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Sustainability and ESG criteria in the investment policies of Italian and European pension funds

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A tutta la mia famiglia,

con affetto.

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Introduction

The word “sustainability” is now on everyone’s lips. In recent years, this concept has become one of the central points in the global economic, social, and political debate. In particular, the urgency to address challenges such as climate change, social inequalities, and questionable governance practices has drawn attention to the integration of environmental, social, and governance criteria into the investment policies of economic and institutional actors. This evolution has also affected pension funds, which have taken on an increasingly relevant and strategic role in promoting and advancing sustainable development. This because pension funds manage large amounts of savings on a long-term basis for millions of people, influencing financial markets through their investment choices. The integration of ESG factors into these funds' portfolios fits well with this context, helping to improve the resilience of financial returns in the long term and also offering the opportunity to generate a positive impact on society and the environment.

This paper aims to analyse how pension funds in Italy and Europe are incorporating ESG factors into their investment strategies. Initially, the first chapter will provide an overview of the Italian pension system, and, successively, of pension systems across Europe, supported by statistical data to guarantee a real perspective of the situation. Next, the practical description of how pension funds integrate ESG factors into their policies and investment decisions will be addressed, followed by an explanation of European regulations which aspire to make a more accessible path, providing all the necessary tools towards sustainable and responsible finance. Afterward, the fourth chapter will present a clear picture of the diffusion and characteristics of sustainable investment policies, and the ESG-integrated strategies adopted by pension funds in Italy and Europe. Finally, the last part will compare the performance of an ESG pension fund and those of a non-ESG pension fund, trying to understand whether an investor following socially, and environmentally responsible criteria is penalized or not in terms of financial results.

CHAPTER 1

The Italian pension model and a European overview

1.1 Italian pension system

The primary purpose of a pension system is to provide financial security and support to citizens during old age or in circumstances where they are no longer able to work due to disability, illness, or other personal or family reasons. It aims to ensure that individuals can maintain a decent standard of living, without falling into poverty, after retiring from active work or in case of unforeseen events that prevent the continuation of work. Through the redistribution of financial resources, the pension system also seeks to promote social equity, helping to reduce inequalities and stabilize the economy by facilitating household consumption even in non-working phases. In this regard, in Italy, the concept of social and welfare assistance is represented by Article 38 of the Constitution, which states: *"Every citizen unable to work and without the necessary means of subsistence is entitled to welfare support. Workers have the right to be assured adequate means for their needs and necessities in the case of accidents, illness, disability, old age and involuntary unemployment."*

The Italian pension system is divided in two categories: compulsory pension system and complementary pension system. The compulsory pension system is of public nature, while the complementary pension system is based on voluntary participation (private nature). This diversification of pension risk aims to maintain the same standard of living for workers even during retirement.

The compulsory pension system in Italy is divided into two sectors, the first reserved for employed workers, both public and private, self-employed, and collaborators, managed by INPS (National Institute for Social Security), the second is addressed to the categories of freelancers managed by other pension institutions. Generally, the Italian compulsory pension system is structured on the "Pay-as-you-go" principle, according to which the contributions paid by workers and companies to the pension institutions are used to support the supply of pensions.

Thus, individuals during their working phase finance the pension benefits of those no longer active, the so-called intergenerational pact, where different generations operate in the spirit of collective solidarity; therefore, no accumulation of reserves is foreseen to cope with the payment of future pensions.

In this way, it becomes clear that in a system organized based on this principle, the weight of the revenue derived from workers' contributions must be almost the same or greater than the expenditures, namely the pensions to be paid. This balance, of fundamental importance, is defined as the "condition of financial sustainability" of the Italian compulsory pension system, however, it can also prove to be very fragile, as it presents advantages (in case of economic system growth) but also disadvantages. Over the past few years, for instance, factors such as the aging population in Italy, due to the decrease in births compared to the past and the increase in average life expectancy, have changed the ratio between active workers and pensioners, causing a crisis in the mandatory pension system. To address this situation, a number of reforms have been implemented, all of which are focused on taking into account the requirements for the sustainability of public resources:

- the minimum requirements for accessing a pension have been increased, both in terms of age and years of contributions;
- the amount of the pension is now tied to the total contributions made during the working career, to the evolution of the Gross Domestic Product (GDP), and to life expectancy at the time of retirement;
- the method for adjusting pensions already in payment has been changed, which now follows the trend of inflation rather than that of real wages;
- foundations have been laid for the introduction of a complementary pension system, to allow workers to obtain a total pension more suited to their needs in old age.

In this context, to mitigate the risks associated with potential negative developments that could jeopardize the stability of the compulsory pension system, a complementary pension system is implemented, to ensure that the pension’s amount provided is sufficient to maintain the standard of living that the individual enjoyed until the end of their working career.

Complementary pension provision not only offers the possibility to augment the income provided by the compulsory system but also serves as an opportunity for savings. This system allows individuals to set aside a portion of their earnings during their working life to better address future challenges, for instance, it is possible to request advances to cover urgent medical expenses affecting the individual or his children. Moreover, considering the current instability in employment relationships, complementary pensions can provide essential support in today's labour market, which is characterized by increasing discontinuity.

The complementary pension system is based on two basic principles: the voluntary subscription and the individual capitalization. Every citizen is therefore free to join this pension scheme (self-employed or employed, private or public), thus having the opportunity to supplement the retirement benefits offered by the public system. The individual capitalization funding scheme on which it is based allows each member to have his own personal account where all his contributions and those from the employer flow in, which are then invested in the financial markets, typically regulated and controlled, fuelling the process of individual accumulation that culminates in the final provision of the pension benefit, net of various management costs.

Furthermore, the complementary pension system consists of pension forms known as pension funds, which are autonomous institutions of collective or individual nature, different from the entities that promote the initiative, managed by banks, insurance companies or other financial entities. Their purpose is to collect contributions from the working class in an individual pension account and invest these sums of money in financial markets by expert operators, to achieve, ultimately, supplementary pension benefits in relation to the mandatory pension.

1.2 Three-tier system

As mentioned in the previous paragraph, the Italian pension system is based on two types of systems: the compulsory and the complementary. Specifically, however, these two categories form the so-called "three-tier system" of Italian pensions, with the same goal of reducing pension risks through the diversification of the pension management entity. The introduction of this new system in Italy in the early 1990s became necessary due to vulnerabilities shown by the previous pension system, which was solely based on the

"pay-as-you-go" principle, long a cornerstone of the Italian pension system. It has exhibited its limitations, especially in recent years, following demographic changes and the expansion of public pension coverage, making an adjustment of the system essential.

The first tier is represented by the compulsory pension system, that is the public Italian pension system based on the pay-as-you-go principle, according to which active workers pay the pensions of retirees. The second and third tier compose the complementary pension system, based respectively on a collective and individual basis, both characterized by voluntary participation with the function of supplementing the compulsory pension.

The first tier now relies on the contribution-based method, but in the past it was based on the wage-based method, a change that occurred in 1995 with the Dini reform. Under the current method, the pension amount is calculated taking into account the contributions made by the worker, while under the wage-based system, the pension is calculated with reference to the last salaries and the worker's seniority: therefore, the contribution-based system is less advantageous than the previous one but also fairer. This tier covers all workers, and pensions are provided by various state entities such as, for example, INPS (National Institute of Social Security, the main social security institution of the Italian public system).
The various categories of pensions provided at this level are:

- the old-age pension. Any individual can receive it upon reaching the retirement age if they have met the required contribution criteria (20 years of contributions);
- the early retirement pension, which is only available to those who have reached the specified years of contribution seniority;
- the disability pension, for all workers who cease their activities prematurely due to health reasons;
- the survivor's pension, which is received by the family members of the deceased pensioner in the event of its premature death.

The second tier consists of complementary pension forms to which an individual can voluntarily subscribe exclusively on a collective basis by enrolling in pension funds established according to national collective agreements. Participants have the option to make contributions to the fund, and in addition, employed workers can decide whether to also transfer their severance package, in order to obtain a supplementary pension once

the necessary requirements for receiving such benefits are met. The pension funds that fall under this pension form are the negotiating pension funds, the pre-existing pension funds, and for private sector employees (as agreed by contracts, agreements, or company regulations) also the open pension funds.

The third tier, on the other hand, is represented by complementary pension system on individual subscription, in which each individual can participate through savings to obtain at the retirement age an additional benefit. This last tier includes open pension funds and individual insurance pension plans (PIPs) which are life insurance contracts.

