment Strategy

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Master Thesis:

**„The EU Retail Investment Strategy: Insights into the Strategy and a Status Quo
Analysis of the German Market“**

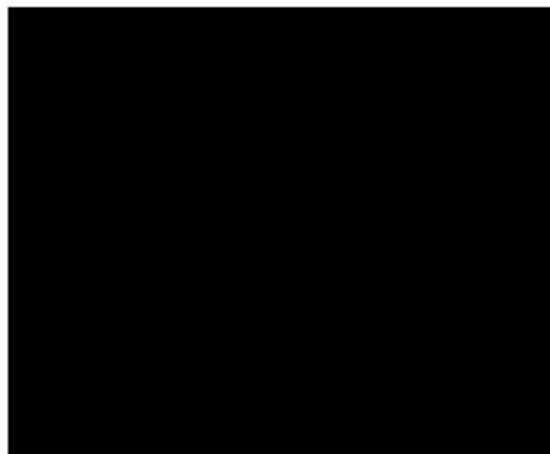


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III List of Abbreviations

AuM – Assets under Management

C# – Cluster 1, 2, 3 or 4

CMFN – Capital Market Funds Narrow

CMFW – Capital Market Funds Wide

CMI – Capital Market Instruments

CMU – Capital Markets Union

ESMA – European Securities and Markets Authority

ETF – Exchange-Traded-Fund

EU – European Union

FCA – Financial Conduct Authority

FKP – Financial Knowledgeable Person

DG FISMA – Directorate-General Financial Stability, Financial Services and Capital Markets Union

GO – General Objective

IBIP – Insurance Based Investment Product

IAR – Impact Assessment Report

IOSCO – International Organization of Securities Commissions

IDD – Insurance Distribution Directive

MIFID II – Markets in Financial Instruments Directive

NCA – National Competent Authority

NGO – Non-Government Organization

OLS – Ordinary Least Squares

PHF – German Panel on Household Finances

P & I – Voluntary Pension and Whole Life Insurance

PRIIPs – Packaged Retail and Insurance-based Investment Products

SD – Standard Deviation

SO – Specific Objective

UCITS – Undertaking for Collective Investment in Transferable Securities

VfM – Value for Money

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1. Introduction

Across the whole European Union (EU), countries struggle due to the demographic change to fill the continuously growing retirement gap. Still, publicly provided first-pillar pensions account for the major share of retirement income in EU countries. (European Commission, 2021) At the end of 2022, EU households held 41.4 % of their total financial wealth in cash or bank deposits. Only 17 % were invested in financial securities compared to US households with 43 %. (European Commission, 2023d) In accordance with the Keynesian economic model, households have the option to save or invest surplus capital in addition to their consumption. (John Maynard Keynes, 1936) The continuously growing retirement gap and high savings rate disclose rather a necessity to invest than an option to ensure the long-term financial stability of EU households. Nevertheless, the absence of many retail investors from capital markets and the corresponding participation puzzle remains unsolved. (van Rooij et al., 2011)

Since most retail investors are not able to make well-informed investment decisions by themselves, they seek financial advice. (Inderst & Ottaviani, 2012) Although, the Consumer Markets Scoreboard and the flash barometer revealed that investment product services are ranked among the least trusted services by EU households. (European Commission 2018a, 2022) According to the European Commission, this distrust stems from informational deficiencies and shortcomings in the distribution and manufacturing process of financial products, harming the capital market participation of retail investors. (European Commission, 2023d)

On May 24th, 2023, the European Commission presented a proposal named “Retail Investment Strategy” to encounter the low participation rate, insufficient investor protection, and poor investment outcomes. This legal framework wants to place retail investors in the centre of investing and aims to ensure access to cost-efficient, biased-free financial advice and products. (European Commission, 2023d)

There is consensus among representatives of the supply and demand side of financial products that the status quo is marked by excessive saving and insufficient investing. (Uličná et al. 2022; GDV, 2023) However, when it comes to drafting the legal framework to create the right incentives for retail investors and financial intermediaries, opinions of the interest groups greatly differ.

The consultation of the European Commission conducted in 2021 shows that financial intermediaries see the current framework as sufficiently empowered and protected retail investors. While consumer organizations and non-government organizations (NGO) saw significant scope for improvements to the legislative framework. (Better Finance, 2022)

In particular, the presented full ban on inducements and the value for money (VfM) concept raise significant concerns among financial intermediaries. According to the Association of Independent Financial Service Providers, prohibiting commissions limits access to financial services for large segments of the population, with especially detrimental effects on low-income households. They argue further that the proposed VfM concept, incorporating price benchmarking, is entirely inconsistent with market economy principles and constitutes state-imposed price control. (VOTUM, 2024; GDV, 2023)

Contrary, consumer protection centers and NGOs state that traditional financial advice is inherently coined by a structural conflict of interest. Intermediaries would primarily sell complex and expensive products instead of acting in client's best interest. The Netherlands and United Kingdom would exhibit evidence that extensive measures like a full ban on inducements lead to significant cost reductions and improvements in investor protection and outcomes. A VfM concept would also be necessary to ensure that retail investors gain access to cost-efficient financial products and receive substantial value in relation to costs. Extensive measures like a full ban on inducements and a VfM concept would therefore be vital to generate significant impact. (Better Finance, 2022; Uličná et al. 2022)

Determining whether the RIS provides substantial benefit is however more granular than a simple binary choice because the strategy encompasses a broad catalogue of policy options to address existing problems in the financial landscape. Because of this and given the increasing pressure surrounding the RIS due to the imminent vote necessitates a systematic examination. Therefore, the objective of this endeavour is to evaluate whether the current RIS framework and which concrete measures are beneficial for retail investors protection, investment outcomes, capital market participation, and overall welfare.

In the beginning of the thesis in Section 2.1, the financial status quo of EU households and the corresponding problems of the financial landscape are considered. Chapter 2.2 deals with the definition and construction of the RIS to address the previously outlined problems. Chapter three comprises an in-depth discussion of the policy options of the

strategy. 3.1-3.3 contains a two staged discussion for specific objectives and corresponding policy options, while 3.4 covers the accompanying flanking measures. Section 3.5 encompasses a critical assessment of the strategy dealing with interactions between specific objectives and measures, potentially missing elements, and a holistic evaluation of the strategy.

Chapter 4 comprises an empirical analysis of the current state of retail investment using data from the German Panel on Household Finances. This chapter examines the capital market participation of German households and investigates whether financial literacy, risk attitude, and trust exhibit a positive relationship with capital market funds. This examination aims to give further insights into the participation puzzle of retail investors.

Section 4.1 describes the dataset, while Section 4.2 outlines the methodology employed in the analysis. Descriptive statistical analysis and k-means clustering are conducted in Section 4.3. The regression results are presented in Section 4.4, with a subsequent discussion in Section 4.5 on the overall findings and their relevance regarding the RIS.

The following analysis pertains to the draft by the European Commission dated May 24th, 2023. With the content finalized on July 31th, 2024, the thesis does not account for any subsequent changes to the strategy or later developments. (European Commission 2023a, 2023b, 2023d)

2. Fundamentals of the Retail Investment Strategy

2.1 Financial Status Quo of EU households

As the population ages, the proportion of older individuals (aged 65 and above) relative to the working-age population (aged 20-64) is projected to increase significantly in the EU. According to an ageing report of the European Commission in 2021, the old-age dependency ratio is expected to rise from 34.4 % in 2019 to 59.2 % in 2070. Consequently, there will be a diminishing number of working-age individuals available to support state pensions of older generations in the future.

Despite measures like increasing retirement age and incentives in labor market participation, the European Commission predicts a decrease of the average state pension. Specifically, average state pension as a percentage of the earnings at retirement is expected to fall from 46.2 % in 2019 to 37.5 % in 2070. (European Commission, 2021) A continuously growing retirement gap occurs, potentially leading to structural old-age

poverty. Still, publicly provided first pillar pensions account for the major share of retirement income in EU countries. Retail investors therefore do not sufficiently invest in the second and third pillar to accumulate wealth. (Delbeque, 2024)

In the panel discussion about the RIS in June 2023, the general director of the Financial Stability, Financial Services and Capital Markets Union, John Berrigan stated that “It is not a question whether you save, it is how you save”. This encapsulates the current state of EU retail investors effectively. There is sufficient saving, but not enough capital is being invested with adequate returns. Instead, retail investors hoard large parts of their capital in cash equivalents like low interest savings accounts.

Consolidated data of national savings from Eurostat supports John Berrigan's statement, showing that the EU boasts one of the highest savings rates globally. Between 1999 and 2022, the average savings rate in the EU amounted to 12.7 % of disposable income compared to the US with 7.2 %. (Eurostat, 2022 ; Federal Reserve Bank, 2024) According to a report of the European Fund and Asset Management Association, deposit rates of retail investors increased from 36.7 % in 2015 towards a peak in 2022, reaching 41.1 %. (Delbeque, 2024) Conversely, only 17 % of EU retail investors assets are held in financial securities compared to the US with 43 %. (European Commission, 2023c) Consequently, the ratio of capital market instruments (CMI) to deposits held by European households decreased from 1.73 in 2016 to 1.43 in 2022. (Delbeque, 2024)

One crucial point to note is that the distribution of CMI share in household wealth is rightly skewed. This means that only a small fraction of retail investors hold significant assets, while a large part either has minimal investments or does not participate in capital markets at all. For example, although 10 % of European household wealth is allocated in investment funds, only 13 % of households hold funds in the first place. (European Central Bank, 2023) By their non-participation in risky asset markets, retail investors lose about 2-6 % equity premium annually. (Calvet et al. 2007)

As interim conclusion, it can be stated that European retail investors put their savings in bank deposits at low yield and redeemable at short-term notice. By doing so, retail investors give preference to immediate liquidity needs at the expense of long-term wealth creation.

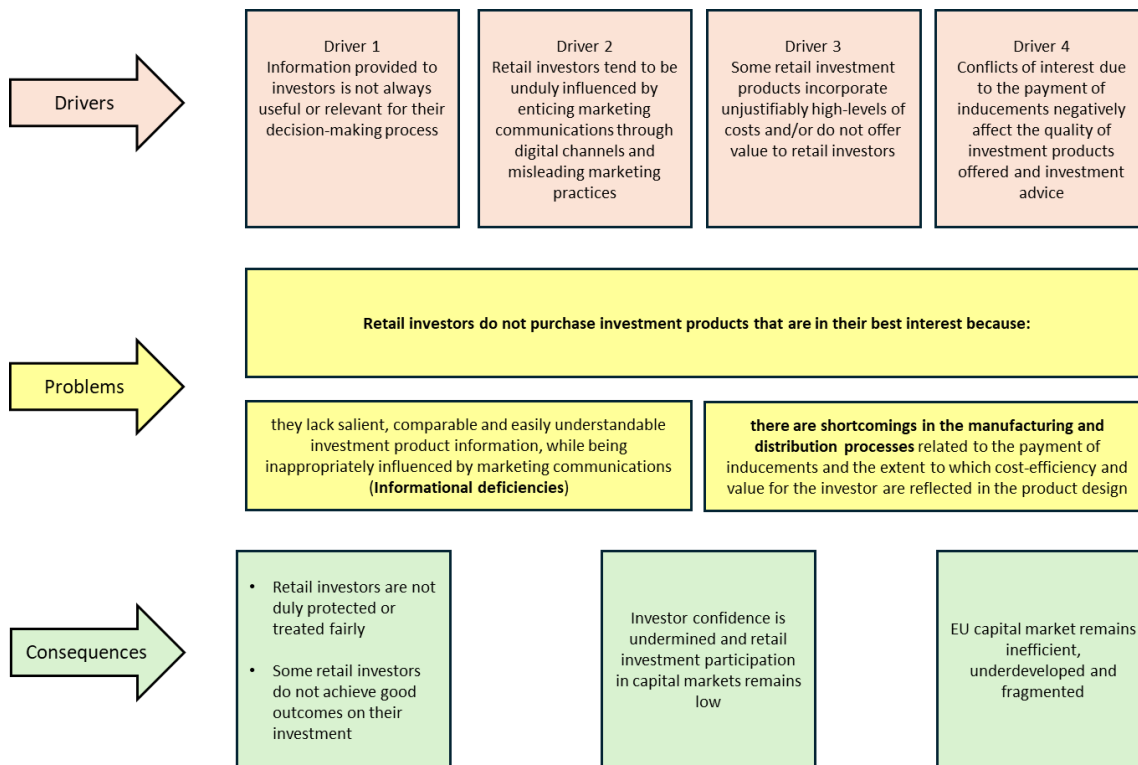
The European Commission exhibits with their impact assessment report (IAR) two fundamental issues that are mainly responsible for low participation rates and poor

investment outcomes of retail investors. (European Commission, 2023d) To fully comprehend these problems and the status quo, it is important to understand the environment of financial decision-making of households.

Most households do not possess either the knowledge or the time to identify relevant information to make informed investment decisions. The complexity of financial information and advice, having the character of credence goods, further hinders investor's ability to judge the quality of information or of related financial advice. The relationship between financial intermediaries and retail investors is therefore characterized by a fundamental information asymmetry. (Akerlof, 1978) Thus, an information gap emerges and the key role of financial intermediaries is to help investors navigate and close this gap. (Darby & Karni, 1973)

Therefore, markets are not perfectly efficient because sellers of financial advice have more information than buyers. (Mitnick, 1975) However, investors search costs imply market power for financial intermediaries to charge higher prices than if they were operating in a competitive environment without informational asymmetries. (Bhattacharya & Thakor, 1993) As a consequence, there is need for adequate retail investor protection to address the risks that stem from information asymmetry. (European Commission, 2023d)

Figure 1: Problem Tree: Drivers, Issues, and Consequences for Retail Investors



*Personal Draft based on the Impact Assessment Report of the (European Commission, 2023d)

Based on this scenario, informational deficiencies and shortcomings in the manufacturing and distribution process persist as two major problems in retail investor protection. (Figure 1) (European Commission, 2023d)

The consumer market scoreboard confirms the existence of the mentioned issues by illustrating that consumers consistently rate investment service poorly, particularly in terms of comparability and trustworthiness. (European Commission, 2018a) These observations align with the findings of the EU-barometer, demonstrating that, among other previously mentioned reasons, households highly distrust financial advisers. (European Commission, 2022) According to the IAR, this distrust initially stems from the problem drivers that cause the two primary issues outlined in Figure 1. (European Commission, 2023d) Because the problem drivers are implicitly relevant for the following discussion of policy measures to resolve the issues, they will be considered in Chapter 3.

As a result of the underlying problem drivers and two main issues, retail investors do not purchase products that are in their best interest. The consequences are that retail investors

are not sufficiently protected and often receive unsatisfactory investment outcomes, leading to low participation rates and an inefficient EU capital market.