1.3 Pension funds

The pension fund is a complementary pension form, an instrument for the realization of an alternative pension respect to the compulsory one, collecting and investing, through an external intermediary, the contributions that it receives from its participants, with the application of individual capitalization. The subscription of a pension fund, that is voluntary, produces a number of benefits for the employee that will be determined by the total contributions made, the duration of the contribution period, the expenses incurred, and the returns gained from investments in the financial markets. Additionally, pension funds also grant members certain rights before retirement, such as advances (for example, an advance for purchasing/renovating a primary residence), redemption, and transfer. The process of subscribing to a particular pension fund occurs in three precise steps:

1. the subscription phase;
2. the accumulation phase of employee contributions, possible employer contributions, and severance package’s contributions (at this stage, self-employed workers pay only their own contributions);
3. the benefit disbursement phase, in the form of an annuity or a lump sum.

There are two kind of pension funds:

- with the “defined contribution” method. In such funds, the level of contributions of the member is predetermined, and the final benefit is uncertain, depending on the performance of the investments;

- with the “defined benefit” method. In this case, the final benefit of the pension fund is guaranteed, in relation to the level of income or the mandatory pension treatment of the participants.

Every pension fund can be divided into various investment lines, each with its own risk and return profile. During the subscription phase to the pension fund, the future members can choose the line more suitable to invest their resources, and later they have the opportunity to change profiles through a switch during the accumulation phase, according to the fund's rules. These investment lines are classified into the following categories:

- Equity line. It invests completely or partially in equities, it is riskier but more profitable, appropriate for the long term.
- Mixed or balanced line. They invest in equities and bonds: the mixed one with a superior percentage in bonds respect to equities, while the balanced line invests with similar percentages. They have a medium risk, so they are perfect for the medium term.
- Bond line. It invests only in bonds, so it has a low level of risk.
- Guaranteed line. It ensures a minimum return or the restitution of the invested capital.

The activities of pension funds and, more generally, the complementary pension market is regulated by COVIP, that is the Commission for the Supervision of Pension Funds, an independent administrative authority of the Italian Republic. Italian law assigns some fundamental tasks to COVIP, which are listed below:

- authorizing pension funds to carry out their activities;
- confirming the statutes and regulations of complementary pension entities;
- maintaining a register of authorized pension funds;
- supervising the technical, financial, asset, and accounting management of pension funds, as well as the compliance of their organizational structure;
- ensuring transparency in communication and relationships between pension funds and their participants;
- proposing legislative changes related to complementary pensions;
- annually preparing a report on the activities conducted and the status of the complementary pension market.

The pensions funds are positioned at the centre of a network of relationship with other external subjects that are the depository bank, the insurance company, the financial manager, and the administrative manager.

The depository bank is the subject responsible for receiving contributions, safeguarding and managing the financial assets of the pension fund, and producing a report on the assets and liabilities. The role of financial manager is assigned to authorized entities such as securities brokerage firms, insurance companies, banks, and savings management companies. They are legally responsible for managing the fund's financial resources and are required to behave diligently and professionally to protect the fund's interests, while also maintaining a sufficient level of transparency about the types of investments made. The administrative manager handles the accounting, administrative, and tax needs of the fund, recording contributions made and providing periodic updates on management performance and the status of individual positions. Finally, the insurance company is the final entity that pays out pension benefits to members when predetermined requirements are met.

Italian law disciplines the following types of pension instruments:

1. the negotiating pension funds;
2. the open pension funds;
3. the individual insurance pensions (PIP, in Italy)
4. the pre-existing pension funds.

1.3.1 Negotiating pension funds

The negotiating pension fund is a form of private supplementary pension (a legally independent entity, separate from the promoters), that derives from worker and employer representatives through national, sectoral, or company-specific collective bargaining agreements for the category of workers affected by the same type of contract. These pension funds have a voluntary subscription on collective basis, and they are also called “close funds” for the incoming access mode, because they are reserved only to workers of a determined professional category or collective national agreement.

In particular, the negotiating pension funds are directed to:

1. Public and private sector employees of the same contractual category, sector, territory, firm, or group of companies;
2. Worker-members of production and labour cooperatives;
3. Self-employed and freelance professionals, also structured in professional and territorial areas.

In relation to the recipients' area the negotiating pension funds can be divided into:

1. Sectorial and category pension funds, which apply to workers of the same productive category governed by the same collective labour agreement;
2. Corporate pension funds, which are aimed at workers of a specific corporate group or company;
3. Territorial pension funds, which refer to multiple companies operating in different sectors and with different collective labour agreements that are located in the same geographic area.

According to the Italian law, pension funds created for employed workers are required the method of "defined-contribution", while those set up for self-employed workers can also be at "defined-benefit". This kind of pension fund is funded by the worker's accrued severance package (TFR), voluntary contributions from the worker, and the employer's contribution as stipulated in the contractual agreement. In case of self-employed workers, contributions concern only the fund's member.

The negotiating pension fund is an autonomous legal entity formed by its internal bodies: the Assembly, the Board of Directors, and the Board of Auditors. During the phase of composition of these bodies, the principle of parity is applied, meaning that an equal presence of worker and employer representatives must be ensured. The assembly, composed of representatives from workers and companies, has a deliberative function and is tasked with appointing members to the other two bodies; the Board of Directors, which holds executive power, has tasks of ordinary and extraordinary administration (for example, selecting the manager, choosing the investment policy, and electing the President of the fund); while the Board of Auditors is the body responsible for internal control, overseeing compliance with regulations and the proper administrative, accounting, and organizational functioning of the fund.

Lastly, it is crucial that all members of the Board of Directors and the Board of Auditors meet the requirements of integrity and professionalism.

1.3.2 Open pension funds

The open pension funds, contrary to the negotiating pension funds, are constituted by financial and insurance institutions authorized by law like banks, SGR, SIMs and insurance companies, but they conserve their assets in an autonomous and separate form respect to those of constitutive entities. This means that in case of the bankruptcy of these companies their creditors cannot satisfy their rights with the assets of the pension fund. This kind of pension fund is "open" because the subscription is free for all workers, regardless of their working position or professional category, therefore self-employed workers, freelancers, and employed workers, as well as their dependent family members if provided for by the regulation of fund. The institution that manages the pension fund seeks to attract consensus and, consequently, members by promoting a pension plan, while the distribution of this product must comply with the rules established for public savings solicitation.

In addition, the participation to these pension funds is voluntary and on individual basis; only for employed workers the participation on collective basis is accepted as established by companies' regulations and employment contracts. The contribution to the open pension funds can occur in different ways depending on the typology of worker:

- the self-employed worker and the freelancer have the option to choose both the amount and the frequency of their contributions;
- the public sector employed workers deposit only the individual contribution, they cannot allocate their severance package (TFR) to the fund;
- the employed worker of private sector, who joins on an individual basis, can contribute its severance package and decide the amount and frequency of its additional contributions;
- the employed worker of private sector, who joins on a collective basis, contributes to the fund according to the terms set out in contracts or collective agreements, but also has the possibility to increase their contributions beyond the stipulated amounts.

An important role is certainly that of the head of the open pension fund (in Italy “Responsabile del fondo”), the figure in charge of the fund, who exercises a protective function towards the fund’s members, by ensuring the respect of law, and COVIP, by providing information and statistics regarding the overall activity of the fund. Among other tasks, it oversees the investment policy and risk management, monitors compliance with insurance agreements, and supervises the disbursement of annuities.

1.3.3 Individual insurance pension plans (PIPs)

The PIP (Individual Insurance Pension Plan) is a supplementary pension scheme established as a life insurance contract, that can only collect memberships on an individual basis, independently of employment status. Managed by the insurance companies, PIPs maintain their separate and autonomous asset compared to that of the company that sets them up, and they are used exclusively to pay benefits to members; so, they are not intended to satisfy the rights of the creditors of constitutive companies. The PIPs are supervised by COVIP, and they are signed up in the register of pension funds. A first division of PIPs is between the “new PIPs” and the “old PIPs”, the last ones are pension forms set up through insurance contracts that were instituted before the enactment of the Legislative Decree 252/2005, and they are supervised by IVASS (the Institute for the Supervision of Insurance).