The previous section primarily disclosed the suboptimal status quo of retail investors. Based on these empirical observations and the general financial environment, it is evident that the current state of financial households in the EU is unsustainable in the long term. Establishing a legislative framework to proactively address these shortcomings and to create a healthy investment environment characterized by trust, integrity, and improved outcomes is therefore necessary.

2.2 Definition and Construction of the Retail Investment Strategy

After examining the status quo and the corresponding financial shortcomings in the EU, the following chapter will consider the definition and construction of the RIS to address these shortcomings and low participation rates of retail investors in capital markets.

The initial efforts to establish a true single market for capital can be traced back more than 60 years to the Treaty of Rome. As undertakings towards intensified market integration faltered, the European Commission introduced the capital markets union initiative in 2015, seeking to successfully construct a unified capital market across the European Union. The following capital markets union (CMU) action plan of 2015 aims to facilitate the flow of investments and savings across the EU. Therefore, benefiting consumers, investors, and companies, regardless of their location, strengthening the overall European economy. (European Commission, 2020a)

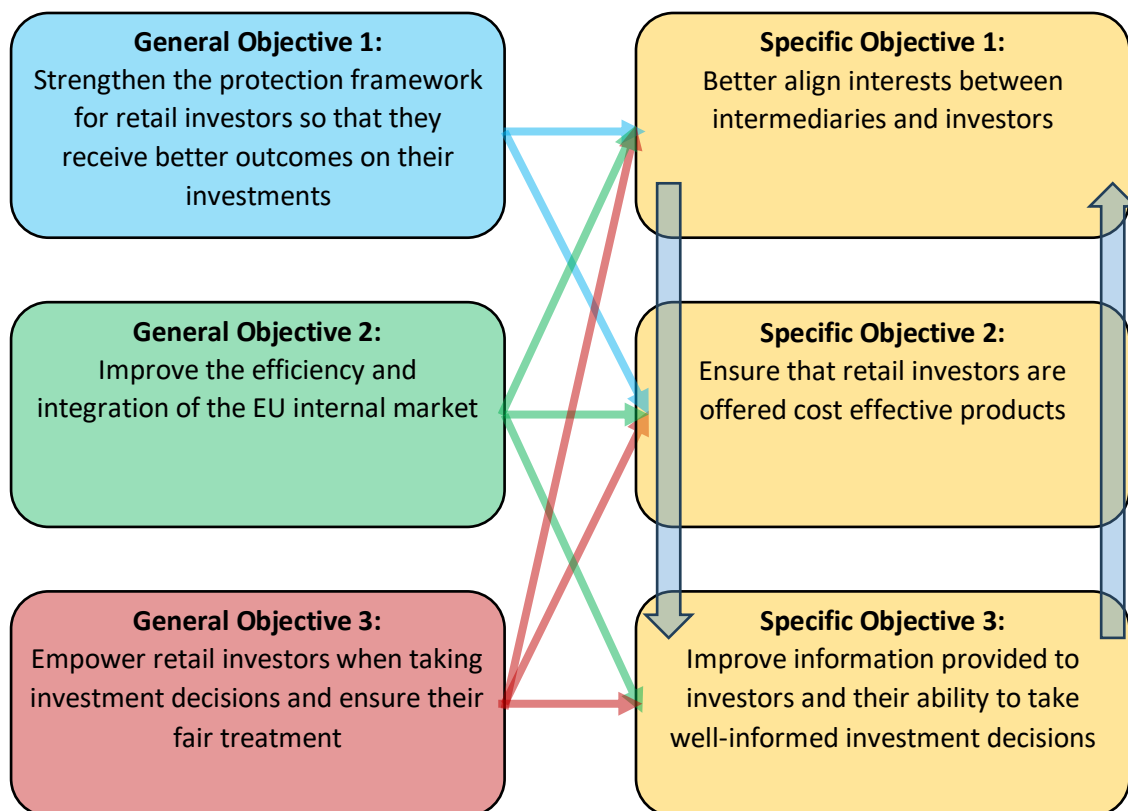
The current version of the CMU action plan of 2020 is divided into three key objectives and 16 legislative and non-legislative subordinated actions. The second key objective comprises the endeavor to make the EU an even safer place for individuals to save and invest long-term. Action eight forms an integral component of this objective and aims to build trust among retail investors in capital markets. The Retail Investment Strategy (RIS) serves as the practical implementation of this action point, representing the European Commission's first major proposal derived from the Capital Markets Union (CMU) action plan. (European Commission, 2020b)

According to the directorate-general for Financial Stability, Financial Services and Capital Markets Union (DG FISMA), the strategy wants to place the consumer's interest at the center of retail investing. DG FISMA (2023) stated in the official RIS description

that “the aim is to empower retail investors (i.e. “consumer” investors) to make investment decisions that are aligned with their needs and preferences, ensuring that they are treated fairly and duly protected. This will enhance retail investors’ trust and confidence to safely invest in their future and take full advantage of the EU’s capital markets union.”

Specifically, the RIS comprises two proposals designed to prioritize consumer’s interest in retail investing. The first one, called “omnibus directive“, wants to amend existing directives regarding EU retail investor protection rules such as undertakings for UCITS, Solvency II, AIFM, MiFID and IDD.¹ (European Commission, 2023b) The second proposal wants to amend existing regulations, including key information documents (KID) for packaged retail and insurance-based investment products (PRIIPs), as regards the modernization of the KID. (European Commission, 2023a)

Figure 2: Objectives of the Retail Investment Strategy



*Personal draft, based on the Impact Assessment Report (European Commission, 2023d)

¹ undertaking for collective investments in transferable securities (UCITS) ; alternative investment fund managers (AIFM) ; markets in financial instruments directive (MiFID) ; insurance distribution directive (IDD)

Based on the previous definition of the RIS, three general objectives (GO) can be derived and are shown in Figure 2. (European Commission, 2023d) The RIS aims to advance these GOs through the pursuit of three specific interdependent objectives (SO). Interdependent means that the SO's are mutually reinforcing. For instance, when interests between intermediaries and investors better align, it is also more likely that investors are offered more cost-effective products. Besides, the SO's actively try to address one or more problem drivers shown in Figure 1. Additionally, the GO's showcase various relations towards the SO's, substantiating the holistic character of the strategy.

These strategic objectives should be accomplished through the practical implementation of a catalogue of various measures.

Table 1: Measures of the RIS

Measure Type	Which objective is primary met	Measure Description
Core Measure	Specific Objective 3	1. Modernise disclosure rules, adapting them to the digital age and investors' sustainability preferences.
Core Measure	Specific Objective 2	2. Develop benchmarks against which the value of financial products need to assessed.
Core Measure	Specific Objective 1	3. Address potential conflicts of interest by banning inducements for "execution-only" sales and strengthening conditions where inducements are allowed.
Flanking Measure	Specific Objective 1	4. Ensure financial advisors examine retail investors' financial situation more carefully.
Flanking Measure	Specific Objective 3	5. Require that marketing be fair, clear and not misleading also via digital channels and influencers.
Flanking Measure	Specific Objective 1 & 3	6. Improve both financial advisors' and retail investors' knowledge of financial markets.

Flanking Measure	General Objective 2	7. Improve investor categorisation by reforming the eligibility criteria for professional investors.
Flanking Measure	General Objective 1 & 2	8. Enhance supervisory cooperation between national competent authorities and European supervisory authorities.

*Personal Draft, based on the RIS Factsheet of the (European Commission, 2023c) and the Impact Assessment Report (European Commission, 2023d)

Table 1 illustrates the concrete measures of the RIS and their corresponding objectives they try to achieve. The measures can be divided into core measures as main undertakings to accomplish a specific objective. While flanking measures alone may not comprehensively address objectives but are intended to complement the core measures and form an integral part of the overall strategy. (European Commission, 2023d)

3. Discussion of the Retail Investment Strategy

3.1 Inducements

3.1.1 Conflict of Interest

Having laid down a foundational understanding of the RIS, it is essential to assess the viability of the current RIS design in achieving the objectives and its overarching goal of enhancing retail investors protection to increase investment outcomes and participation in capital markets. The subsequent discussion is divided into several chapters encompassing a two-staged structure. The first stage defines whether a specific objective of the RIS is beneficial for the protection and long-term financial well-being of retail investors. While the second stage focuses on the concrete measures of the RIS and the ability to fulfill a specific objective. Policy options form the different measures or measure packages and are derived from the impact assessment report (2023) of the European Commission.

Before discussing policy options to address the conflict of interest, it must be assessed whether a conflict of interest is given in the first place. Below, the Principal-Agent Theory will be utilized for this endeavour. And whether potential conflicts of interest due to the payment of inducements negatively affect the quality of investment advice. (Problem driver 4 of Figure 1)

The Principal-Agent theory describes the relationship between two interdependent economic subjects. The principal (retail investor) gives the order, while conversely, the better-informed agent (financial adviser) acts as the contractor and provider of required services. According to the principal agent theory, a conflict of interest arises when the agent acts against the principal's best interests due to asymmetric information and divergent goals. (Mitnick, 1975) The laws should be established in such a way that the incentive mechanisms of the financial advisor are aligned with the interests of the retail investors.

Hoechle et al. (2018) analyzed with a research paper how a Swiss retail bank and their financial advisors generate profits with customers. The authors found that advised transactions are associated with higher profits than independently executed transactions of the same client. The bank's own mutual funds and structured products are most profitable for the bank, and profits rise with trade size. Advisors recommend exactly those transactions achieving a worse performance than independent clients, suggesting that advisors put their own and their employer's interest first. These findings are consistent with Mullainathan et al. (2012) showing that American advisers fail to de-bias their clients and often reinforce biases that are in the adviser's interests. The transferability of the results to the European context can essentially be affirmed, as these conclusions are consistent with the empirical findings of the European Commission (2018b) distribution systems report. This report demonstrated that commission-based advisors at banks and insurance companies almost exclusively recommended in-house products on a European scale.

A principal-agent problem arises due to diverging goals and asymmetric information between the principal and agent. Financial advisors are therefore subject to a conflict of interest. Advisers are supposed to help clients execute the most suitable transactions and at the same time they are expected to maximize profits for their employer, incentivized by commissions.

According to the German Insurance Association (GDV), the implementation of the IDD and MiFID II has established a legal framework that regulates the handling of potential conflicts of interest. The GDV states that there are no systematic violations against the existing law at the EU level. (GDV, 2023) The question arises, whether systematic violations against retail investors are truly absent or the legal framework does not capture

these due to its fundamental design or practical implementation. The IDD and MiFID II directives mandate only the disclosure of the type of remuneration and the third party responsible for paying it (soft disclosure) but not the concrete amount of remuneration (hard disclosure). Consequently, conflicts of interest can only be partly disclosed. (European Parliament & European Council, 2016)

In connection with previous empirical findings, it becomes evident that the current legal framework, including IDD and MiFID II, is insufficient to prevent inherent conflicts of interest in the commission-based model. Leveraged with a high information asymmetry, commission-based advice leads to the distribution of expensive products and suboptimal outcomes for retail investors. As a result, retail investors often purchase products that are not in their best interest. (European Commission, 2023d)

3.1.2 Policy Options on Inducements

After examining that a structural conflict of interest between retail investors and financial advisers exists, the proposed measures by the RIS to resolve this conflict will now be evaluated. These measures should accomplish SO1 to better align interest between intermediaries and investors.

Table 2: Policy options for addressing the conflict of interest

Option Label	Option Description
Baseline (Option 1)	Remain with the status quo
Option 2	Maintain current system allowing payment of inducements, but improve/harmonize sector specific disclosures relating to inducements
Option 3	A ban on inducements

*Personal Draft, based on the Impact Assessment Report of the (European Commission, 2023d)

Despite remaining with the status quo, the impact assessment report outlines several options, from improving sector-specific disclosures towards a partial and full ban on inducements to address the conflict of interest. (Table 2)

Nick Charter et al. showcased in their 2010 consumer decision-making report that across 6,000 purchases of retail investment products in Europe, respondents are largely ignorant of conflict of interest. When advisees are only given a general indication of the advisor's

incentives, then disclosure of potential conflicts of interest is insufficient to elicit an appropriate response in consumers decision-making. The latest impact assessment report from Better Finance (2022) confirms these findings, revealing that 45 % of respondents believed they received independent advice, despite receiving biased advice from distributors. This outlines that the current transparency measures regarding inducements are ineffective. Remaining with the status quo (option 1) is therefore no viable option to address the conflict of interest.

Under option 2, existing legal requirements would be reinforced for greater transparency, accessibility, and clarity for retail clients. Distributors would be required, in addition to existing disclosure requirements on inducements, to disclose the monetary accumulated effect of inducements on performance (hard disclosure). Further, distributors must also inform consumers about alternative distribution channels where no inducements are paid. (European Commission, 2023d)

Implementing the mentioned disclosure measures will likely increase the awareness of retail investors. Especially, showcasing alternative distribution channels where no inducements are paid, alongside analyzing the impact of inducements on performance, could lead to more informed and effective financial decisions of retail investors. However, there is currently no research available on how a hard disclosure impacts the given conflicts of interest.

Existing regulations such as IDD and MiFID II already require the disclosure of commission payments and related conflicts of interest. (European Commission, 2023d) Although these conflicts become more visible with enhanced transparency measures like hard disclosure, they inherently persist. Thus, it is questionable whether solely relying on disclosing inducements will significantly reduce the conflict of interest and enhance consumer surplus.

Given the existence of an imperfect market due to asymmetric information, it is a valid question, whether market intervention in the form of a commission ban could improve the situation for retail investors. The third option of the IAR contains a ban on inducements, but for evaluation purposes it is divided into a partial ban (3a) and a full ban on inducements (3b).

Option 3a encompasses a partial ban restricting payment of inducements for non-advised services (execution-only). This partial ban could cover payments and non-monetary

benefits from manufacturers to distributors in relation to (i) the reception and transmission of orders, or execution of orders to or on behalf of retail clients, under MiFID, and (ii) non-advised sales under IDD.

A partial ban would have the advantage of interrupting biased execution only sales to avoid any charges due to payment of inducements. According to the research paper on inducements from Better Finance (2022), this policy option is the minimum to make any significant progress to ensure investors get bias-free advice. There is yet no country that only introduced a partial ban of inducements. But after the full inducements ban in the Netherlands in 2013, Dutch execution-only clients received a threefold decrease in prices: 0.25 % vs. 0.75 %. Whether the same decrease in prices would have occurred with a partial ban in the Netherlands is however uncertain.