Regarding the contribution of a PIP, the frequency and the amount is decided in the subscription phase freely; the employed worker of private sector can also allocate only the severance package, on the other hand, the employed worker of public sector can allocate his own contribution but not the severance package. Unlike pension funds, members can choose to link the revaluation of their PIP to:

- a separate management;
- one or more internal funds;
- a combination of the two previous options.

The separate management constitutes a cautious investment approach, often providing a return of the invested capital or a minimum return. Conversely, internal funds represent investment lines that include a variety of financial instruments, determined by the investment's time frame and its risk and return profile.

These investment lines are called “pure or mixed bond” if they buy only or mainly bonds; “balanced” if they invest equally in stocks and bonds; or "equity" if they purchase exclusively or predominantly stocks. An important aspect is that the choice of the investment line is not permanent, but it can be changed according to the PIP’s regulations.

Regarding the internal organization, the PIP manager plays a key role. Appointed by the insurance company, it must meet the standards of integrity and professionalism required by law. This appointee ensures that the PIP is managed in full alignment with the participants' interests, in accordance with the current legislation and the general regulations of PIP. Furthermore, Pip manager oversees adherence to investment limits and operations that could lead to conflicts of interest. Operating autonomously and independently, it reports directly to the administrative body of the insurance company on the outcomes achieved; it is also responsible for transmitting data and information about the PIP's activities to COVIP.

1.3.4. Pre-existing pension funds

In Italy, the pre-existing pension funds represent a specific category of pension funds, that are instituted before the introduction of complementary pension system reformed in the 1990s. The legislation 124/1993 marks the division between the new complementary pension schemes and all the pension funds that were operative previously. As matter of fact, this typology of funds has the authorization from the legislator to operate notwithstanding general regulations.

There are two categories of pre-existing pension funds: the autonomous funds, that are endowed with legal subjectivity such as foundations; whereas the internal funds are structured as separate asset within insurance companies or banks.
Unlike open and negotiated pension funds, which are generally accessible to a broader range of workers, the pre-existing funds target specific categories of workers and may have slightly different management rules and benefits, influenced by the regulations and agreements in force at the time of their creation. Despite their special status, these funds are still subject to the supervision of COVIP, which ensures their transparency and managerial correctness. Over time, some of these funds have undergone transformations or have been integrated into more modern structures to better adapt to the current needs of workers and current regulations.

The subscription of these funds is voluntary and on collective basis, also the workers' dependents can become members if it is expected by the fund's statute. One feature that differentiates the pre-existing funds from other types of supplementary forms is the "defined benefit" method: in this way the amount of the contribution is variable depending on the final benefit, that is fixed from the beginning. The contribution to this kind of pension funds is decided during the bargaining phase and consists of the severance package accrued by the worker, the contributions paid by the employer and the contributions paid by the worker. The pre-existing pension funds can manage their investments directly, but they may face restrictions set by COVIP regarding the types of assets they are allowed to invest in, based on the specific organizational unit responsible for these operations. Otherwise, they can choose to entrust the management of investments to external entities through specific agreements, such as banks and insurance companies, but they must strictly adhere to the investment guidelines established by the board of directors.

1.4 Statistics on pension funds in Italy

The complementary pension system in Italy plays an increasingly significant role in the country's pension landscape. Characterized by a growing awareness of the importance of individual pension savings, the complementary pension system has evolved over the years thanks to Italy's efforts to face future uncertainties regarding the mandatory public pension system, caused by demographic changes and economic conditions that aren't challenging at all. However, compared to some European countries, such as the United Kingdom and the Netherlands, Italy still has a relatively low participation rate in complementary pension funds. Additionally, there are important differences in pension systems among various European countries, with some having more established traditions of complementary pension provision and others still developing this form of retirement savings. In this context pension funds offer Italian members the opportunity to integrate the compulsory public pension, allowing them to accumulate financial resources to ensure a stable income during retirement. COVIP plays a crucial role in regulating and supervising these funds.

Through its collection and analysis of statistical data on the complementary pension forms, it provides valuable insights into the status and trends of pension funds in Italy, offering essential information to understand the role and evolution of complementary pension system in the country.

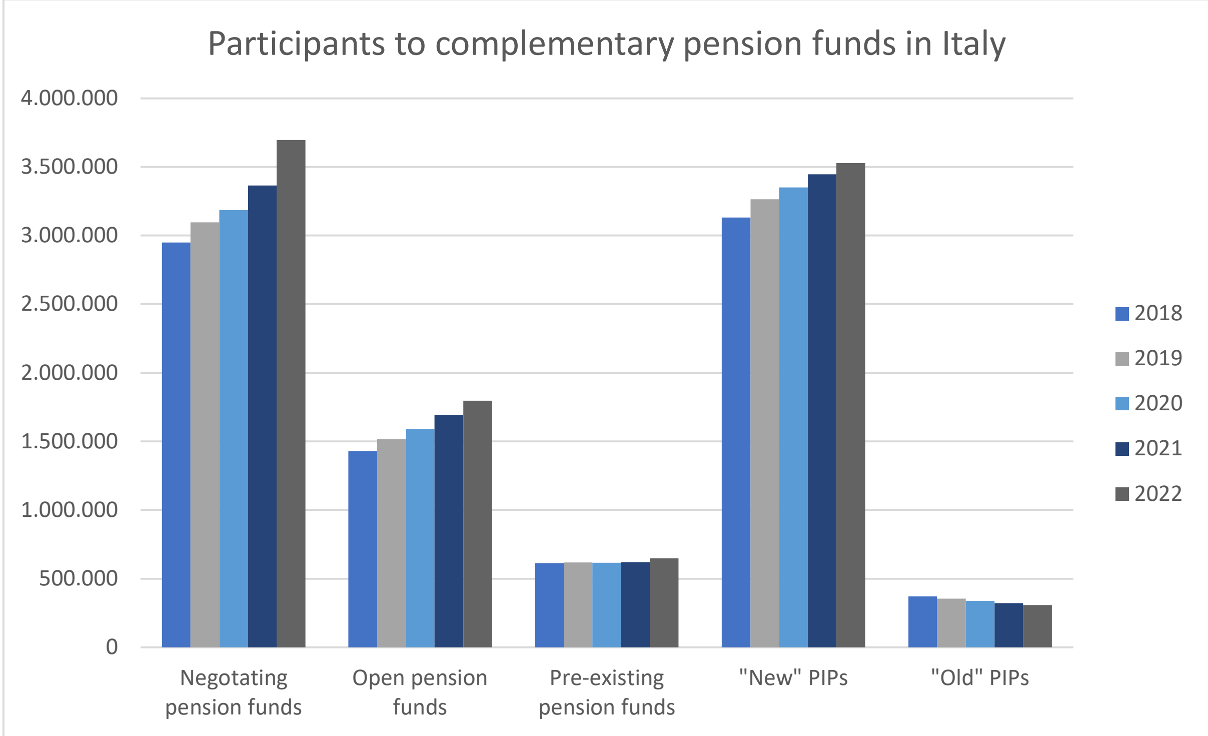
According to COVIP, in Italy at the end of 2023 the participants of the complementary pension system are 9,610 million, a 4% growth with respect to the number registered in the previous year (9,240 million in 2022), while the open positions are 10,7 million, against the 10,290 million of open positions of 2022 (with an increase of 4%). To be more precise, the open positions are the number of contracts that result open at a specific date taken out by individuals at one or more pension forms, so a person may have multiple open positions.

In particular, the open positions of the different categories of pension forms in 2023 are:

- 4.017.235 for the negotiating pension funds (211.000 extra positions respect to 2022);
- 1.950.378 for the open pension funds (+5,9% respect to 2022);
- 3.781.172 for the new PIPs (83.000 extra positions respect to 2022);
- 684.000 for the pre-existing pension funds;
- 308.000 for the old PIPs.

The growth of the complementary pension system in Italy is demonstrated by the numbers of members of the various pension forms increasing from one year to another, although these numbers are still below the average of the European level. For the last five years this development of members' number has been quite stable between the increase of the 2,2%, of the 2020 respect to the 2019, and the 5,4% of the 2022 against the 2021.
This growth is showed by Figure 1.1, which represents the numbers of participants to complementary pension forms in Italy from 2018 to 2022: except for old PIPs, that don't collect new subscriptions, the other pension forms have increased in the last five years, especially the negotiating pension funds with a development of about the 25% from 2018; the open pension funds and the new PIPs had respectively 1.796.429 and 3.526.638 members in 2022, with a gain of about 6% and 2,4% respect the 2021; on the other hand, the pre-existing pension funds experienced a slight growth from 612.977 members in 2018 to 647.564 in 2022 (+5,6%).

Figure 1.1

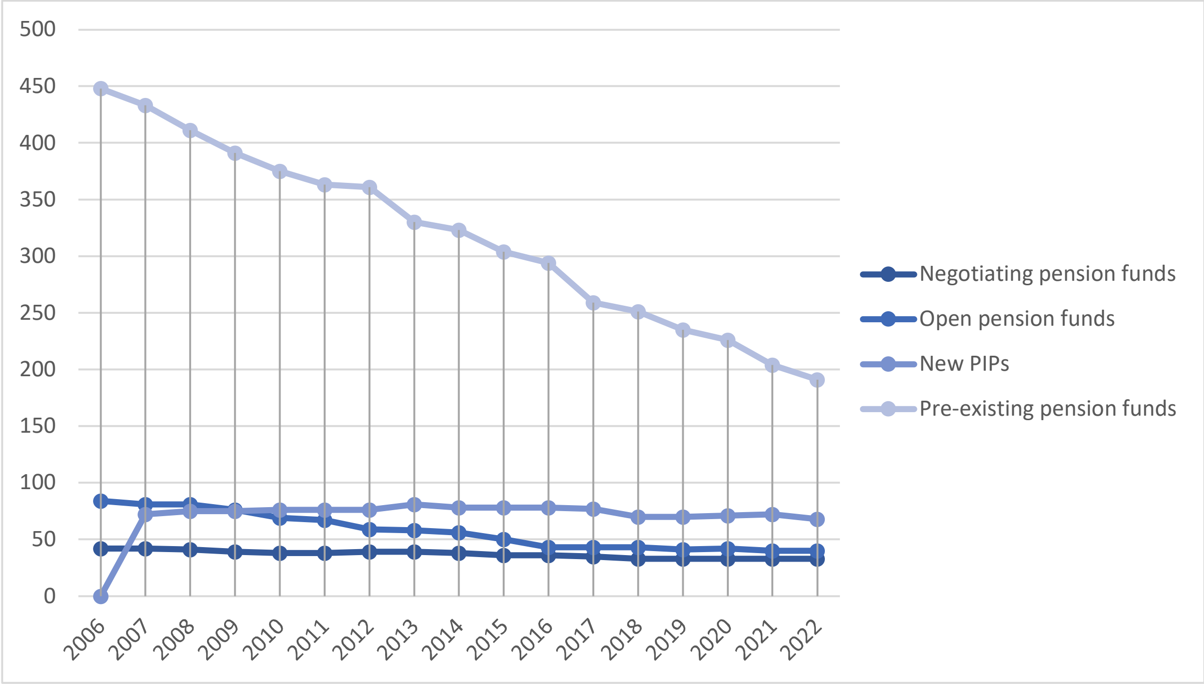


Source: Personal elaboration (from COVIP data)

In December 2022 the complementary pension system presented an offering with a structure of 332 active and operating pension forms, composed of 33 negotiating pension funds, 40 open pension funds, 68 new PIPs, 191 pre-existing pension funds (125 autonomous funds and 66 internal funds).

Figure 1.2 shows the trend of the number of different categories of active complementary pension schemes in Italy from 2006 to 2022. A preliminary analysis of the graph reveals a general trend of decreasing numbers over the years, in fact, since 2007, the year in which PIPs were introduced, the number of operating units has halved, from a total of 628 to 332 at the end of 2022. This reduction has first of all affected the pre-existing pension funds, which experienced a drastic decline from 448 units in 2006 to 191 in 2022 (more than halving), but also open pension funds saw a decrease by half (there were 84 in 2006). In contrast, the remaining two categories didn't undergo a notable decrease: negotiating funds, stable over the past five years, saw a slight decline of about ten units from 2006 to the present; while PIPs have remained almost constant over the years, except between 2013 and 2017, where they experienced an increase, and the last year, in which they decreased by 4 units compared to the previous year.

Figure 1.2 “Number of complementary pension funds”.



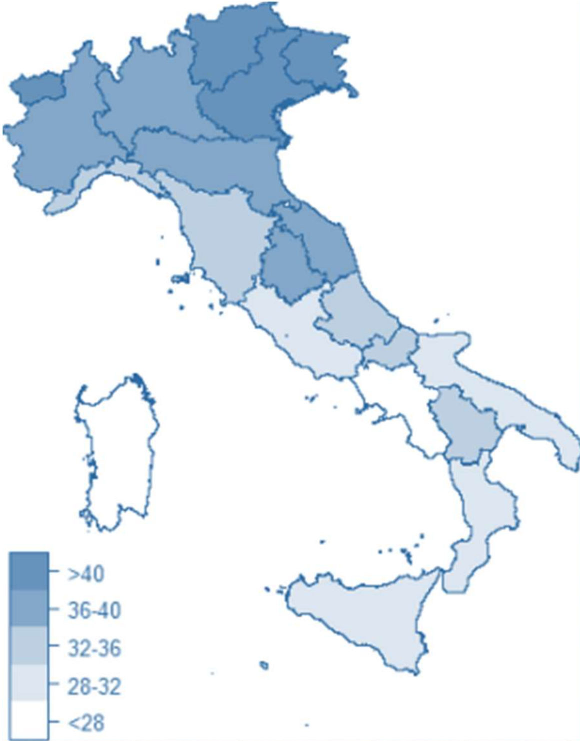
Source: personal elaboration (from COVIP data)

The primary reason for this decline in pension schemes within the Italian system stems from the numerous merger operations among individual banks and insurance companies over the years, leading to the formation of unique banking and insurance groups, and often resulting in the consolidation of complementary pension schemes of individual companies into one or two group pension funds. Specifically in the case of negotiating funds, now present in most sectors of employment, the reduction is the outcome of mergers among related sectors; conversely, in open pension funds and PIPs, offered by major Italian and foreign banking and insurance groups, the decrease has been caused by corporate restructuring and the streamlining of commercial offerings.

An interesting aspect concerning the members of the Italian complementary pension system is illustrated in Figure 1.3, which captures the distribution of the participation rate across the national territory. The primary feature highlighted is the noticeable gap in participation rates, with Northern Italy showing higher rates compared to the rest of the country. This diversity reflects the general traits of the Italian labour market, the productive structure and the business landscape, which are more developed and dense in Northern Italy, leading to higher participation in complementary pension schemes among workers.

The regions with the highest participation rates are undoubtedly Trentino-Alto Adige with 58.4%, Valle d'Aosta with 45.7%, and Veneto with 44.9%. Following these, the other regions that exceed the national average are Friuli-Venezia-Giulia and Lombardy, with participation rates of 42.4% and 39.3% respectively, and the regions with rates between 36% and 40% that include Piemonte, Emilia-Romagna, Umbria, and Marche. The lowest values are found in the remaining regions of Central and Southern Italy, where participation rates are below 30%, except for Molise, Basilicata and Abruzzo, where the recorded rates are in line with the national average.

Figure 1.3 "Complementary pension funds. Participation rate by region".



Source: COVIP, "Report for the year 2022", 2023.

To complete the overall picture of the Italian complementary pension system, the final two elements to consider and discuss are the contributions paid and the returns generated by the pension products offered in the national market. Starting with the contribution flows, in 2023, the amount collected by complementary pension schemes (negotiated funds, open funds, and PIPs) was 14.7 billion euros, with an increase of 5,7% compared to the previous year.