In a position paper (2024), VOTUM stated that market interventions in reliable structures are counterproductive. Moreover, commission bans and benchmarking endeavours could harm national economies and the CMU. This is true for effective market mechanisms where participants respond to crucial information and incorporate it into their decision-making processes. However, in failing markets where the demand side cannot distinguish between good and bad information or unbiased and biased advice, market interventions can improve welfare. (Stiglitz, 2000)

In neoclassical economics, market failure is a situation in which the allocation of goods and services by a free market is not pareto efficient, leading to a net loss of economic value. Nick Charter et al. (2010) argue that the high information asymmetry between retail investors and financial advisers leads to such a market failure. Investors high search costs imply market power for financial service providers to charge higher prices than if they were operating in a competitive environment. Expensive advice and products absorb large parts of the consumer surplus, thereby also decreasing overall welfare. (Nick Charter et al. 2010)

The European distribution report reveals that retail investors are not capable of discerning between the benefits and risks of various types of advice. (European Commission, 2018b) Since investors often do not understand advice schemes and a large share of capital flows through suboptimal traditional distribution channels, a full ban on inducements could further align advisers and retail investors interests.

Under this option (3b), the payment of inducements (i.e. any fees, commissions, or any monetary or non-monetary benefits) paid or provided by any third party would be prohibited in relation to all retail investment products and services across the EU. Investment intermediaries, irrespective of the distribution channel or product (e.g. shares, bonds, funds, structured retail products, PRIIPs), would no longer be allowed to receive or pay any such inducements. This option also includes safeguards against intragroup inducement-like payments so that vertically and non-vertically integrated providers could compete on equal terms. (European Commission, 2023d)

Sebastian et al. (2023) examined across a sample of 538 panel observations from 38 countries, including six of them with a ban, the impact on the return on total wealth. After controlling for country and time-fixed effects, social contribution, tertiary education, percentage working and the percentage of females in the population, a full ban exhibits a 1.2 % annual increase in returns. The coefficient is significant at the 5 % level and the high R^2 of 0.84 shows that a large part of the variance can be explained with the model. Critical points to consider include the unbalanced panel dataset, the lack of robustness checks, the absence of peer review, and the fact that it represents only a single study.

Due to the limitations of the study and the fact that assessing the concrete effects of an inducements ban is very uncertain ex-ante, ex-post ban effects of the Netherlands and the former EU member United Kingdom are considered. Both nations function as precedents and therefore as counterfactual scenario to evaluate a full ban in the EU.

After banning inducements, both the Netherlands and the UK experienced reduced product bias and a shift toward low-cost investment products. In the Netherlands, the share of exchange-traded funds (ETFs) grew from 8 % of assets under management (AuM) in 2016 to 20 % in 2021, while actively managed funds and insurance-based investment products (IBIPs) declined. (AFM, 2021) Similarly, in the UK, sales of high-commission products fell, and low-commission products gained popularity, with index fund net sales rising from 4 % in 2012 to 12 % in 2013 (FCA, 2024).

A recent Morningstar study examined that the cheapest investment funds in Europe are offered in the Netherlands and the UK, where inducements bans have been in place since 2013 and 2012, respectively (Kennaway Grant et al., 2019). Although increased online platform sales contributed to this shift, they do not fully account for the significant changes in commission versus non-commission sales following the reforms (Better

Finance, 2022). With the ban in effect, clients have benefited from a wider, more innovative, and simpler range of products and services. Better Finance noted that the role of financial advisers in both countries has shifted from sales to financial planning (Better Finance, 2022).

Since a ban on inducements only prohibits third party remunerations, it is important that the full inducements ban also encompass safeguards against vertically integrated providers with in-house products. In the absence of a prohibition of vertical integrated payments, financial advisers would even more bias their advice towards costly and underperforming in-house products. (Hoechle et al. 2018) Although, under the implementation of a full ban, vertical integrated providers still have the incentive to bias the advice towards in-house products. Because they can receive higher margins and control the whole supply chain to maximize profits.

The Financial Conduct Authority (FCA) stated in their market review that the inducements ban resulted in a high-quality financial advice market and ended conflicts of interest caused by a mainly commission-driven model. Even though that could be accurate, the absence of commission-based remunerations necessitates evaluating potential conflicts of interest and bias in fee-based advisory.

Ruß et al. (2023) argue that relying solely on fee-based advice creates an advice gap, as honorarium payments deter low-income retail investors from seeking investment advice. The Better Finance report supports this claim by showing that despite an extra one million UK consumers accessed advice between 2017 and 2020, 10 % of surveyed consumers could not afford advice. (Better Finance, 2022) Therefore, the advice gap may not exist broadly in society but rather at the lower end.

Nick Charter et al. (2010) argue that retail investors suffer under hyperbolic discounting. In an experiment, willingness to pay for information from subjects was observed, showing that consumers may be averse to paying up-front fees for advice. Retail investors fully account for upfront costs but may undervalue annual fees, making reliance on upfront fees a potential cause of the advice gap. Conventional fee-based advice discloses another issue. Getting paid for a fixed amount upfront or hourly facilitates the bias to oversimplify financial decisions or to overcomplicate them, respectively. (Ruß et al. 2023)

Nevertheless, it must be noted that, unlike stated by Ruß et al. (2023) fee-based advice is not restricted to upfront payments of retail investors. A corresponding advice gap does

not occur due to the inherent structure of fee-based advice but rather by high upfront payments. Therefore, fees could at least partly be paid as percentage annual fees based on assets under management (AuM). This would prevent that retail investors from seeking advice due to hyperbolic discounting and insufficient financial resources to pay upfront or hourly.

However, percentage based annual AuM fees could lead to an incentive that advisers might overinvest the money of the client. Additionally, advisers might allocate funds into high-risk, high-return equity portfolios that exceed the risk tolerance of the clients and capacity to bear such risk. Another issue that occurs with percentage based annual AuM fees is that financial intermediaries impose a minimum threshold of assets to become a client. According to a survey of the FCA in 2020, 40 % of financial advisory firms in the UK have these minimum thresholds. Caution is needed to establish a European regulatory framework that mitigates old biases without elevating new ones.

In the following, the quantitative analysis of a full ban of inducements of the IAR is considered. Given the unavailability of EU-wide statistical evidence to quantify costs for the industry, the analysis makes use of information and methodological assumptions from the Royal Dutch Decree. Furthermore, it incorporates financial services authority estimates of incremental compliance costs for Retail Distribution Review proposals. These cost estimations were extrapolated on a European scale. (European Commission, 2023d) The analysis covered intermediaries (banks, stockbrokers, financial advisors) and providers (insurance undertakings, asset managers), resulting in overall one-off costs of approximately 14-15 billion €.

The expected consumer benefits of a full ban were calculated by estimating the total annual value of inducements charged to investors. Eurostat data shows that direct retail holdings of investment funds reached approximately €3,357 billion in 2021. Active UCITS funds represented about 70% of EU retail fund holdings, with average total costs of 1.58% for a 10-year investment horizon (ESMA, 2022). A Kantar study indicated that products with inducements are, on average, 25% more expensive (Uličná et al. 2022).

Applying these percentages to direct holdings, the total annual cost of inducements for UCITS funds in the EU would be €6.1 billion in 2021. Benefits for 2019 and 2020 were estimated at €5.13 billion and €5.25 billion, respectively, indicating an annual benefit

range of €5-6 billion against one-off costs of €14-15 billion. Considering the time value of money, this investment would amortize within three to five years.

However, vague and incomplete assumptions make an accurate prediction challenging, leading to way higher dispersions from the exhibited span. Ruß et al. 2023 criticize the Kantar study for its limited scope, noting that only 46.1 % of UCITS and AIF products were used to determine the gap between non-inducement and inducement products, potentially biasing the results. Additionally, the authors point out that the Kantar study merely shows that selected funds are more expensive than those without inducements. Transferred to the quantitative analysis, the costs of fee-based advisory must be embedded to determine the real net benefit of banning inducements. By omitting fee-based advisory costs, the net benefit is overestimated.

Positive deviations from the estimated benefit range are likewise plausible, as these estimates do not account for the dynamic effects of a ban, such as reduced product bias and lower costs for retail investors seen in the UK and Netherlands. While the analysis includes costs for insurance undertakings, it excludes benefits from investment-based insurance products (IBIPs), which have a significant market share and high inducements. In 2015, 81% of insurance undertakings received inducements, totaling €5.2 billion (EIOPA, 2017).

The previous quantitative analysis exhibits a lot of shortcomings and uncertainty but still illustrates that a full ban on inducements is likely going to benefit retail investors and overall welfare. A full ban seems most effective for aligning the interests between retail investors and financial intermediaries (SO1).

3.2 Value for Money Concept

3.2.1 Cost Debate

In the following section, the VfM concept will be discussed that aims to develop benchmarks against which the value of financial products is assessed. These benchmarks should accomplish the second specific objective to ensure a more cost-effective supply of financial products for retail investors. Cost-effective means that a deviation from a low-cost benchmark is only justified when significant value is delivered. But before proceeding with the discussion of concrete policy options, the general impact of cost on financial products must be examined. Specifically, whether retail investment products

incorporate unjustifiably high levels of costs and/or do not offer value to retail investors. (Problem driver 3 of Figure 1)

The distribution systems paper of the European Commission (2018) reveals that most non-independent advisors propose actively managed funds or insurance products with a median total expense ratio of 1.89 % for equity funds and 1.38 % for life insurance products without guaranteed capital. With a median total expense ratio of 0.36%, the Commission has long promoted low-cost ETFs, expecting them to be more efficient due to their reduced costs. (European Commission, 2023d) Moreover, equity fund front-end and back-end loads amount to 3.77 % and 2.73 % respectively, compared to execution fees of ETFs charged by financial intermediaries of 0.73 %.

The higher cost structure of actively managed fund solutions and incorporations into insurance products inevitably lead to the active-passive debate. The question arises whether a comparable or higher return can be achieved on a risk-adjusted basis after costs.

Using a sample free of survivorship bias Carhart (1997) exhibits that the expense ratio, portfolio turnover, and load fees have a direct negative impact on performance. On average, funds underperform by the magnitude of their expenses. Carhart also illustrates that persistence of mutual fund performance does not reflect superior security selection or marketing timing abilities. Rather, common factors in security returns and persistent differences in mutual fund expenses and transaction costs almost completely explain all the predictability in mutual fund returns. These findings are confirmed by newer studies by Fama and French (2010) showing mutual fund investors in aggregate realize net returns that underperform capital-asset-pricing-model, three-factor, and four-factor benchmarks by about the costs in expense ratios.

Carhart's earlier findings in the US are also consistent with ESMA's examination of the net performance of active and passive equity UCITS. A sample covering 60-85 % of the total equity fund market in Europe from 2009-2018 showed that (i) the net annual performance of active funds was lower than that of passive equity UCITS and (ii) underperformed in net terms relative to their prospectus benchmark. (iii) Moreover, ongoing costs had the largest impact on performance and (iv) across time horizons, the minority of active top performers does not remain constant over time, displaying an absence of performance persistence. (ESMA, 2019) These align with the S&P Indices Versus Active Funds Europe Scorecard of 2023, showing that 94.67 % of the European

equity funds underperformed their corresponding benchmark in risk-adjusted terms over a ten-year horizon (2013-2022).

The former evidence also applies for IBIPS incorporating mutual funds. EIOPA's 2022 report further reveals that despite regulations like MiFID and IDD, high costs led to low or negative real net returns for IBIPs between 2016-2020.

In 1991, William Sharpe used the laws of arithmetic to illustrate whether a capital-weighted outperformance of the active fund segment is possible. Therefore, Sharpe formulated two assertions that will hold for any time and stay in line with the previously considered evidence:

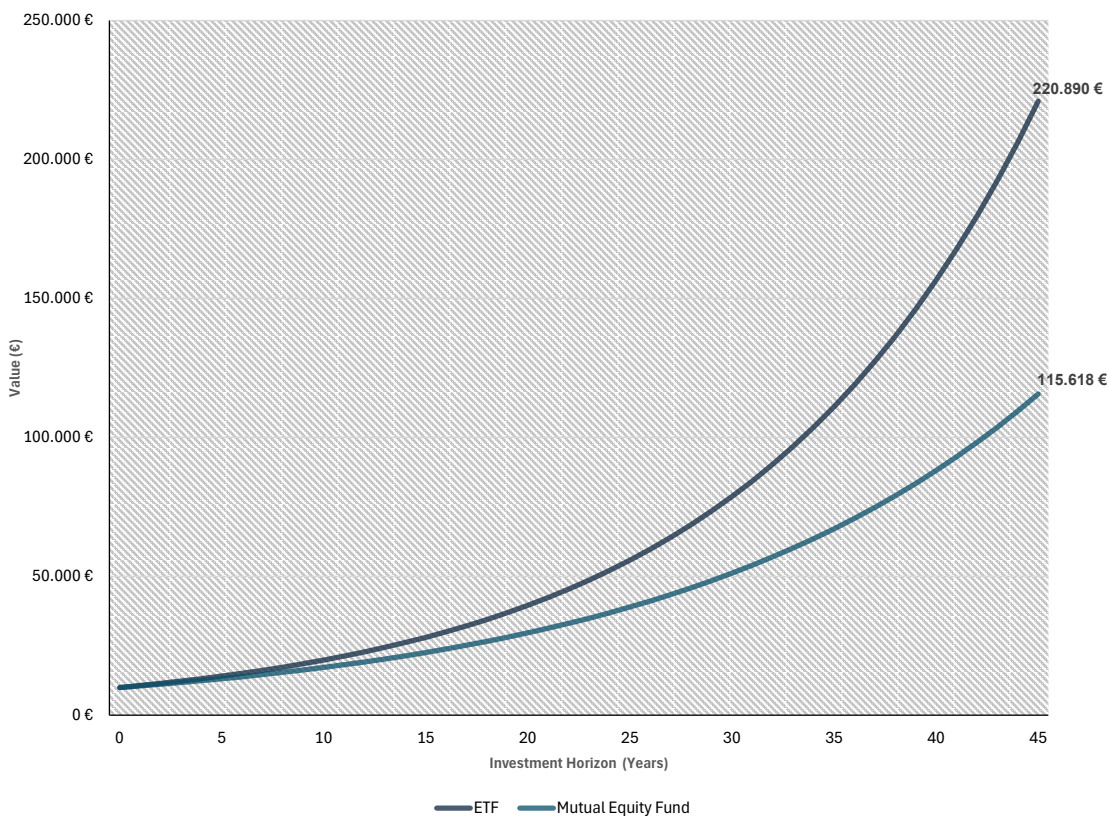
- (1) "Before costs, the return on the average actively managed dollar will equal the return on the average passively managed dollar and
- (2) after costs, the return on the average actively managed dollar will be less than the return on the average passively managed dollar".