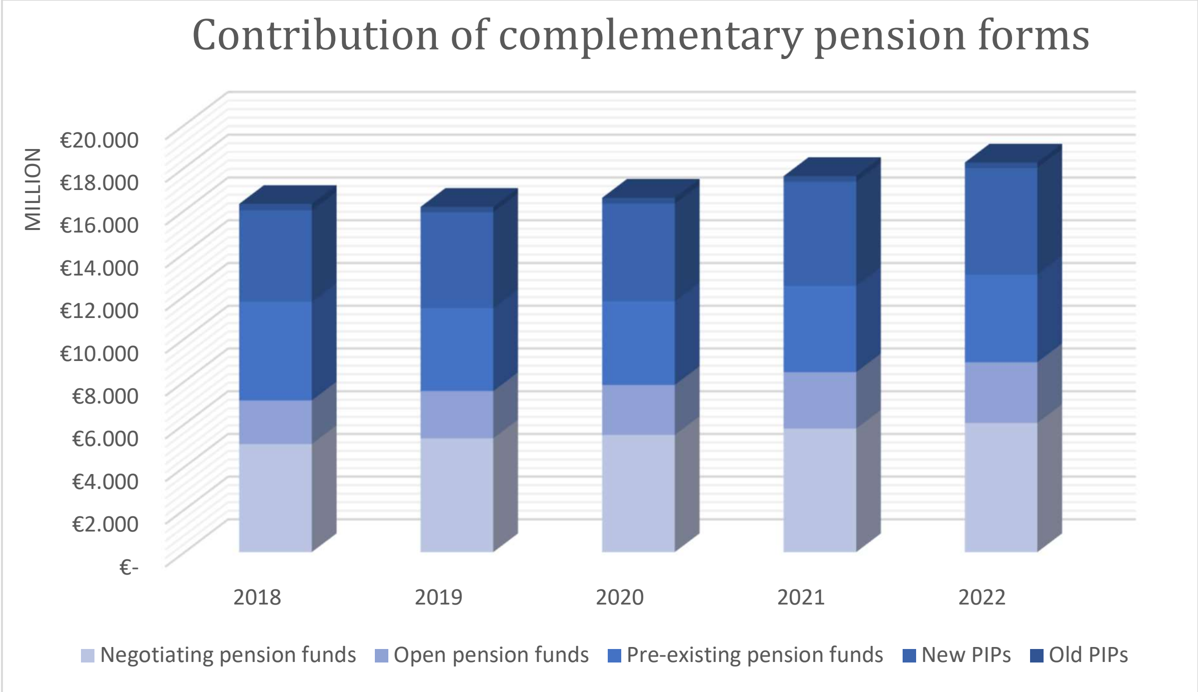
Including the old PIPs, Figure 1.4 depicts (in millions of euros) the contributions paid by members into their respective pension schemes from 2018 to 2022, showing a positive trend from a total of 16.3 billion in the first year to 18.327 billion in 2022, registering an increase of approximately 12%.

In detail, the contribution flows of complementary schemes recorded the following results in the last five years (Figure 1.4):

- Negotiated funds with 60.51 billion compared to 50.62 in the first year (+19.54%);
- Open funds registered an incoming contribution flow of 28.46 billion, achieving the best percentage increase since 2018 of 39%;
- New PIPs with an amount of 49.85 billion in 2022 (+16.77% compared to 2018);
- Old PIPs saw a decrease from 30 billion to 25 billion received in 2022;
- Pre-existing funds experienced a decline between the first and second year of 16%, followed by a slight continuous growth up to 4.1 billion collected in 2022.

Broadly speaking, considering only the members who made contributions during 2022, the average contribution per member was 2.770 euros.

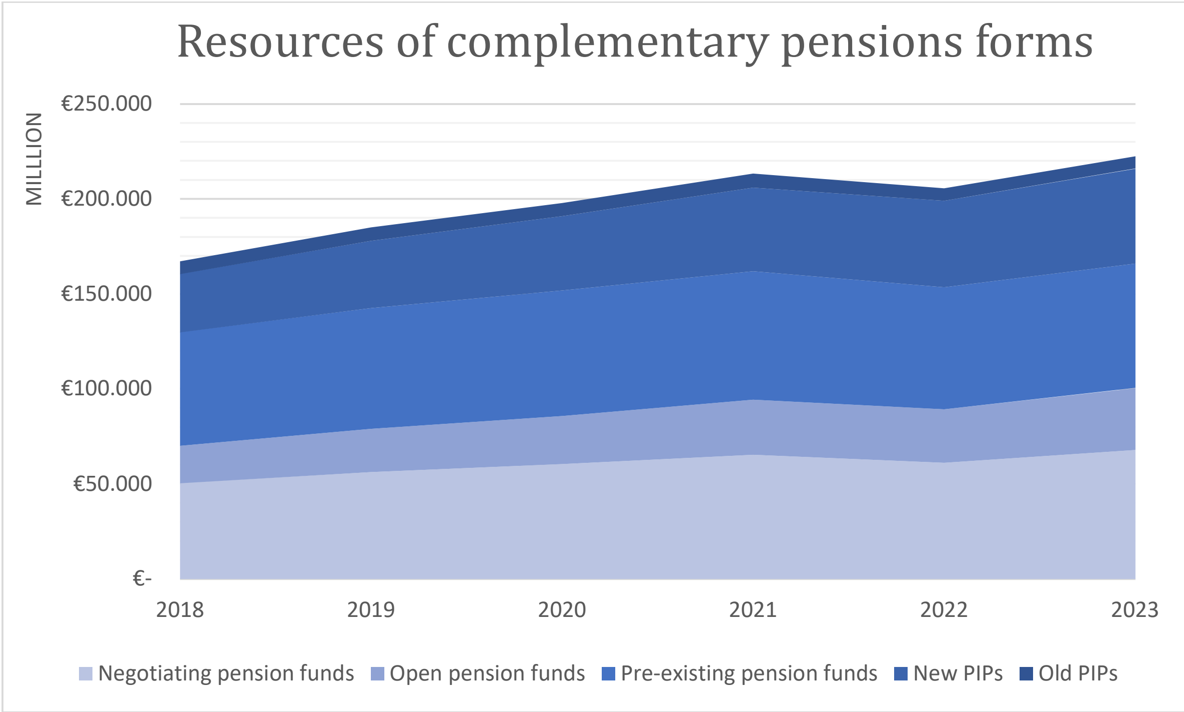
Figure 1.4



Source: personal elaboration (from COVIP data)

On the other hand, the resources accumulated by complementary pension forms, as illustrated in Figure 1.5 (in millions of euros), have reached a total of €222.56 billion, registering a growth of 8,2% compared to 2022, that is mainly attributable to the returns on portfolio holdings and, to a lesser degree, to incoming contributions. Specifically, in December 2023 the resources amounted to approximately €67.9 billion for negotiating funds, €32.6 billion for open funds, €49.95 billion and €6.6 billion respectively for new and old PIPs, and €65.5 billion for pre-existing funds.
Figure 1.5 shows a progressive growth, rising from €167.15 billion in 2018 to €213.2 billion in 2021, followed by a slight decrease of 3.6% in 2022, caused by portfolio losses due to negative market performance.

Figure 1.5



Source: personal elaboration (from COVIP data)

The final point to examine is the returns, one of the most intriguing aspects in the field of complementary pensions. In 2023, the Italian complementary pension system demonstrated robust health, as evidenced by COVIP data, which shows positive results for all pension forms, particularly those with higher equity exposure. As matter of fact, equity lines of open funds, negotiating funds, and new PIPs achieved the highest returns in the past year, around 10-11% (Table 1.1), afterward, balanced lines also performed well with an average return of 7.5%.

The lowest returns were recorded for bond and guaranteed lines, with the only exception represented by the mixed line of negotiated funds, which generated the 7.2%. For a more comprehensive analysis, Figure 1.6 includes long-term return data, more suitable for evaluating the performance of pension products.

Equity lines remain the highest performing, with returns of 4.2-4.5% over the last 10 years and approximately 5-6% over the last 5 years across all pension forms; balanced lines consistently follow, with average returns between 1.9% and 3% over the last 10 and 5 years. The remaining two lines show very low average returns, nearly zero or slightly above (between 0.2% and 1.8%), and in some cases, even negative.

Table 1.1. "Average annual returns"

	2022-2023 (1 year)	2020-2023 (3 years)	2018-2023 (5 years)	2013-2023 (10 years)
Negotiating pension funds				
Guaranteed line	4,2	-0,6	0,2	0,8
Bond line	2,8	-0,3	0,1	0,2
Mixed line	7,2	0,4	2,4	2,6
Balanced line	6,9	0,3	2,5	2,7
Equity line	10,0	2,1	4,7	4,2
TOTAL	6,7	0,3	2,2	2,4
Open pension funds				
Guaranteed line	4,6	-1,0	0,2	0,5
Bond line	4,4	-2,9	-0,6	0,5
Mixed line	4,4	-0,9	0,5	1,2
Balanced line	8,3	0,8	3,0	2,9
Equity line	11,3	3,8	5,9	4,5
TOTAL	7,9	0,8	2,7	2,5
New PIP				
Guaranteed line	1,3	1,2	1,3	1,8
Bond line	2,9	-1,1	-0,1	0,2
Balanced line	7,1	0,3	2,2	1,9
Equity line	11,4	4,8	6,1	4,2
TOTAL	8,3	2,1	3,6	2,7

Source: personal elaboration (from COVIP data).

1.5 European pension systems

After delving into the Italian pension system, it is necessary to broaden the analysis to the entire European landscape, where each nation, based on its history, social policies, and labour market structure, has developed its own pension system with both similarities and differences compared to other countries.

To provide a general picture of the European area through some data, the "Pension Markets in Focus 2023"[1] report by the OECD[2] (Organization for Economic Co-operation and Development) indicates that by the end of 2022, assets in pension plans amounted to USD 51 trillion, marking a decrease of USD 8 trillion compared to 2021, which translates to a significant 14% drop in OECD countries due to global pension market losses. Specifically, the European countries with the highest pension assets in 2022 are the United Kingdom, Switzerland, and the Netherlands, with $2.6 trillion, $1.3 trillion, and $1.5 trillion, respectively (see Table 1.1).

This overall decline is illustrated by another specific metric: the assets in pension plans expressed as a percentage of Gross Domestic Product (GDP). This measure compares a country's domestic economy with its pension assets, offering a better assessment of their value. For instance, in Denmark, pension assets in 2022 amounted to USD 781 billion, that might seem low compared to other countries, while it is almost twice Denmark's GDP, indicating a strong performance. This ratio decreased in all OECD countries between 2021 and 2022, partly due to GDP growth in most countries. Nevertheless, European nations with the highest pension assets-to-GDP ratio at the end of 2022 are Denmark (192.3%), Iceland (186.1%), Switzerland (152.4%), and the Netherlands (150.7%), all Northern and Central European countries which have pension plans from long ago, showcasing their advancement in this area compared to other EU members. At the bottom of this ranking, significant countries like Spain, Italy, and France have ratios around 10-11%, with Greece at last position which presents a ratio lower than 1%: this indicates underdeveloped pension systems in these regions, struggling with sustainability due to low participation of the working-age population and an increasing number of retirees.

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[1] OECD, "Pension Markets in Focus 2023", OECD Publishing, Paris, 2023.
[2] OECD is an international organization of economic studies for 38 member countries to encourage economic progress, world trade and better policies to reach the wealth, the equality and the prosperity for all.

Table 1.7. “Assets earmarked for retirement in OECD countries at the end of 2022”

	Pension plans	
	as a percentage of GDP	USD million
Australia	131.4	2 089 041
Austria	6.9	32 971
Belgium	39.6	223 702
Canada	152.8	3 126 435
Chile	57.7	174 792
Colombia	24.1	73 282
Costa Rica	36.1	26 684
Czechia	8.8	26 527
Denmark	192.3	780 913
Estonia	13.0	5 032
Finland	59.0	169 119
France	10.9	306 276
Germany	6.5	267 553
Greece	0.9	193 4
Hungary	4.2	7 468
Iceland	186.1	49 346
Ireland	26.7	144 433
Israel	61.3	307 330
Italy	11.3	230 365
Japan	30.2	1 266 230
Korea	32.1	547 214
Latvia	16.3	6 794
Lithuania	8.7	6 231
Luxembourg	2.0	1 688
Mexico	20.5	300 755
Netherlands	150.7	1 541 194
New Zealand	32.0	78 423
Norway	7.9	44 413
Poland	6.7	47 153
Portugal	17.1	43 557
Slovak Republic	13.7	16 077
Slovenia	7.0	4 232
Spain	11.8	166 496
Sweden	97.9	561 147
Switzerland	152.4	1 272 739
Türkiye	2.9	22 915
United Kingdom	85.2	2 561 509
United States	137.5	35 016 907
Total OECD	**86.7**	**51 548 877**

Source: OECD, “Pension at a Glance 2023”, 2023.

Another OECD study, “Pensions at a Glance 2023”[3] reveals that some European countries mandate a minimum contribution rate for mandatory or quasi-mandatory pension plans, which can be paid by the employee, the employer or both, for example Iceland has the highest mandatory contribution rate at 15% of salary, split between the employer (11.5%) and the employee (3.5%). Other countries with relatively high contribution rates include Denmark and Switzerland, both exceeding 10% of salary, and the United Kingdom and Sweden, each around 8%.

[3] OECD, “Pensions at a Glance 2023: OECD and G20 indicators”, OECD Publishing, Paris, 2023.

Conversely, Turkey and Poland have lower rates at 4%, while Norway has the lowest at 2% paid by the employer. Sometimes contribution rates can vary by job type (like in Greece) or by income (as in Sweden) and can be supplemented by voluntary contributions from either the employer or the employee (as in Poland).
An additional interesting fact is the annual average contribution per member relative to the average annual wages, which varies significantly across countries: in 2022, Iceland had the highest rate at 15.5%, followed by Switzerland (12.3%) and Denmark (12%), where both the participation rates in pension plans and the mandatory contribution rates are relatively high; on the other hand, countries with the lowest averages include Germany (2.2%), Poland (2.1%), and Belgium (2%).

Regarding asset allocation in 2022, the two main asset classes for pension investments in Europe were bonds and equities, that constituted over half of the portfolio investments in most countries, with a general preference for bonds, for instance, in Poland, Belgium, and Norway, the combination of bonds and equities represented more than 90% of pension portfolio investments. Another significant asset class was cash and deposits, with a substantial portion of pension assets in certain European countries, such as the Czech Republic and the Slovak Republic, holding 13.7% and 10.7% respectively.
At the last stage loans, real estate, private investment funds, insurance contracts and other typologies of investments collected a small percentage of pension plan assets in 2022, except for some countries like Switzerland where real estate composed for the 23,6% the portfolios of pension providers.

After presenting an initial overview of the European pension systems with the key data from 2022, we will now examine the specific systems in various regions across Europe. European pension systems are a crucial element of the welfare state, providing financial security to citizens in a region characterized by significant economic and demographic diversity. Each country in Europe adopts a unique model or a combination of models to deliver pension benefits, reflecting their specific historical, economic, and social contexts. In general, pension systems are divided into two types: the “pay-as-you-go” system and the capitalization system. The first, applied in the majority of the public pension systems in Europe, collects the contributions of workers and employers to finance the retirement benefits in the same period and, depending on the method of calculation of the benefits, it can be wage-based (calculated as a percentage of the final wage or of the average of wages

received during the working life) or contribution-based (calculated on the basis of the contributions collected during the working life). In the capitalization system the contributions are collected and invested in financial markets until retirement when the total amount obtained is redistributed to the pensioner, so there isn't a direct distribution of resources from workers to retirees but an accumulation of reserves. Some examples of the "pay-as-you-go" system can be found in France, Spain, Germany and Sweden, while the capitalization system is mainly present in United Kingdom.

Northern Europe enjoys efficient and well-developed pension systems, among the best in the continent, typically divided into multiple tiers combining public pensions, occupational pensions, and voluntary private pension plans. These systems are often based on the principle of citizenship, providing a universal minimum benefit after a certain number of years of residence in the country. In Denmark, for instance, the first pillar is the mandatory state pension, "Folkepension," a non-contributory benefit provided by the government to citizens meeting specific requirements such as age, work situation, and years of residency. Alongside this pillar, there are several pension schemes based on employment status: the company pension, funded by both employee and employer contributions; the occupational pension scheme from collective agreements, which is widely prevalent in the country; and the pension scheme for public employees. The last level is represented by the voluntary, individual private pension, independent of the employer.

Another example is Sweden, a benchmark for all "pay-as-you-go" systems. Its pension system, similar to the Danish one, is composed of three levels: the first is the public pension system based on the "pay-as-you-go" principle, where pension benefits are calculated based on contributions with a rate of 18.5%; the second level is the occupational pension, which stems from collective agreements; and the third level is the voluntary private pension, encouraged by state incentives.

The pension system in the United Kingdom, a northern Anglo-Saxon country, is structured on three pillars and characterized by a mix of a capitalization system (public or private) and a "pay-as-you-go" public pension system. The first pillar is composed by the public pension system and provides a basic mandatory pension based on age and contribution criteria.

The second pillar consists of occupational pension schemes, voluntarily set up by employers who often contribute to them. These schemes are the most prevalent in the UK and are divided into defined benefit plans, where the pension depends on the salary level at retirement, and defined contribution plans, which operate on a capitalization model where the final benefit depends on the contributions and investment performance. The third pillar includes personal pension schemes, which are individual defined contribution plans also following the capitalization model.