In the following, the two assertions of Sharpe and the financial product cost information of the distribution system report of the European Commission (2018b) are used to simulate a hypothetical "lump sum" investment of 10,000 € over a period of 45 years. Over the period from 1900 to 2022, stocks have yielded an average nominal return of 9.5 %. Adjusting for the historical average inflation rate of 2.07 %, the real return amounts to 7.43 % being implemented as gross return.² (Elroy Dimson et al. 2023; Eurostat, 2024)

The gross returns of the passive index product and active equity mutual fund were assumed to be identical based on the (1) assertion of arithmetic of active investing. As before costs, the return on the average actively managed dollar will equal the return on the average passively managed dollar. Hence, the market return is determined by the weighted average of returns within the market. (William F. Sharpe, 1991)

² Average inflation is calculated over the official introduction of the euro in February 2002 until December 2022

Figure 3: Investment growth of net returns of Equity Funds and ETFs over time



*Personal Draft, based on Credit Suisse Global Investment Returns Yearbook (Elroy Dimson et al. 2023)

Over the entire period of 45 years, one would have accumulated nearly twice the capital with passive index products after annual costs compared to traditional equity funds. (Figure 3) This emphasizes that Sharpe's (2) assertion holds due to the higher inherent cost structure of active funds that the return on the average actively managed dollar will be less than the return on the average passively managed dollar after accounting for costs. And further highlights that costs lead to a negative compounding of the capital over a long-time horizon, significantly shrinking the capital stock. This negative compounding was observable for the EU investor, with an average erosion of nominal gross returns 36 % higher than for the lowest-cost member Netherlands over the past decade (2010-2019). (Better Finance, 2022)

This simulation presents an overly optimistic view of investing in equity funds, since transaction costs, loads and taxes were not taken into consideration. All tend to be higher for active strategies, given their inherently greater turnover aimed at timing the market or uncovering undervalued securities. (Lee & Rahman, 1990)

Many variables, like expected returns and volatility of a capital market investment, are uncertain. However, costs are one of the few empirically proven parameters retail investors can control and have certainty to positively affect their investment outcomes. The evidence confirms that financial products contain unjustifiable high levels of cost and do not provide enough value to investors. Consequently, offering more cost-effective products to retail investors would enhance their protection, investment outcomes and participation rates, with the first stage being successful.

3.2.2 Policy Options on Value for Money

Having assessed the systemic benefits of cost-effective investment products and financial advice in a broader context, the specific policy options are examined intended to achieve this objective.

Table 3: Policy options to increase value for money

Option Label	Option Description
Baseline (Option 1)	Remain with the status quo
Option 2	Strengthen product governance rules for manufacturers by requiring comparison of products to relevant ‘manufacturer benchmarks’ and justify any departures from the benchmarks to ensure stronger focus on costs in relation to expected benefits in the product design.
Option 3	In addition to strengthening product governance rules for manufacturers (option 2), strengthen the rules for distributors by requiring comparison of products to relevant ‘distributor benchmarks’ and justify any departures from the benchmarks to limit fees in distribution.

*Personal Draft, based on the Impact Assessment Report of the (European Commission, 2023d)

The previous analysis highlighted that a high-cost product environment restricts the wealth creation of retail investors. Remaining with the status quo is therefore insufficient to ensure VfM. Despite remaining with the status quo, the commission proposes a VfM concept with manufacturer benchmarks and an enhanced VfM concept additionally adding distributor benchmarks (option 3) as policy options to increase cost-efficiency. (Table 3)

Under option 2, products that significantly underperform in terms of cost and performance compared to manufacturer benchmarks would not be offered to distributors.

If manufacturers choose to offer such products, they must justify their decision to still offer them. Product costs as well as objective reasons why some products should still be retained would have to be properly documented and stored for supervisory scrutiny. (European Commission, 2023d)

VOTUM, representing independent financial service companies across Europe, opposes the EU-wide VfM concept through manufacturer benchmarks, viewing it as government cost control. However, it must be noted that deviating from the benchmark is not forbidden. If a product's costs exceed those of comparable benchmarks, it is reasonable to expect the manufacturer to justify the added value of the product.

VOTUM further argues that according to the ESMA and EIOPA cost report, the costs of financial products decreased continually over time and market interventions are therefore not required. The report reveals however, that costs decreased only marginally from 1.7 % towards 1.6 % for equity UCITS and from 1.8 % to 1.6 % for mixed UCITS between 2017 and 2020. The average total cost of ownership in the EU still amounts to 1.47 % compared to the Netherlands with 0.57 %, exposing a significant negative compounding effect on wealth of retail investors in the long-term. (ESMA, 2022)

Despite the benefits of lower costs, the European Banking Federation (2023) argues that focusing solely on the cheapest products may overlook those offering greater value. The one-size-fits-all “value for money” benchmarks contradict the goal of providing tailored solutions for clients. Moreover, pricing interventions through benchmarks could harm innovation and reduce the attractiveness of the EU’s capital market. VOTUM further contends that the VfM concept may narrow the range of products available to consumers and weaken European providers in the global market.

Apart from individual exceptions, financial innovations and tailored solutions often arise from bundling plain vanilla products, such as universal life insurance, which combines term life insurance with mutual fund investments. However, these bundled products tend to have higher expenses due to both product and packaging costs. Evidence suggests that retail investors would benefit more from purchasing insurance and investment products separately rather than choosing universal life insurance. This applies to various financial packages, including structured products, home savings contracts, mixed funds, and fund of funds (Corbett & Nelson, 1992; Schmeiser & Wagner, 2016).

As of 2022, the EU is saturated with over 66,135 investment funds and various high cost packaged financial products. (EFAMA, 2023) The divergencies in cost-efficiency and inducements between MiFID and IDD, coupled with differences in the way these two frameworks are applied, exacerbate market fragmentation even further. (European Commission, 2023d) The wide and costly product range is therefore more a symptom of the shortcomings in financial manufacturing than a benefit of diversity for retail investors. Unlike on a well-functioning market, expensive and poor investment products are not eliminated, but rather continue to be sold with a wide margin. This scenario illustrates again that the current European financial landscape constitutes a market failure. (Finanzinspektionen, 2016)

A VfM concept would certainly displace several financial products, but especially those that are not competitive and cost-efficient. Consequently, the international attractiveness of the European financial market, the competitiveness of European providers and trust among retail investors could be improved.

According to the IAR of the European Commission, building trust is however only possible with moderate distribution costs. (European Commission, 2023d) Research confirms that the implementation of manufacturer (upstream) benchmarks alone might not be sufficient to ensure VfM across the entire supply chain. Research indicates that without regulation on the distribution side (downstream), cost efficiencies achieved by manufacturers might be negated by excessive distribution costs. Although the studies do not focus specifically on the financial industry, the economic implications are transferable. (Hui et al. 2010; Tho D. Nguyen, Trang T.M. Nguyen , 2011)

Establishing an enhanced VfM concept that, alongside manufacturer benchmarks, also encompasses distribution benchmarks potentially ensures even more “value for money” for retail investors. In addition to strengthened regulations for manufacturers, distributors of investment products would be required to assess how these products compare to market benchmarks for similar products. They should obtain relevant explanations and data from the manufacturer, including cost justification and value proposition. Moreover, distributors would be required to include the additional costs related to distribution that are not known by the manufacturer. Distributors would not be able to offer clients products that significantly underperform compared to the relevant benchmarks, including distribution fees, unless they have objective reasons for doing so.

Enhanced VfM benchmarks would have the advantage of ensuring cost-efficiency along the whole supply chain of the financial industry. ESMA reported that distribution costs exceed 50% in several Member States, reaching 50-80% for UCITS, while manufacturer costs remain below half (ESMA, 2019; European Commission, 2023d). EIOPA noted significant variability in distribution costs, with unit-linked insurance products typically ranging from 10% to 30% of total costs (EIOPA, 2022b). The traditional VfM concept addresses in the worst case only 20% of investment fund costs and 70% of insurance product costs compared to an enhanced VfM concept.

Conflicts of interest arising from inducements and monetary incentives in the distribution of retail investment products lead to product bias, where these incentives influence product selection. (Uličná et al. 2022) Incorporating distribution costs into products on downstream benchmarks is therefore highly beneficial to mitigate conflict of interests and to ensure cost-efficiency. While distribution benchmarks can provide additional layers of assurance, under a full inducement ban and with robust manufacturer benchmarks in place, their incremental value might be limited.

According to VOTUM (2024), the main obstacle of the VfM concept is the high implementation and ongoing costs. Compliance requirements would increase the financial burden on intermediaries, raising product costs further. Additionally, European supervisory authorities would require hundreds of employees to effectively implement and maintain benchmarking, making the process complex and shifting the focus to cost rather than investors' needs (European Banking Federation, 2023) The exact cost burdens were not specified by VOTUM.

Therefore, as in the previous chapter, it is advisable to consider the quantitative impact of the VfM concept in the form of emerging costs and benefits of the IAR. Due to the impracticality of using a micro approach to quantify labour costs, IT costs, and the number of financial products covered, a macro approach was adopted. In this method, costs are derived through the costs of compliance for PRIIPs. (European Commission, 2023d)

Scenario analysis suggests that supervisory reporting costs range between 13-252 million one-off costs and 2.3-22.6 million annual costs. The bottom range uses the average percentage of operating costs multiplied by the financial industry's total costs, while the top range uses the median of absolute costs multiplied by the number of firms. (European

Commission, 2023c ; European Commission, 2019) Despite potential distortions, an average or winsorized average could be more appropriate to estimate the higher end of the range.

Contrary to the estimated costs of manufacturers, benefits are measured as an increase in retail investors income. An optimal calculation for the benefits of VfM would depend on the benchmarks set by the VfM initiative. In their absence, the calculations use data from 2021 on funds and insurance investments from ESMA and EIOPA's cost and performance reports and aggregate holdings from Eurostat's national accounts. Underperforming investments in UCITS and insurance products were expected to align more closely with the EU average. (EIOPA, 2022b; ESMA 2022; EIOPA, 2017)

Given that full convergence of net returns is unlikely, it is assumed that only 10 %, 20 %, or 50 % of the gap will be closed. This margin accounts for potential biases in retail investors' portfolios toward lower-return products. The yield difference was then multiplied by households' holdings of investment funds, life insurance, and annuities in 2021, reflecting evidence that costs reduce returns.

Since the exact shares of distribution and manufacturing costs are unspecified, the ratios from ESMA's report on distribution channels are used for estimation (ESMA, 2019). Thus, under the more limited option 2, up to 50 % convergence for investment funds and 90 % convergence for insurance products could be achieved, resulting in benefits of €2.9 to €14.5 billion. An improved VfM concept, as outlined in option 3, could yield benefits ranging from €4.4 to €22.2 billion (European Commission, 2023d).

The broadness of the range illustrates the uncertainty the estimates and scenario analysis in general are subject to. Precise measurement of costs in the form of a micro-approach and observations of concrete benefits is only possible once VfM is implemented, since there is no historical precedent that can provide guidance. Consequently, cost and benefit estimations are both only second-best solutions for the assessment of VfM.

Even at the higher end of costs and the lower end of benefits, the benefits exceed costs by more than ten times, resulting in a welfare surplus of over €4 billion annually. Additional supervisory costs for the EU noted by VOTUM and unexpected reporting expenses do not significantly diminish this surplus. Given the strong evidence that low-cost products lead to better investment outcomes, achieving sufficient convergence for a

net welfare gain is highly probable. This supports Nick Charter et al.'s assertion that eliminating market inefficiencies, such as high-cost products that fail to deliver value for money, can yield substantial welfare gains.

As a result, VfM and especially an enhanced VfM concept introducing benchmarks for manufacturers and distributors provide substantial value for retail investors. Therefore, option 3 is rightfully the European Commission's preferred choice to ensure the offering of cost-efficient products (SO2).

3.3 Policy Options on Disclosures

In the following chapter, disclosures as the last core measure and the corresponding policy options will be analyzed. These policy options should achieve the third specific objective to improve information provided to investors and their ability to take well-informed investment decisions. But before discussing the policy options in detail, it must be assessed whether enhanced disclosures (information provision) lead to better decision-making of retail investors.

Previously, it was already examined that asymmetrical information between financial intermediaries and retail investors exists. (Akerlof, 1978) Disclosure requirements are intended to mitigate this information asymmetry by ensuring that retail investors receive clear and comparable information. In a theoretical market model, increased transparency reduces the asymmetrical information of rational investors and leads to better decision-making.

However, the practical relevance of disclosures is inherently limited by the fact that not all retail investors are willing or able to read and understand this information. (European Commission, 2023c) From an empirical standpoint, disclosures do not necessarily improve decision quality among retail investors. Nick Charter et al. (2010) have shown that disclosing conflicts of interest did not lead to better decision-making among European retail investors. Furthermore, studies by Ben-Shahar and Schneider (2014) indicate that mandatory disclosure rules can cause information overload, confusing consumers and potentially worsening decision-making. (Ben-Shahar, O., & Schneider, C. E. 2014)

Although the objective of achieving transparency is theoretically valuable, there is no compelling evidence that mere disclosures (information provision) result in more well-

informed investment decisions. Consequently, the first stage failed and addressing informational deficiencies encompassing problem drivers one and two of Figure 1 is insufficient to enhance investor protection, investment outcomes and capital market participation.

In the following, the policy options are still considered, but under the restriction that they improve investment provision but not the ability to take well-informed investment decisions. This assumption allows for the evaluation of policy options regarding SO3, aiming to enhance information provision for retail investors.

Table 4: Policy options for disclosures to enhance transparency

Option Label	Option Description
Baseline (Option 1)	Remain with the status quo
Option 2	Targeted changes to disclosure rules to improve their relevance for retail investors
Option 3	Targeted changes to address informational deficiencies relating to marketing communications

*Personal Draft, based on the Impact Assessment Report of the (European Commission, 2023d)

According to the Consumer Markets Scoreboard (2018), under all services and goods market investment products, private personal pensions and securities were the most incomparable and intransparent of all. (European Commission, 2018a) All of these services have a low market performance indicator (MPI). This indicator comprises comparability, trust problems, detriment expectations, and choice as determinants.

The low value of the indicator does not necessarily indicate poor regulatory frameworks or inadequate sector measures. Financial investment decisions are inherently more complex than those for holiday accommodations, involving various factors such as duration, risk-return ratio, liquidity, tax considerations, overall asset allocation, and total cost of ownership. Therefore, the focus should be on the progress made within the respective sectors (European Commission, 2018a).

The MPI experienced a significant increase for investment products in the Netherlands and the United Kingdom from 2015 to 2017, during which time several transparency measures were implemented and a full ban on inducements was in place (European Commission, 2018a). Therefore, it is doubtful whether these transparency measures were

the sole cause of the improvement. Given the ongoing opacity in the European financial landscape, it is valid to question the status quo (option 1) and explore policy options to enhance information provision.

Option 2 would focus on targeted amendments in EU legislation (PRIIPs, MiFID II and IDD) to address problem driver 1 of Figure 1. Regarding PRIIPs, information provided in the KID should be improved using layering and a summary dashboard.³ According to MiFID II and IDD, option 2 involves targeted changes focused on improving the relevance of cost and performance disclosures for retail investors. This encompasses an obligation for investment firms and insurance undertakings to disclose any costs in a standardized and easy format. Comprising associated charges, fees, commissions and third-party payments (to be) paid directly or indirectly by the client and related to the financial instruments and financial services considered by the client.

Furthermore, the firm's obligations would be reinforced to provide an annual statement to clients, including the current market value of the product, the corresponding cost and its impact on annual performance. Option 2 also encompassed additional minor and technical changes that were not considered in this discussion.⁴ (European Commission, 2023d)

Restructuring the KID for PRIIPs with a layered approach and a summary dashboard could reduce the impression of information overload for retail investors. This approach stays in line with the cognitive load theory of John Sweller (1988), suggesting that information should be presented in a way that minimizes unnecessary cognitive load. By breaking down complex information into manageable chunks or layers, users can process each segment individually, reducing the overall cognitive burden.

Empirical studies show that better decision-making and lower cognitive load through layered information via dashboards were observable. (Wright et al. 2019; Doan Thi Quynh, 2023) Despite considering medical- and conventional-business studies, the results are partly transferable to financial decision-making. Partly, because layered information and dashboards have great potential to reduce information overload in financial decision-making and to improve information provision. Negative impacts of mandatory disclosure

³ Layering is a practise of organizing information in related groupings and presenting only certain groupings at one time.

⁴ Including ESG-dashboards, transparency of cost of Multi-Option Products, clarification of the scope of PRIIPs regarding corporate bonds and immediate annuities and a standard EU format for costs disclosure under MiFID and IDD.

rules as outlined by Ben-Shahar & Schneider (2014) are therefore unlikely. However, there is currently no evidence that using layered information and dashboards improves decision-making for retail investors in financial contexts.

The annual statement provides retail investors with a comprehensive view of their portfolio performance and total costs, allowing them to assess whether VfM is delivered. Additionally, it offers supervisory authorities more data on costs, charges, and performance for better comparisons of the effective VfM of financial products.

UCITS already requires annual reports for clients, including performance and operations information. Adding cost and performance impact details under MiFID would expand these reports with manageable implementation costs. However, there is no EU-wide standard for ex-post periodic disclosure for IBIPs, and enhancing information provision in this area would significantly raise implementation costs, estimated by the European Commission at €19-67.5 million for one-off annual statements (European Commission, 2023d). The uncertainty regarding how many investors receive these statements makes cost assumptions vague and complicates the estimation of ongoing costs, as practices vary among investment firms and member states regarding required annual reporting (Uličná et al., 2022).

In addition to costs, presenting annual information on market values of financial products may lead to destructive behavior. Reporting short-term losses can trigger overtrading, with investors frequently switching investments or liquidating retirement funds. Comparable with investors looking very often in their investment account, Benartzi and Thaler (1995) describe this tendency, known as myopic loss aversion, where investors emotionally react to losses. They found that less frequent portfolio evaluations encourage a greater willingness to invest in riskier assets. Thus, avoiding annual statements could help mitigate myopic loss aversion and promote a long-term investment approach, potentially increasing overall retirement wealth. However, withholding relevant information from retail investors to enhance outcomes is controversial.

The third option encompasses legislative amendments in MiFID II and IDD relating to marketing communications. This would involve a new obligation for investment firms and insurance companies to include vital information across all marketing communication channels relating to the offer of financial services to retail investors. For financial products, as minimum, the key product features and risk associated with them would be

included. Additionally, the notion of “marketing communication” would be clarified in MiFID II and IDD to ensure that any form of advertisement made by investment firms is covered. This encompasses also indirect advertisement through third parties, such as influencers. (European Commission, 2023d)

Social media and digital platforms have increasingly influenced investment decisions, with 10 % of surveyed financial firms using influencer marketing, according to an IOSCO study, and expectations for growth in this area. While these avenues make investing more accessible, they often do not prioritize retail investors' interests (ESMA, 2022a). Firms frequently exploit investors' biases, advertise unsuitable products, and distort perceptions of risks and costs for their own benefit. Providing crucial information about financial products could help mitigate the harm caused by misleading social media content.

Furthermore, IOSCO members reported challenges with influencer marketing, as they only have jurisdiction over firms and their associates but not over influencers. (IOSCO, 2022) Clarifying the notion of marketing communications as outlined above adequately addresses this issue by assigning third parties under the jurisdiction of MiFID II and IDD. Overall, the third option would lead to more transparency and an increased quality of information provided to investors. (European Commission, 2023d)

Contrary to the mutually exclusive options in the previous chapters, the European Commission designates both policy options as their preferred choice in the IAR. One off cost for the option bundle could not directly be determined and only comprises the 19 - 67.5 million € range for option 2 with missing projections for option 3. Ongoing costs of this option bundle amount to 250 million €, while the annual benefits could also not be determined. (European Commission, 2023d)

Whether the benefits outweigh the high costs of the proposed measures is doubtful, as both policy options improve information provision but neither exhibits evidence for improving the ability to make well-informed investment decisions. (SO1) This might explain why the benefits of disclosures could not be estimated in the quantitative analysis of the IAR, unlike for a ban on inducements and the VfM concept. (European Commission, 2023c)

3.4 Flanking Measures

After discussing the core measures of the RIS, now the flanking measures of Table 2 are scrutinized that aim to fulfill SOs. This discussion only contains one stage, hence the

utility of SOs were already assessed in the previous chapters. Client categorization and supervisory enforcement as flanking measures primary seek to fulfill GOs and therefore are not examined. Improving knowledge of financial markets for retail investors and advisors is the first flanking measure under consideration. But for discussion purposes, it is divided into enhancing the financial literacy of investors and enhancing the professional qualifications of advisors as outlined in the IAR. (European Commission, 2023d)

Financial literacy per definition refers to a combination of financial awareness, knowledge, skills, attitudes and behaviors necessary to make sound financial decisions and to achieve individual financial well-being. (OECD, 2024) Increasing financial literacy should directly contribute to the achievement of SO3, to enhance the ability to make better decisions for retail investors. But also indirectly, because research indicates that low financial literacy can reduce the effectiveness of disclosures due to information overload and increase reliance on financial advice, whether the advice is good or bad. (Ben-Shahar, O., & Schneider, C. E. 2014) Therefore, financial literacy may function as a moderator between information provision and well-informed investment decisions.

Table 5: Policy options for enhancing financial literacy of retail investors

Option Label	Option Description
Baseline (Option 1)	Do nothing to change the current legal framework.
Option 2	Support and supplement the work of the Member States in this domain, by replicating a similar provision to the Article 6 MCD into the relevant financial legislation on distribution of investment products.
Option 3	Achieve more harmonisation in financial education matters: replicate similar provisions to Article 6 MCD into the relevant financial legislation (as in Option 2) and, in addition, introduce regular reporting requirements on national educational measures, while establishing a quality control system.

*Personal Draft, based on the Impact Assessment Report of the (European Commission, 2023d)

The 2023 EU Barometer reveals that most EU citizens lack strong financial knowledge, with only 26 % of respondents correctly answering at least four out of five questions on basic concepts like risk-return relationships, diversification, and compound interest (European Commission, 2023e). The OECD has reported similar findings on financial literacy across the EU (OECD, 2020)

Evidence indicates that well-designed financial education programs positively impact financial knowledge and decision-making (Kaiser et al. 2022). However, the European Commission argues that these programs are not enough to significantly raise overall financial literacy levels, as supported by the EU Barometer's findings. Further legislative action is necessary since neither national nor multilateral measures have effectively addressed low financial literacy in the EU. Therefore, maintaining the status quo of Option 1 is insufficient.

The high-level forum of the CMU suggested to replicate Article 6 of the mortgage credit directive and reflect it in other financial sector legislation. (European Parliament & Council of the EU, 2014) Under this option, member states would be required to promote formal and informal learning measures that support the financial education of retail investors.

This option offers a legal commitment to promote action while allowing member states to choose their measures. Retail investors would benefit from improved financial literacy, leading to greater participation in capital markets, which would in turn support financial intermediaries and increase funding for companies. The costs are minimal, as there would be no ex-post reporting, and public authorities could save by sharing best practices (European Commission, 2023d).

In Action 7B of the 2020 CMU Action Plan, the Commission committed to evaluating the extension of Article 6 MCD principles to other sectoral legislation. A public consultation in November 2021 revealed that while most respondents viewed Article 6 positively, demonstrating its causal impact on national financial education measures proved challenging. Hence, some Member States were already taking proactive steps to enhance financial education. Therefore, an enhancement of the previously discussed option two with additional entitlements for the commission could address this uncertainty.

Option three encompasses, on top of Option 2, mandatory reporting requirements for NCAs regarding the national financial educational measures taken. Additionally, the commission establishes a quality control system to assess and approve the educational measures. This should enable the commission to determine which sectoral legislation would be most suitable for extending the principles outlined in Article 6 MCD (e.g., MiFID, IDD, PEPP, UCITS, PRIIPs, etc.).

The third option may better address low financial literacy across the EU by providing a coherent approach with a unified quality control system for educational measures. This could reduce fragmentation costs for all entities, but public authorities would face significant administrative expenses for regular reporting. Additionally, the Commission would need more staff to approve measures, and financial intermediaries might incur costs to adapt their educational tools. However, this coherence risks undermining the subsidiarity of member states. Overall, the European Commission's preferred option two appears more cost-efficient for enhancing financial literacy.

Enhancing financial literacy is crucial not only for retail investors but also for financial advisors, as distrust among retail investors toward advisors remains high across the EU (European Commission, 2022). Barnaba et al. (2020) highlight caring and competence as key factors in rebuilding trust in financial advice. Aligning incentives of adviser and client through amendments of the remuneration addresses the former, while professional qualification requirements of advisors address the latter. Professional qualification requirements primarily aim to align the interests of advisers with retail investors (SO1) and partially support the achievement of SO2 and SO3. (European Commission, 2023d)

Table 6: Policy options for enhancing professional qualification requirements of financial advisors

Option Label	Option Description
Baseline (Option 1)	No changes to the legal frameworks.
Option 2	Strengthening of the existing standards and further harmonising some of the requirements set out in MiFID II and IDD
Option 3	Maximum harmonisation of the requirements related to qualification under MiFID II and IDD.

*Personal Draft, based on the Impact Assessment Report of the (European Commission, 2023d)

As stated by Linnainmaa et al. (2021) financial advisors are subject to a wide range of misguided beliefs. Advisors trade frequently, prefer expensive actively managed funds, chase returns and underdiversify. Since these systematic investment errors persist even after advisors leave the industry, it suggests that they don't intentionally maintain costly portfolios to influence clients. While the study focuses on Canadian advisors, its findings are relevant to the EU, aligning with evidence from Karabulut (2012) and Hoechle et al. (2018). Addressing the lack of competence is necessary, and remaining with the status quo under option 1 is therefore insufficient.

A recent analysis of the current framework of MiFID II and the IDD leaves the member states a considerable degree of discretion to the appropriate qualification requirements for advisors. (European Commission, 2022) Consequently, competences and standards vary significantly across the EU and sectoral between products.

Option 2 aims to reinforce the existing standards and harmonize the requirements established in MiFID II and IDD. This would involve the transfer of non-binding ESMA guidelines into the level 1 and level 2 legislative framework of MiFID II. Additionally, the IDD requirements on continuous training could be further detailed and extended to MiFID II. (European Commission, 2023d)

Harmonized qualification requirements would improve the competence of financial advisors across member states and product types, enhancing the quality of advice and facilitating cross-border services. However, the costs of implementing this option vary significantly by member state, particularly where major adjustments are needed, leading to high expenses for hiring and training qualified advisors. Overall, the administrative burden should remain similar as existing diverging national requirements are replaced with coherent ones.

Option 3 would raise coherence even further by establishing a homogenous standard for qualification requirements of financial advisors operating in the EU. This encompasses a detailed assessment of the necessary skills, knowledge and competence and their implementation through primary and secondary legislation, while leaving little discretion at the national level. (European Commission, 2023d)

This option shares the advantages of option 2 but has a greater impact. However, costs would be significantly higher due to the need for new rules and adjustments by investment firms and advisors across member states. Even states with similar regulations would need to modify their systems. This maximum harmonization risks lowering standards in countries with well-developed frameworks. Additionally, ongoing administrative costs for authorities related to the certification system would increase substantially. The one-size-fits-all approach may also fail to accommodate the unique needs of national capital markets. Overall, while option 3 could have a slightly greater impact, option 2 is preferred for its cost efficiency.

The last considered flanking measure is the enhancement of suitability and appropriateness assessments. The appropriateness assessment aims to verify that clients

possess adequate knowledge and financial experience to comprehend the risks associated with their investment. The suitability assessment, on the other hand, takes a more comprehensive approach. It evaluates whether a product aligns with the client's objectives, knowledge, experience, and financial situation, offering a broader and more detailed analysis than the appropriateness test. (Uličná et al. 2022)

Table 7: Policy options for enhanced suitability and appropriateness assessments

Option Label	Option Description
Baseline (Option 1)	Do nothing to change the legal framework
Option 2	Enhancing of the existing framework for suitability and appropriateness assessment
Option 3	Introducing in the current suitability and appropriateness assessment regime the requirement for firms to provide to each retail client, as a result of the assessment, an asset allocation strategy, under the name of a Personal Investment Plan. An opt-out option for retail clients using non-advisory services for simple products would be maintained.

*Personal Draft, based on the Impact Assessment Report of the (European Commission, 2023d)

Between 2005 and 2022, the European Consumer Association compiled a list with over 40 misselling scandals in EU member states. Additionally, a Deloitte study conducted for the Commission in 2018 revealed that more than half of the surveyed consumer protection bodies frequently received complaints about unsuitable products and inappropriate advice. (European Commission, 2018b) Concerns have also been raised by the European Parliament and EIOPA over the misselling of products containing high costs, carrying high commissions, and being complex in nature. (Conac, 2018; EIOPA 2022a) Therefore, legislative amendments of the framework are necessary to challenge the status quo (option 1) of unsuitable products and inappropriate advice.

The modalities of option 2 would involve a combination of an enhanced suitability test for advised services and an enhanced appropriateness test for non-advised services. For advised services, it is proposed to strengthen the suitability assessment under MiFID II and IDD by enhancing the client profiling test with more precise and standardized elements. For non-advised services, it is proposed to strengthen the client profiling test with questions on the client's financial capacity and ability to bear losses.