Finally, Germany maintains a multi-pillar pension system, one of the first to be centralized under state management, resulting from a series of reforms and reductions from the generous old welfare system. The first pillar is public and operates on a "pay-as-you-go" principle, with contributions that account for 80% of the total amount allocated to the pension system and with a contribution rate of 18.6% of gross income, equally divided between the employee and employer. The remaining two pillars comprise in order the occupational pension schemes and the voluntary private pension arrangements. These supplementary pensions are voluntary and heavily funded and incentivized by the government through tax deferral and tax deductions. They are intended to compensate the gap created by the progressively falling generosity of the public pension system due to the pressures of population aging, in particular private pension schemes (like “Reister pensions”).

CHAPTER 2

ESG and SRI: a focus on pension funds

2.1 Sustainable finance and ESG factors

The phenomenon of climate change is occurring more frequently, causing widespread damage around the world and seriously endangering the global economy and financial system. The growing awareness of environmental issues, such as the exploitation of natural resources and pollution, as well as social and economic problems affecting our planet, has spurred numerous institutional initiatives in recent years aimed at addressing these issues by limiting or eliminating their negative consequences altogether. Measures that have incorporated the environmental element into economic processes have had a significant impact, particularly on the financial sector, influenced by regulations that have led to the formation of widely used terms like sustainable finance and sustainable and responsible investments.

The term "sustainable finance" refers to the branch of finance that integrates the so-called ESG (environmental, social, and governance) factors into the investment and financing process, pursuing not only the classic economic objectives but also the realization of sustainable projects that have a positive effect on environmental health, social well-being, and economic stability in the long term. Sustainable finance is, therefore, the implementation of the idea of sustainable development in financial activity. This concept involves a development model that can meet the needs of the current generation without hindering the ability of future generations to meet their own needs. The application of this ultimately leads to the selection of sustainable and responsible investments (SRI), that are long-term financial strategies that evaluate a company or project according to ethical, environmental, social, and good governance criteria to create value.

Sustainable investments encompass a wide range of options, and each one can receive a specific indicator known as "ESG rating" based on its characteristics.

These ratings, assigned by specialized agencies, provide an overall assessment of the environmental, social, and governance sustainability of companies, institutions, states, and financial instruments.

ESG ratings are derived from in-depth analyses based on financial data and sustainability criteria published by companies and other sources. Despite the abundance of directives on sustainable investments, there is a lack of a shared set of international standards for sustainability assessment, thus leaving considerable freedom in the criteria used to define an economic activity as sustainable.

Specifically, an ESG investment strategy is a conscious and sustainable approach that focuses on financing companies or projects with high scores in environmental and social responsibility. This involves allocating capital towards initiatives that integrate ESG factors, which are beneficial for the planet, supporting companies committed to fighting climate change, human rights, sustainable development, and ecological transition. The acronym ESG indicates the three key dimensions underlying sustainable finance:

1. The environmental dimension. This dimension assesses the level of attention and respect towards nature, in other words environmental commitment towards biodiversity, climate, and water availability. The factors to consider, whit an impact on climate change and biodiversity, include greenhouse gas emissions released into the atmosphere, chemicals used in production processes, waste generated and its disposal or recycling, the use of natural resources and energy sources. Regarding water, being an essential but limited resource, it is important to determine how it is used and in what quantities, given the current infrastructures and technological innovations that allow for resource exploitation while avoiding unnecessary waste.
2. The social dimension. This dimension includes the protection of human rights, issues of inclusion and inequality, the development of human capital, health and safety. In the corporate context, it examines relationships with customers, employees, suppliers, and the local community. The focus of these analyses is on elements such as non-discrimination, freedom of employment, working conditions, safeguard of the local population, combating forced and child labour, and practices that involve updating and monitoring employees' work rhythms.

The promotion of human capital development can be a focal point for companies in terms of employee professional growth and company progress.

3. The governance dimension. Governance criteria focus on a company's leadership and include the independence and compensation of managers, ethnic and cultural diversity within the leadership group, and corruption within the organization.
   The aspects that a sustainable company should avoid are conflicts of interest in the selection of the members of the board of directors, the use of political contributions and the engagement in illegal practices.

The consideration of ESG factors certainly produces advantages for investors and financiers, as it allows them to seize opportunities and reduce or eliminate risks that are not always evident in traditional financial analysis. For financial institutions, these factors can play an important role in promoting equitable development and contrasting climate change and other global issues. The primary responsibility for tackling these problems is attributable to governments, who have the tools to facilitate the transition toward a sustainable economic model. This can be achieved, for example, through the introduction of incentives for green investments, the creation of systems to price greenhouse gas emissions, and other activities to limit actions that are most harmful to the environment.

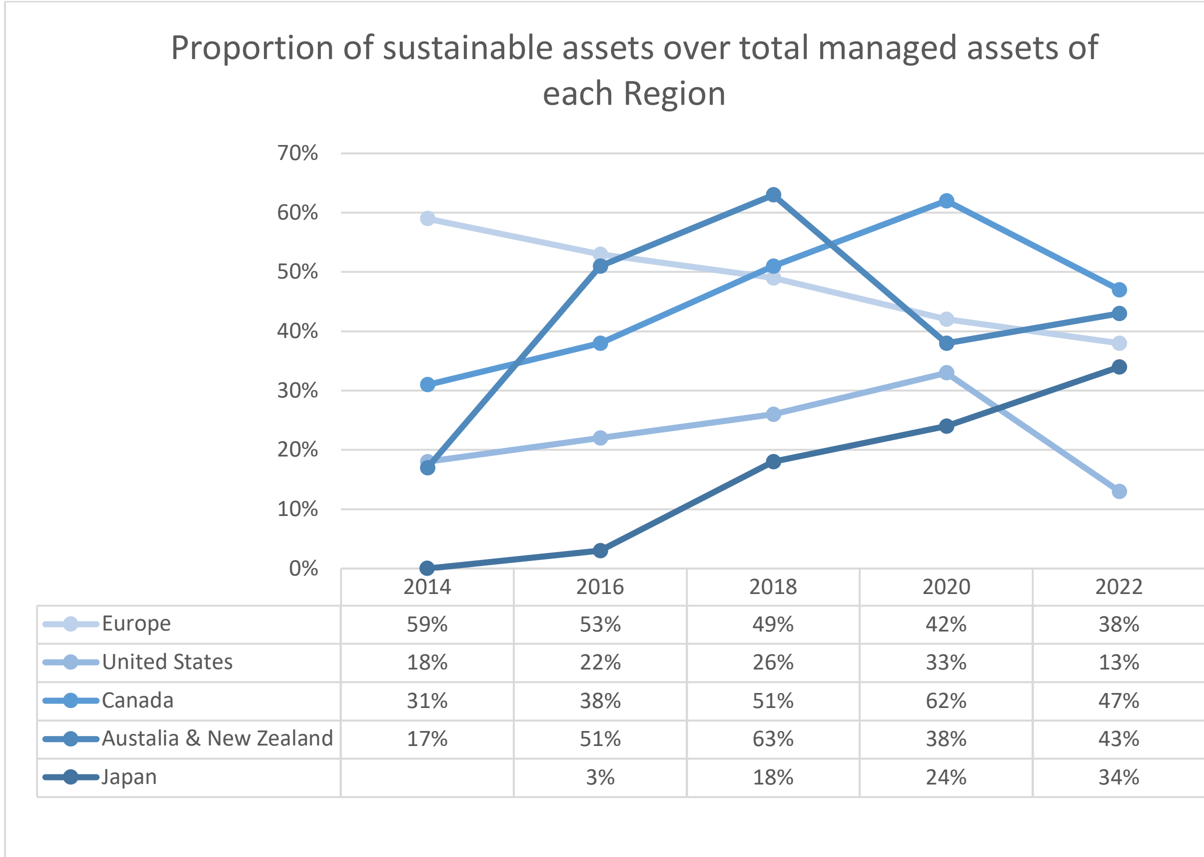
In recent years, the sustainable finance market has experienced a significant growth at global level, in Europe and in Italy. There has been an increase in both the funds managed with sustainable and responsible investment strategies and the number of operators integrating ESG criteria into their investment strategies and decisions, and consequently, also in the amount of ESG assets under management. Based on the data collected by the Global Sustainable Investment Alliance (GSIA)[4] in the report "Global sustainable investment review 2022"[5], the amount invested globally in sustainable assets in 2022 was of $30.3 trillion, with just under one-third of this total (the 28%) only in the United States. The non-US markets have registered an increase of the 20% since 2020 of the sustainable assets under management, especially Europe from $12 to $14.1 trillion in 2022.