Standardizing key client information testing across all firms would improve suitability assessments throughout the EU. This standardization would promote common assessment practices, eliminating poor or non-informative practices that risk misselling. Additionally, requiring firms to consider clients' existing securities would address product-centric advice, prevent over-concentration in similar financial instruments, and encourage portfolio diversification. A more solid suitability assessment following a portfolio approach, would result in more suitable investment recommendations, increasing the trust of retail investors in capital markets. (European Commission, 2023d)

A thorough assessment for non-advised (execution-only) services would counterbalance the influence of social media, peers, and information asymmetries, thereby reducing biased investment decisions. Especially with a full ban on inducements, execution-only sales would likely increase, emphasizing the necessity of adequate safeguards as outlined in option 2.

The IAR estimates one-off costs at 48.5 million euros, primarily for advisor training, with ongoing costs at 19.1 million euros, mostly due to additional time spent on suitability assessments. (European Commission, 2023d) Costs are therefore moderate and under the current development of enhanced execution only sales and do it yourself investing, neither training costs nor time for suitability assessment will largely surge in the future.

Option 3 proposed that firms provide each retail client with a personal investment plan, including an asset allocation strategy, as part of the suitability assessment. Stakeholder consultations indicated this could lead to significant costs, particularly for the non-advisory segment, affecting the accessibility and cost of investment services for retail investors. Therefore, the Commission discarded option 3. (European Commission, 2023d)

Consequently, option 2 is the more cost-efficient choice and is the preferred option of the European Commission, especially when paired with other core measures like a VfM concept or a full ban. However, option 3 should be reconsidered if progress in retail investor protection remains insufficient.

3.5 Critical Assessment

The following chapter examines the interactions between specific goals and the carryovers between measures. Furthermore, any potential missing elements of the strategy are explored. Finally, a comprehensive assessment is conducted to evaluate the

RIS as a whole and to determine if the preferred measures sufficiently enhance retail investors' surplus and overall welfare.

Between the specific objectives and the corresponding policy options, a lot of interactions are present. The UK and Netherlands showed that aligning the interests of retail investors and advisers with a full ban leads to more cost-effective products for retail investors. (AFM, 2021; FCA, 2024) Likewise, cost-effective products often contain a smaller amount of inducements and better align interest between intermediaries and advisors. (Better Finance, 2022) Additionally, SO1 and SO2 also implicitly improve information provision for retail investors. Cost-effective products are often transparent and simple, and with aligned interests, there is no incentive to maintain high information asymmetries and intransparency. This interdependence and positive reinforcement between the SOs underscore the consistency and unity of the strategy.

As specific objectives are interrelated, the associated measures presented in Chapter 3 are likewise interdependent. However, the core measures and their quantitative effects were discussed in isolation, neglecting these interdependencies. Consequently, due to carryovers between different measures, the isolated benefit can shrink. This is especially detrimental for measures with high costs and uncertainty of outcomes, like a full ban on inducements. If a full ban is implemented alongside an enhanced VfM concept, the annual benefits of the ban could be way lower than several billion as outlined in the IAR. (European Commission, 2023d) This occurs because the enhanced VfM concept already aligned interest on a manufacturing and distribution scale to a certain point. Likewise, annual benefits of an enhanced VfM concept are probably lower due to carryovers of the full ban on cost-efficiency of financial products.

A missing part in the strategy is the absence of tax incentives for retail investors to engage in capital markets. Taxes represent an indirect cost that, like high product costs, reduces net returns for investors. The Commission acknowledges these significant issues but states that taxation related to retail investing falls outside the strategy's scope, leaving it unaddressed in the impact assessment. (European Commission, 2023d) While there are other initiatives, such as the action plan for fair and simple taxation, hard tax incentives for retail investors are not included. These should be integrated into the RIS to create a meaningful impact, despite the challenges of coordinating legislation across member states with varying tax regulations.

An equivalent to the 401k plan of the US could be a solid measure to establish tax incentives for retail investors. (Delbeque, 2024; VOTUM, 2024) Such a plan offers tax-deductible savings instalments from income for retirement provision. This has besides a higher participation also the advantage of the habit to monthly invest to build an adequate capital stock. With the pan-European personal pension product (PEPP) regulation, the EU aims to create a European single market for personal pension plans. This pension scheme yet has no tax incentives but provides a solid foundation to establish them in the long-term.

After the in-depth analysis of the RIS, it emerges that the strategy is coherent in addressing the two main problems through the implementation of specific objectives and corresponding measures. (Figure 1) However, addressing the first problem of informational deficiencies appears ineffective, as disclosures, whether isolated or combined with other measures, do not significantly impact decision-making. However, financial literacy could function as a moderator to utilize information provision of disclosures to finally improve decision-making. (Ben-Shahar, O., & Schneider, C. E. 2014) Nonetheless, while financial literacy theoretically addresses this issue, it remains a secondary measure since short-term enhancement is impractical. Similarly, disclosures function more as flanking rather than core measure due to the absence of significant impact.

Therefore, the primary focus should be to address the second main problem of shortcomings in the manufacturing and distribution process instead of mitigating informational deficiencies. (Figure 1) Increased qualification requirements and enhanced suitability and appropriateness assessments alleviate these shortcomings and are rightfully considered flanking measures, because of their limited impact. The enhanced VfM concept and a full ban on inducements are the most effective measures for resolving these shortcomings and improving overall welfare, with the enhanced VfM offering greater cost-effectiveness. However, it remains uncertain whether an additional ban on inducements, when combined with an enhanced VfM, yields a net benefit given the interdependencies and high costs for the financial industry.

As interim solution, the proposal of the Commission's Retail Investment Strategy included alongside an execution only ban (3a) the option of a full inducements ban (3b) in three years when the results of the current legislative framework are not satisfactory. (Table 2) (European Commission, 2023a) With this approach, improvements can be

achieved without being exposed to the risk of prematurely introducing a full ban that might cause harm. Additionally, flexibility is retained to employ a full ban if the enhanced VfM concept is insufficient. During the transitional period, further investigations can assess the appropriateness of introducing a full ban on inducements in addition to an enhanced VfM concept. And additionally, to what extent an advice gap for low wealth retail investors occurs when annual based fees based on AuM or other methods are implemented.

A standard VfM concept using only manufacturer benchmarks could be implemented, but it would require a full ban on inducements to effectively address distribution process shortcomings. However, this approach is less cost-efficient and flexible, as transitioning to a commission-free market is economically irreversible. Consequently, an enhanced VfM concept and a partial ban with the option to introduce a full ban emerge as practicable best measure bundle. This combination significantly enhances retail investors surplus without causing significant producer surplus losses of the financial industry, thereby increasing overall welfare.

4. Empirical Analysis

4.1 Data

In the following empirical analysis, the “German Panel on Household Finances” (PHF) dataset is utilized to examine the capital market participation of German households. The PHF is a panel survey on finance and wealth in Germany, containing balance sheet, financial securities, income, work life and other demographic characteristics of private households. Furthermore, the PHF is an integral part of the Household Finance and Consumption Survey, collecting household-level data on household finances across Europe. Since aggregate data only contain information about how much public equity capital households hold in total, micro data and corresponding multivariate distributions can reveal characteristics of stock market participants. Accordingly, this sort of information contributes to solve the stock market participation puzzle.⁵

Five waves have been conducted since the initial wave in 2010/2011, following a three-year cycle until the fifth wave in 2023. In this paper, the fourth wave of 2021 is primary

⁵ In the following, the term is described as capital market participation due to the variable definition of section 4.2

examined, hence the fifth wave is still in elaboration. Except for robustness tests, the fourth wave is used for the analysis containing 4119 households.

The PHF dataset employs a stratified sampling design to oversample wealthy households, enhancing statistical power for analysing wealth distribution. The sampling occurs in three stages. First, wealthy regions are identified based on income statistics, dividing municipalities into three strata according to size and the proportion of wealthy households. In the second stage, wealthy street sections within these regions are identified. In municipalities with 100,000 residents or more, street sections are categorized into wealthy neighbourhoods and others. Smaller municipalities are treated as a single unit without categorizing street sections due to fewer wealthy areas and limited address selection. In the third stage, adults are selected from a public register. For smaller municipalities, systematic random sampling is used from registered residents, while larger cities use addresses from selected wealthy street sections.

This oversampling procedure of wealthy households is embedded in a comprehensive weighting. Besides the design weighting of wealthy households, a non-response weighting and calibrations to adjust the distribution to the microcensus are included. These final household weights with the oversampling of wealthy households were partly eliminated in the examination to ensure better representativeness of Germany. Although, eliminating weightings also increases unequal probability sampling bias and non-response bias.

Missing datapoints due to item non-response were imputed for all variables following the methodology proposed by Rubin (1987). It was assumed that the non-response mechanism is “missing at random”, meaning that the likelihood of a missing observation can be entirely explained by the observed values in the dataset. The individual imputation value was generated by repeatedly drawing from an estimated conditional distribution of the data. Unlike single imputation, the variation from multiple simulations accounts for imperfections in the imputation model, leading to a more accurate estimate. Since multiple imputation models consider alongside within imputation variance also between imputation variance reflecting the uncertainty due to missing data. The PHF dataset and corresponding analysis comprise five imputations. Missing values are restricted on questions that were intentionally skipped by the interviewer. Considering these missing values, the effective sample is reduced to 4100 households.

Table 8: Descriptive Statistics

Variable	Description	N	Min	Median	Mean	SD	Max
A. Control Variables							
Gender	Dummy = 1 if FKP male	4,100	0	1	0.57	0.49	1
Age	FKP age (years)	4,100	19	60	59.21	16.47	90
Education	FKP education (0-8)	4,100	1	5	4.39	1.63	8
Income	Total household gross income (EUR)	4,100	0	44,856	61,378	66,428	1,477,620
B. Predictor Variables							
Risk Attitude	FKP (0-10), 10 = risk-seeking	4,100	0	4	4.20	2.18	10
Trust	FKP (0-10), 10 = high trust	4,100	0	6	5.67	2.01	10
FLS	FKP Financial Literacy Score (0-4)	4,100	0	3	2.90	1.07	4
C. Response Variable							
CMFN	Capital Market Funds narrow (EUR)	4,100	0	0	21,177	138,653	15,000,000
CMFW	Capital Market Funds wide (EUR)	4,100	0	2,746	40,662	153,133	15,000,000
D. Parts of the Response Variables							
Mutual Funds	Mutual Funds (EUR)	4,100	0	0	9,319	46,659	5,800,000
Bonds	Bonds (EUR)	4,100	0	0	1,778	33,520	1,200,000
Stocks	Stocks (EUR)	4,100	0	0	10,069	99,201	14,000,000
Managed Accounts	Managed Accounts (EUR)	4,100	0	0	10	1,250	200,000
Other Financial Assets	Other Financial Assets (EUR)	4,100	0	0	1,712	11,528	700,000
P_I	Voluntary pension + whole life insurance (EUR)	4,100	0	0	17,774	47,729	1,393,580

* Financial related variables encompass household figures, while demographic variables refer towards the financial knowledgeable person (FKP) representing a household. Descriptives are already shown as fundament for Section 4.2.

4.2 Methodology

The analysis consists of a descriptive examination and an ordinary-least-squares (OLS) regression of the capital market funds of German households. After considering descriptive statistics, k-means clustering is applied to reveal patterns and potential relationships in the data. These potential relationships are further examined with the OLS-Regression to detect causal inference.

Rather than focusing exclusively on stock market participation, this study examines the capital allocated to risky assets within capital markets, as the data structure regarding risk and specific assets (e.g., stocks or bonds) is ambiguous. For example, whole life insurance encompasses a combination of risk-free and risky assets, including both stocks and bonds, complicating the determination of the exact share of equities and risky capital market funds.

The main variable of interest capital market funds narrow (CMFN) contains all parts in Section D except other financial assets, voluntary pensions, and whole life insurance (P & I). Capital market funds wide (CMFW) encompass all parts of Section D and is implemented for robustness tests to address the previously mentioned ambiguity and to allow for a more granular analysis.

Partitional clustering in the form of k-means clustering in combination with the elbow method was implemented. This approach was preferred over other clustering methods (i.e. hierarchical clustering, grid-based and density-based) because partitional clustering is only moderately prone to complexity and overcrowding when a large data set is introduced. (Saxena et al. 2017) Unlike the descriptives and the regression, the clustering did not eliminate the overweighting of wealthy households. This leads to a less complex clustering design but restricts the scope of interpretation of the results on a German scale.

Nevertheless, only a subset of the variables from Table 8 were used in the clustering process to avoid the curse of dimensionality. (Indyk & Motwani, 1998) Age was excluded due to its non-linear relationship with variables such as capital market funds and risk attitude, which could potentially distort the clustering results, as suggested by life cycle theory. (Ando, A., & Modigliani, F. 1963); (Korniotis & Kumar 2011) Similarly, education was omitted to reduce complexity, as financial literacy is considered more informative for clustering than general education.

The average of the first and second derivatives of the within cluster sum of squares (WCSS) was utilized to determine the elbow point and the corresponding number of clusters. This approach has the advantage of being less sensitive to local fluctuations, leading to a more stable and reliable elbow point detection compared to using only the first derivative. The outcome of the elbow method was then implemented in k-means clustering to initialize centroids. Each data point was then assigned to a cluster based on the nearest centroid based on the Euclidean distance. The centroids of each cluster were then recalculated by computing the mean of all data points assigned to that cluster, with the objective of minimizing the WCSS. This iterative process continued until the algorithm converged, indicated by the stabilization of centroids and no further changes in data point assignments. (Sinaga & Yang, 2020) K-means clustering was performed on each of the five imputed datasets, and the cluster assignments from the imputations were aggregated using a majority vote.

Financial literacy, risk attitude, and trust are well-established factors in addressing the stock market participation puzzle and have been widely studied. (van Rooij et al. 2011); (Joanne Yoong, 2011); (GUIISO et al. 2008); (Langat & Rop, 2019) With the following regression model, it should be examined whether FLS, the risk attitude and trust have a positive causal relationship on the capital market funds of households.

$$(1) \text{CMF}_{it} = \alpha + \beta_1 \text{Gender}_{it} + \beta_2 \text{Age}_{it} + \beta_3 \text{Education}_{it} + \beta_4 \log(\text{Income}_{it} + 1) + \beta_5 \text{FLS}_{it} + \beta_6 \text{Risk Attitude}_{it} + \beta_7 \text{Trust}_{it} + \delta W_{it} + \epsilon_{it}$$

As demonstrated in Equation (1), the response variable CMFN (of section C) was regressed on these three predictor variables (β_{5-7}) listed in section B of Table 8, using data of the fourth wave ($t = 4$). Additionally, the right-hand side of the regression was complemented with several control variables from Section A of Table 8 (β_{1-4}). To ensure a more interpretable distribution that meets the linearity assumptions of the regression, the $\log(\text{income} + 1)$ transformation was applied. The +1 adjustment accounts for cases of zero income, as the natural logarithm of 0 is undefined. Weightings (δW_{it}) were applied to correct for the overrepresentation of wealthy households.

The results were computed using Rubin's Rules (Rubin, 1987) to combine the estimates from five imputed regressions. An OLS-regression model was preferred over a logistic

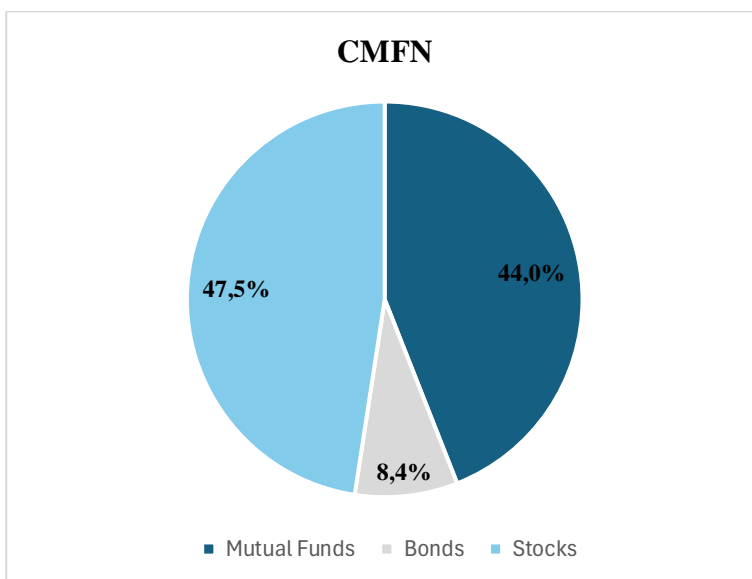
regression model with a binary variable of participation. Since a continuous response variable better takes a potential right skewness of capital market funds into account. This further allows to capture variations in the level of participation, providing a more detailed understanding of the factors influencing the extent of capital market involvement. Two robustness tests were conducted, the first encompassing CMFW as a response variable and the second using the third wave as a sample ($t = 3$).

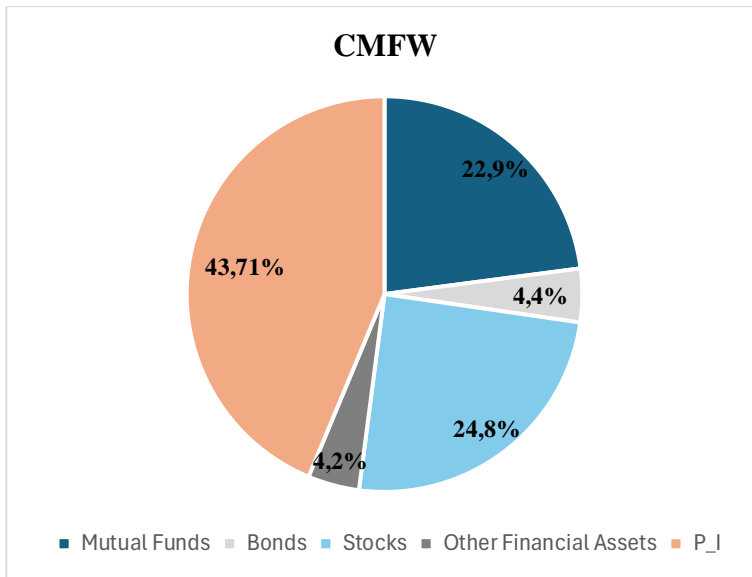
4.3 Descriptive Analysis

The descriptive analysis provides a comprehensive overview of the PHF data structure by quantitatively summarizing its features. Similarly, the clustering approach serves to describe the data structure but does not imply any causal relationships.

Considering the narrow definition of capital market funds CMFN, one household possesses 21,177 € invested capital on average (Table 8). Expanding this definition to incorporate other financial assets and P & I result in an average CMFW investment of €40,662 and is mainly driven by P & I.

Figure 4: Average composition of capital market funds narrow and wide

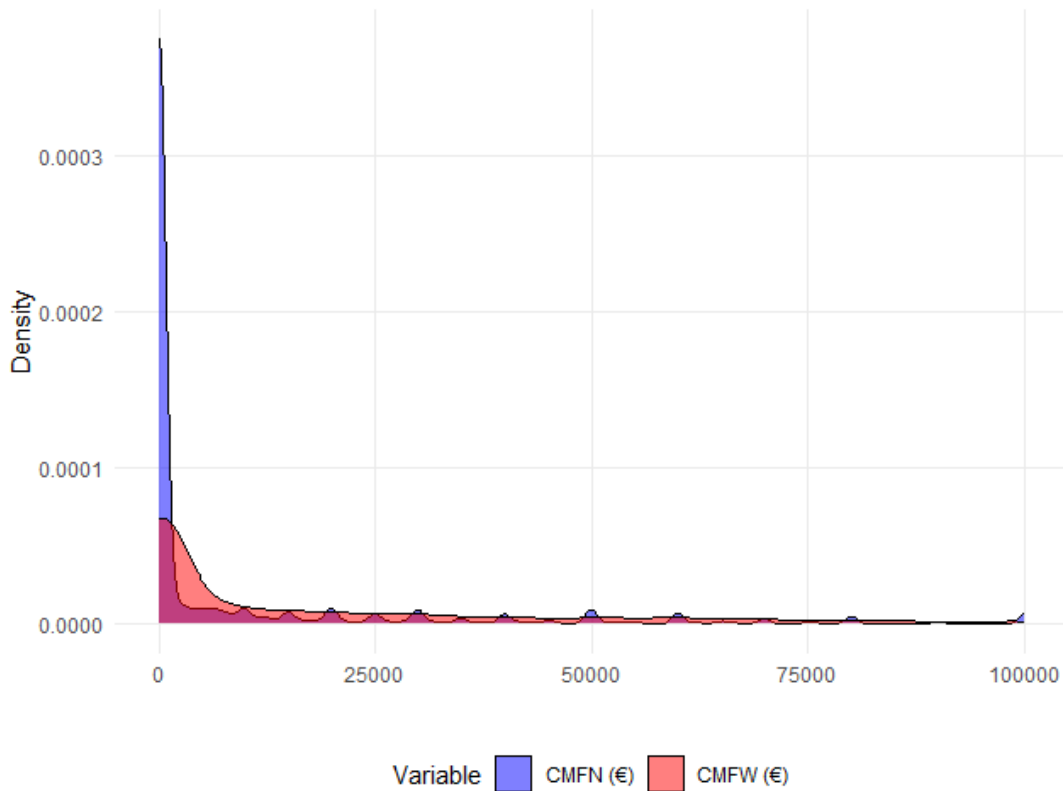




This becomes apparent when reviewing the average composition of capital market funds provided in Figure 4 alongside the components listed in Section D of Table 1. In the case of CMFN, the portfolio predominantly comprises over 90 % mutual funds and stocks. In contrast, this proportion drops to less than 50 % when considering CMFW, where P & I represent the largest share, accounting for 43.7 % of the average household's investment. Other financial assets contribute minor, while managed accounts are so marginal that they are not depicted in Figure 4, given their average value of approximately 10 € per household. (Table 8)

The standard deviation (SD) of CMFN and CMFW are relatively similar, with 138,653 € and 153,133 €, respectively. The coefficient of variation (CV), determined by dividing the standard deviation by the mean, can help identify if one variable exhibit greater inequality in distribution compared to another. The CV of CMFN amounts to 6.55 and to 3.77 for CMFW. This indicates that CMFN is more unequally distributed across households than CMFW and exhibits a higher kurtosis. This disparity is further emphasized by the median values, with the median for CMFW being 2,746 € and the median of CMFN amounting to zero. Only 41 % of households hold any CMFN, while 69 % possess any CMFW. This signifies a right-skewed distribution, indicating that a minority of households holds the majority of capital market funds.

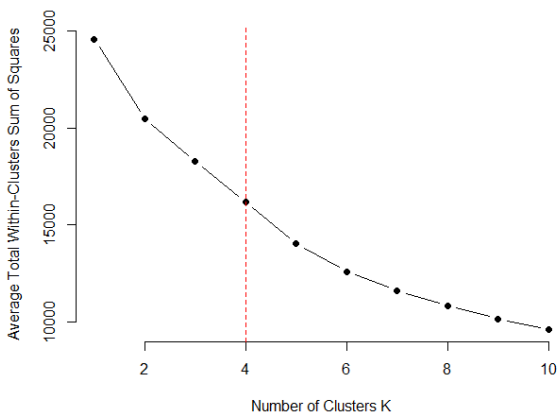
Figure 5: Density Plot of CMFN & CMFW



* x-axis restricted to 100,000 € for readability

The pronounced tails and overall right skewness of the distributions are evident in Figure 5. This confirms that CMFN is more unevenly distributed than CMFW and highlight the previously mentioned higher kurtosis and dispersion. The right skewed distribution partly explains the high CVs, since a few households hold a large part of capital market funds, driving the SD up.

Figure 6: Elbow Method, Optimal Number of Clusters



The application of the elbow method, focusing on minimizing the average of the first and second derivatives of the WCSS, led to the result that four clusters are optimal for k-means clustering. (Figure 6)

Table 9: K-Means Clustering Results

Cluster 1

Variable	N	mean	med	SD	min	max
Gender		1.00	1.00	0.00	1.00	1.00
Income		74634	59930	58146	0	734670
FLS		3.07	3.00	0.99	0.00	4.00
Risk Attitude		4.35	5.00	2.14	0.00	10.00
Trust		5.89	6.00	1.81	0.00	10.00
CMFN		37476	0	104140	0	1128300
N	2336.00					

Cluster 2

Variable	N	mean	med	SD	min	max
Gender		0.00	0.00	0.07	0.00	1.00
Income		73729	59666	60464	0	789280
FLS		2.98	3.00	1.03	0.00	4.00
Risk Attitude		4.32	5.00	2.14	0.00	10.00
Trust		5.81	6.00	1.92	0.00	10.00
CMFN		40416	0	157686	0	4000000
N	1647.00					

Cluster 3

Variable	N	mean	med	SD	min	max
Gender		0.02	0.00	0.12	0.00	1.00
Income		373339	346467	236011	53778	1477620
FLS		3.34	3.00	0.80	0.00	4.00
Risk Attitude		5.30	5.00	2.00	0.00	9.00
Trust		6.64	7.00	1.82	0.00	10.00
CMFN		374937	62500	648659	0	2600000
N	64.00					

Cluster 4

Variable	N	mean	med	SD	min	max
Gender		0.81	1.00	0.39	0.00	1.00
Income		395738	357064	236470	70000	1276184
FLS		3.43	4.00	0.91	1.00	4.00
Risk Attitude		5.49	6.00	1.69	2.00	8.00
Trust		6.19	6.00	1.44	3.00	9.00
CMFN		835076	81500	2286183	0	15000000
N	53.00					

* Income and CMFN in €

Table 9 presents the descriptive statistics for the four clusters identified through k-means clustering. Cluster one (C#) and two show similar values across most variables, except for gender. C1 consists entirely of males as the FKP of the households, while C2 is nearly completely female, as indicated by the mean, minimum, and maximum values.

C3 and C4 likewise share many similarities, with a few notable differences. C3 almost contains only women, while 81 % of the C4 comprises male FKPs. Additionally, households in C4 have more than twice as much CMFN than C3, lower average trust levels and are slightly more financially literate. The right skewness mentioned earlier is evident in the clusters, particularly in C4, where the mean CMFN is ten times higher than the median.

When comparing the first two clusters with the latter two, several key differences emerge. FKPs in C3 and C4 display significantly higher financial literacy, greater risk tolerance, and more trust than those in C1 and C2. The income levels of C1 & C2 are less than a fifth of C3 & C4. Considering the median of CMFN, the majority of C1 & C2 do not possess any CMFN. The majority of C3 & C4, in contrast possess CMFN and the average CMFN is at least 9 times higher than in C1 & C2. Additionally, C1 and C2 comprise the larger number of households, with 2,336 and 1,647, respectively, while C3 and C4 are much smaller clusters, containing 64 and 53 households.

In summary, the clustering analysis reveals two main stereotypes. The first is a large group of low-income households with little to no capital market funds, lower financial literacy, and limited risk-bearing capacity. The second is a smaller group of high-income households with substantial capital market funds, higher financial literacy, and greater risk tolerance. Whereby, primary men tend to exhibit the highest levels of income,

financial literacy, risk-bearing capacity, and capital market funds. However, no clear pattern regarding trust was observed across the clusters.

4.4 Regression Results

The subsequent step involves performing an ordinary least squares (OLS) regression to evaluate the causal impact of financial literacy score (FLS), risk attitude, and trust on capital market funds of households (CMFN), while controlling for various demographic variables. Given the large sample size, significance levels are established at 0.1 %, 1 %, and 5 % to address potential p-value inflation and to ensure that statistically significant results reflect genuine economic relevance rather than mere coincidence.

Table 10: Regression Results

The table presents the regression results of equation (1) for the dependent variable CMFN using data of the fourth wave. The predictor variables include FLS, Risk-Attitude and Trust, while Gender, Age, Education and Income (log) function as control variables.

Term	Estimate	Std.Error	T.Stat	p.value	Significance
1 Intercept	-118,964.00	10,503	-11.33	< 0.00000001	***
2 Gender	5,328.00	1,964.00	2.71	0.006683	**
3 Age	-184.30	61.20	-3.01	0.002578	**
4 Education	1,475.00	612.30	2.41	0.015989	*
5 Income (log)	11,831.00	852.10	13.88	< 0.00000001	***
6 FLS	3,690.00	923.40	4	0.0000648	***
7 Risk Attitude	883.80	455.10	1.94	0.052150	
8 Trust	244.10	491.10	0.50	0.619112	

Signif. codes: '***' 0.001 '**' 0.01 '*' 0.05

Residual standard error: 137666.42 on 20492 degrees of freedom

Multiple R-squared: 0.014, Adjusted R-squared: 0.013

F-statistic: 40.78 on 7 and 20492 DF, p-value: < 0.00000001

The intercept of the model is highly significant at the 0.1 % level with a negative estimate of -118,964 €, suggesting a base level for CMFN when all other variables are zero. The estimate for gender amounts to 5,328 € and is significant at the 1 % level, indicating that men tend to have significantly higher CMFN compared to women. Age shows a significant negative relationship with CMFN likewise at the 1 % level, showcasing that for every increase in age for one year, CMFN decreases about 184.30 € on average. The positive estimate for education of 1,475 € is significant at the 5 % level and suggests that higher educational attainment is associated with an increase in CMFN. Income, log-transformed for normalization, shows a large positive estimate of 11,831 € and is highly significant at the 0.1 % level. This indicates that a 1 % increase in income rises CMFN by about 11,831 €.

The coefficient of FLS is highly significant on the 0.1 % level and postulates a positive relationship between FLS and CMFN. For every increase in the FLS, CMFN increases by 3,690 €. Risk attitude shows a marginal effect with an estimate of 883.8 € ($p = 0.0522$), slightly above the 5 % significance level, suggesting it may have a borderline positive association with CMFN. Trust is not significant in this model (estimate = 244.1, $p = 0.6191$), indicating no clear relationship with CMFN. Noteworthy are the intercept and the log-transformed income due to their extremely high significance, both with p-values less than 0.00000001, providing very strong evidence against the null hypothesis.

The F-statistic of 40.78 and the corresponding p-value < 0.00000001 demonstrate that the overall regression model is highly significant. However, the model only explains a small portion of the variance of CMFN shown by the adjusted R^2 of 0.013. The residual standard error of the model indicates that on average predictions made by the model deviate from the actual CMFN values by 137,666.42 €.

Table 11: Robustness Regression Results A

The table presents the robustness regression results of equation (1) for the dependent variable CMFW using data of the fourth wave. The predictor variables include FLS, Risk-Attitude and Trust, while Gender, Age, Education and Income (log) function as control variables.

	Term	Estimate	Std.Error	T.Stat	p.value	Significance
1	Intercept	-212,261	11,479.00	-18.49	< 0.00000001	***
2	Gender	8,209.00	2,147.00	3.82	0.0001317	***
3	Age	-241.20	66.80	-3.61	0.0003077	***
4	Education	1,157	669.20	1.73	0.0838271	
5	Income (log)	21,753.00	931.30	23.36	< 0.00000001	***
6	FLS	5,842.00	1,009.00	5.79	< 0.00000001	***
7	Risk Attitude	551.80	497.40	1.11	0.2672564	
8	Trust	1,233	536.80	2.30	0.0216286	*

Signif. codes: ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05

Residual standard error: 150463.04 on 20492 degrees of freedom

Multiple R-squared: 0.034, Adjusted R-squared: 0.034

F-statistic: 103.46 on 7 and 20492 DF, p-value: < 0.00000001

The robustness test A, using CMFW as the dependent variable, yielded largely similar results with some nuances. The coefficients for gender and age are highly significant at the 0.1 % level, while education shows no significant relationship with CMFW. Trust is significant at the 5 % level, indicating that for every one-unit increase in trust, CMFW is expected to increase by 1,233. The F-statistic, as in the main model, is highly significant with a p-value < 0.00000001. Similarly, the adjusted R² is low at 0.034, and the residual standard error remains high at 150,463.04 €.

Table 12: Robustness Regression Results B

The table presents the robustness regression results of equation (1) for the dependent variable CMFN using data of the third wave. The predictor variables include FLS, Risk-Attitude and Trust, while Gender, Age, Education and Income (log) function as control variables.

Term	Estimate	Std.Error	T.Stat	p.value	Significance
1 Intercept	-82,856	4,647.00	-17.83	< 0.00000001	***
2 Gender	5,018.00	959.90	5.23	0.00000017	***
3 Age	222.80	29.40	7.59	< 0.00000001	***
4 Education	2,112.00	284.60	7.42	< 0.00000001	***
5 Income (log)	5,586.00	382.80	14.59	< 0.00000001	***
6 FLS	2,584.00	443.10	5.83	< 0.00000001	***
7 Risk Attitude	1,695.00	213.50	7.94	< 0.00000001	***
8 Trust	-287.70	223.90	-1.29	0.1987	

Signif. codes: ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05

Residual standard error: 74395.37 on 24627 degrees of freedom

Multiple R-squared: 0.02, Adjusted R-squared: 0.02

F-statistic: 72.39 on and DF, p-value: < 0.00000001

The robustness test B, using CMFN as the dependent variable and data from the third wave, revealed three notable differences compared to the main model and robustness test A. First, while age remains significant at the 0.1 % level, it now shows a positive relationship with CMFN. Second, education is also highly significant at the 0.1 % level. Thirdly, risk attitude exhibits a strong positive relationship with CMFN at the 0.1 % level, indicating that a one-unit increase in risk-seeking behaviour is associated with an average increase of approximately 1,695 € in CMFN. The other coefficients and the overall model quality remain consistent with the main model. Lastly, it should be mentioned that FLS is the only predictor variable that showed consistent significance across the main regression and robustness tests.

4.5 Discussion

In the following section, the results of the regression and descriptive analysis are discussed and contextualized in relation to the RIS.

The negative intercept technically reflects the baseline value when all predictors are set to zero, a scenario that is highly unrealistic. This outcome may indicate omitted variable bias or the OLS regression model's inability to fully represent variable relationships. The low R^2 values of the models support this interpretation. The statistically significant difference in CMF between men and women was also observed by Barasinska and Schäfer (2018) and Munir et al. (2024). Notably, the gap persists even after introducing both examined factors of the authors, FLS and risk attitude, into the regression analysis.

The divergence in the statistically significant effect of age between the main and robustness regression B likely stems from the non-linear relationship between age and CMF. According to the life cycle theory, younger households have minimal funds, accumulate capital over their working years, and then deplete these funds in retirement. This results in an inverted U-shaped relationship between age and CMF, which is challenging to adequately model using an OLS regression. (Ando, A., & Modigliani, F. 1963)

A modestly significant effect of education is expected, as variables such as income and FLS are correlated with education. The inclusion of these variables in the regression likely diminishes the independent effect of education. Education may exert an indirect influence by improving income and financial knowledge, both of which are more robust predictors of investment behaviour. The strong and highly significant effect of income on CMFN is plausible, as households with higher income have greater capacity to invest larger amounts.

The lack of statistical significance for risk attitude in relation to CMFN in both the main regression and robustness regression B may be attributed to a non-linear relationship between risk affinity and CMFN, following a likewise inverted U-shaped curve. Without capacity to bear risks, people avoid capital markets, while a high-risk affinity is accompanied by overconfidence and wealth-destructive behaviour. Latter households practice excessive trading and underdiversify their portfolios. (Barber & Odean, 2000; Doskeland & Hvide, 2011) In contrast, individuals with a moderate risk-affinity tend to

have the ability to participate in capital markets without being disproportionately exposed to overconfidence bias.

The absence of a significant effect of trust on CMFN may be attributed to the trust variable being too general and not specifically targeted toward financial contexts. Therefore, the variable measuring trust differs from the trust in the financial landscape that is addressed by the RIS. Another possible explanation for the absence of an effect is that trust may just be a proxy for (poorly) measured attitude toward risk. (GUIISO et al. 2008) The latter explanation is not mutually exclusive with the former.

The significant effect at the 5 % level of regression table A probably arises, because CMFW is used as the dependent variable containing P & I and other financial assets. P & I likewise as other financial assets like structured products, are often sold through financial advisers, where trust can be a deciding factor to acquire certain products or not. In contrast, stocks and bonds (and partially investment funds) are typically bought without the involvement of financial advisers, making high levels of trust less critical in these transactions.

The FLS emerges as the only predictor that exhibits a significant positive relationship regarding capital market funds across the main regression and robustness tests, thereby confirming the initial hypothesis. These results align with existing literature in the area, indicating that financial literacy is a robust predictor of capital market funds and stock market participation. (Joanne Yoong, 2011; Munir et al. 2024; van Rooij et al. 2011)

But despite an increase of €3,690 for each additional FLS point, CMFN of €15,000 with an FLS of 4 still fall below the national average in Germany. Based solely on the model's effect sizes, increasing income should be prioritized. However, since income like CMF is right-skewed (Table 8 & Figure 5), the magnitude of this effect does not apply to most households. This pattern is further reflected in the cluster analysis, which identified stereotypes indicating a large proportion of households with low income and little to no capital market fund. (Table 9)

Apart from that, enhancing FLS is vital, since increasing income and welfare alone probably is not sufficient to enhance capital market participation. Without financial literacy and corresponding retirement planning, income is more likely to be spent than saved and invested. (Lusardi & Mitchell, 2007)

In evaluating the model's effects and quality, it is essential to note that both the T-statistic and F-statistic are sensitive to sample size. With a large dataset of over 4,000 households, even minor effects can achieve statistical significance, resulting in significant coefficients and a high F-statistic for the overall model. However, statistical significance does not necessarily imply practical significance. The model's high residual standard error and low R^2 indicate that it explains only a limited portion of the variance in capital market funds. Additionally, the statistically significant negative intercept, along with the high standard error and low R^2 , suggest the presence of omitted variable bias. Therefore, while the substantial significance of variables like the FLS on both CMFN and CFNW continues to be evident, results must be treated with caution.

Independent of this, these findings and the insights of the descriptive analysis are also pivotal for the RIS. The observations of the descriptive analysis aligned with evidence of the European central bank (2023) and Delbeque (2024) that most of the people do not possess any risky financial assets and that these assets are rightly skewed. By their non-participation in risky asset markets, the majority of retail investors tend to lose an annual equity premium of 2-6 %. (Calvet et al. 2007) Non-participation is therefore probably even more detrimental than high costs and conflicts of interest in the financial landscape. Empirically validated factors that casually drive capital market participation are consequently inevitable for a successful RIS. Financial literacy is one such factor, as it significantly contributes to acknowledging the necessity to invest in capital markets to avoid financial distress in retirement.

5. Conclusion

After extensive analysis, it can be concluded that the RIS forms a solid framework for improving investor protection and investment outcomes to increase capital market participation and to enhance overall welfare. The specific objectives derived from the two primary problems, combined with the corresponding measures, provide a cohesive structure of the strategy. In the process of following the specific objectives and the associated policy options, considerable differences in their significance and utility became apparent.

The principal-agent theory and empirical studies have demonstrated the existence of a structural conflict of interest in the financial industry. Pursuing SO1 of aligning interests between advisors is therefore appropriate. A full ban on inducements has proven to be the

most effective measure compared to increased disclosures and a partial ban to achieve SO1. Especially to address the market failure occurring through the exploitation of financial intermediaries due to asymmetrical information between adviser and client.

Further, it can be concluded that there is no first-best solution of bias-free advice. An accompanied fee-based advice resulting from a full ban is in large parts also vulnerable to conflict of interest like commission-based advice. Another problem is that upfront honorarium payments lead to hyperbolic discounting by retail investors, which in turn can result in an advice gap. Partial compensation linked to AuM could form a practicable second-best solution to avoid an advice gap among low-income households and to minimize biased advice.

According to SO2, there is clear evidence that retail investment products incorporate unjustifiably high levels of costs and do not offer enough value to retail investors. Costs are one of the few proven factors that retail investors can control and have certainty to positively influence investment outcomes.

Enhanced VfM benchmarks have a higher impact on ensuring cost-efficiency for investors than pure distribution benchmarks, as they function across the entire supply chain and prevent excessively high costs at the downstream distributor level. Moreover, enhanced VfM benchmarks represent the most efficient measure in the overall strategy, combining a significant upside for investors with minimal costs for intermediaries.

Regarding SO3, there is no empirical evidence that enhanced information provision improves the decision-making of retail investors. Consequently, disclosure rules and marketing communication amendments do not benefit retail investors decision-making quality either. At least the negative effect of disclosure rules in the form of summary dashboards and layering can be excluded, since cognitive overload is actively mitigated. Annual statements enhance information provision but are at risk to entice retail investors to emotionally destructive decisions. Overall, due to the absence of significant impact, disclosures can be categorized more as a flanking measure than a core measure.

All analysed flanking measures should introduce the less extensive option 2 due to cost-efficiency. Additionally, these proposed flanking measures are accurately described, as they are designed to support specific objectives but cannot accomplish these objectives in isolation.

The strategy covers a wide range of measures but misses tax incentives like an equivalent to the 401k-plan in the US to encourage retail investors to invest. Taxes form another cost component that, alongside high product costs, reduces the net returns of investors.

Since addressing the first problem of informational deficiencies has proven to be insufficient, the focus should be to address the second main problem of shortcomings in the manufacturing and distribution process. An enhanced VfM concept and a full ban on inducements emphasized as the most impactful measures in terms of resolving the corresponding market failure and in increasing overall welfare. Considering interdependencies, it is unclear to what extent an additional full ban alongside an enhanced VfM concept still leads to a net welfare gain. A partial ban with the option to introduce a full ban would offer the required flexibility to act, when the results are not satisfactory and therefore emerge as the best measure bundle.

On March 20th, 2024, the Committee on Economic and Monetary Affairs positioned themselves for an enhanced value of money concept. But against any ban on commissions on a European scale. By the end of 2024, consensus among the EU institutions involved in the legislative process is anticipated as part of the trilogue readings.

Apart from the implemented measures after the trilogue, detailed monitoring and ongoing evaluation is necessary to ensure satisfactory outcomes of the strategy. Notably, the European Commission exhibits a broad monitoring plan encompassing the specific objectives and responsibilities for data collection to make progress measurable. Monitoring could further be used to fill the gaps of assumptions and data of the quantitative analysis of the IAR and to address areas where further research is needed.

The RIS examination is subject to several limitations. Neither all parts of policy option 2 of disclosures were considered nor all flanking measures of the overall strategy. Additionally, the analysis does not address the extent to which level 1 directives and level 2 regulation amendments are appropriate in limiting the legislative sovereignty of the member states.

The empirical analysis demonstrated that the majority of German households do not hold any capital market funds, with fund ownership exhibiting a right-skewed distribution. Both descriptive statistical analysis and clustering consistently reflected these observations. The regression analysis confirmed a significant positive relationship between financial literacy and capital market fund ownership, consistent with existing

literature. However, no significant relationships were observed between risk attitude or trust and capital market funds.

A limitation of the empirical analysis is that the findings are specific to German retail investors, and extrapolating these implications to an international context may result in distortions. Additionally, further research is needed to determine whether retail investors exhibit an inverse U-shaped relationship between risk attitude (risk-seeking behaviour) and capital market participation. Moreover, it remains to be explored whether financial literacy moderates the relationship between information provision and well-informed investment decisions.

In addition to indirect influences such as incentive alignment and cost-efficient financial structures, empirically validated factors that actively drive capital market participation, like financial literacy, are vital for the overall success of the RIS. Unravelling the participation puzzle is therefore pivotal to identify areas of interest and in implementing effective measures in the RIS framework. With this knowledge, consumers can be placed in the centre of retail investing, addressing the growing retirement gap while stimulating capital flows and fostering financial stability across the EU.

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