[4] GSIA is "an international collaboration of membership-based sustainable investment organizations around the world who collaborate to deepen and expand the practice of sustainable, responsible and impact investment through intentional international cooperation", definition from "Global sustainable investment review 2022", members include EUROSIF, JSIF, RIA, UKSIF, VBDO, RIAA and US SIF.

[5] GSIA, "Global sustainable investment review 2022", 2023.

Despite this growth, in Europe the investments in sustainable assets haven't succeeded to reach the same growth of the broader market, in fact from 2014 to 2022 the percentage of sustainable assets relative to the total assets managed consistently decreased by 4-5% every year, dropping from 59% to arrive to just 38% (see Figure 2.1).
This fall could be attributed to stricter regulatory requirements regards disclosures and to a shift toward more conservative reporting and fund labelling policies, in accordance to new laws and regulations introduced by the Sustainable Finance Action Plan.

Figure 2.1



	2014	2016	2018	2020	2022
Europe	59%	53%	49%	42%	38%
United States	18%	22%	26%	33%	13%
Canada	31%	38%	51%	62%	47%
Austalia & New Zealand	17%	51%	63%	38%	43%
Japan		3%	18%	24%	34%

Source: GSIA, "Global sustainable investment review 2022".

Other regions, in contrast to Europe, have shown an opposite trend, with the proportion of sustainable assets increasing relative to the total managed assets: Japan saw significant growth, starting from 0% and reaching 34% in 2022; in Canada and the United States, the share of sustainable assets steadily rose until 2020, followed by a sharp decline in 2022 due to changes in research methodology; Australia and New Zealand also experienced notable growth, which later dropped significantly for the revised methodology.

2.2 SRI and pension funds

In recent times, pension funds have shown a growing interest in sustainable investments and ESG issues. Thanks to their management of significant capital intended to ensure the future pensions of individuals, and consequently to their enormous investment power, these funds have the ability to guarantee not only economic stability but also appropriate environmental, social, and corporate governance conditions in the global economies where their diversified portfolios are exposed. Evidence of the growing importance of ESG within pension fund policies is provided by a report prepared by EIOPA (European Insurance and Occupational Pensions Authority), "2022 IORP Climate Stress Test," whose collected data shows that in 2022 only 5% of the IORPs (Institutions for Occupational Retirement Provision, institutions that manage pension funds in Europe) that participated did not integrate ESG criteria, whereas in 2019, they were almost the half (about 45%).

Pension funds, therefore, assume a central position in the field of sustainable investments. As explained in the previous paragraph, sustainable and responsible investment (SRI) aims to generate value for the investor through medium or long-term strategies that incorporate ESG analysis alongside traditional financial analysis. From this definition, a natural and evident affinity emerges between SRI, which integrates ESG policies, and pension funds, characterized by a common long-term perspective and the same social function pursued. The importance of pension funds in the SRI sector stems from several factors:

1. Medium-long-term investment horizon. Pension funds are inherently medium-long-term investors because they need to protect pension benefits for their members over extended periods. This medium-long-term perspective aligns perfectly with the goals of sustainable and responsible investment (SRI), such as creating durable value and mitigating long-term risks, including those related to climate change.
2. Fiduciary duty. Pension funds have a fiduciary duty to all their members and must therefore act in their best interest. In this context, the integration of ESG factors becomes crucial to fulfilling this duty, especially as the understanding of what constitutes the beneficiaries' best interest deepens.
3. Scale and influence. Since they manage a significant amount of assets, pension funds can considerably influence the companies in which they invest. This

influence can have positive outcomes, such as promoting greater transparency regarding ESG factors, sustainable business practices, and changes toward a better market.

4. Risk management. Sustainable investment strategies supported by ESG integration allow pension funds to identify, analyse, and manage potential risks that may not be detected through traditional financial methods. Additionally, considering ESG risks enables pension funds to make more informed and conscious investment decisions, and to improve the risk-adjusted returns of their portfolios.

In the management of pension funds, the various existing strategies through which sustainable and responsible investment can be implemented are integrated across all asset classes. Each strategy is characterized by different methodologies and objectives, but they are not mutually exclusive and can therefore be adopted simultaneously within the same investment portfolio. The most common and widespread sustainable and responsible strategies are:

- Engagement;
- ESG integration;
- Impact investing;
- Best-in-class;
- Norms-based screening;
- Exclusion or negative screening;
- Sustainability-themed investing.

2.2.1 Engagement

The term "engagement" refers to the relationship or, more precisely, the dialogue between investors and companies, as well as the exercise of voting rights by shareholders. This strategy involves a long-term process characterized by active investor involvement in the practices and policies of the companies in which they invest, accompanied by systematic sustainability analysis. The goal is to positively influence decision-making processes, paying attention on sustainable development, and promote monitoring and changes regarding ESG matters.

Engagement is fundamentally based on direct dialogue between the investor and the company, which can be conducted in various ways:

- Direct communication. Investors meet with company executives to discuss and encourage sustainable practices.
- Shareholder proposals. Investors can submit proposals during shareholder meetings to vote on specific ESG issues.
- Voting at shareholder meetings. Investors exercise their right to vote on corporate resolutions related to ESG practices.
- Collaboration with other investors. Investors can join with other interested parties to increase pressure on companies to adopt better ESG practices.

Within the engagement process, a fundamental requirement is transparency, which must be particularly applied in ESG analysis, in the dialogue between companies and investors, in the exercise of voting rights, in potential divestments and profits achieved, and in any participation in international networks. The ultimate goal is to push companies towards improving their ESG performance, reducing associated risks, and increasing positive impacts on the environment and society, while also striving to ensure long-term returns.

2.2.2 ESG integration

The ESG integration strategy, one of the most widely used SR strategies, involves the explicit inclusion of environmental, social, and governance criteria by asset managers (who manage investments on behalf of a client) in traditional financial analyses and investment decisions, based on appropriate processes and research sources. This strategy focuses on the potential negative or positive influence of ESG issues on companies' economic performance and, consequently, on the risk-return balance of the investment. Additionally, asset managers may systematically produce reports and assessments on the ESG characteristics of potential investments, made available to fund managers. The specific operation is divided into four main phases:

1. ESG Analysis. Initially, investors gather and examine data on how ESG issues are managed.
2. Risk and opportunity assessment. Next, potential risks and opportunities that may not be visible through traditional analyses are identified and weighed.

3. Investment selection. ESG data is integrated into investment decisions to build a sustainable portfolio.
4. Monitoring. Following the investment, companies are regularly monitored to ensure compliance with the expected standards, and the portfolio composition may be adjusted if necessary.

2.2.3 Impact investing

According to the impact investing approach, investments are selected with the aim of generating a positive and measurable impact in social and/or environmental areas, in addition to production of a financial return. This strategy differs from others because the creation of a certain social value takes on a higher level of importance or priority compared to achieving economic return. Some examples of social and environmental issues that impact investing seeks to address include poverty, natural resource conservation, and access to education and renewable energy. This category includes, for example, microfinance activities, social housing, and social enterprises.

The characteristics required to distinguish an impact investing strategy are:

- Intentionality. The investors' goal is to generate a social and/or environmental impact through their investment.
- Measurability. The impacts produced must be measurable through continuous monitoring of social and environmental performance to evaluate the investment's effectiveness and progress.
- Financial return. The investment must provide a minimum financial return or at least ensure the preservation of the initial capital.
- Diversity of sectors. Impact investing can cover various sectors such as renewable energy, healthcare, and agriculture.
- Variety of asset classes. Investments can be made across different asset classes, including venture capital, private equity, fixed income, and cash equivalents.

Thus, impact investing represents an innovative and responsible approach to investment, as it produces a public benefit from a private investment, thereby responding to the growing demand for sustainable and inclusive solutions from investors and stakeholders.

2.2.4 Best-in-class

The "best-in-class" strategy is distinguished by the selective criterion of investing in companies that excel in sustainability practices within their respective sectors based on ESG ratings. Instead of excluding entire potentially problematic industries, this strategy focuses on identifying and supporting companies with the best environmental, social, and governance performance, allowing for broader diversification as a result. The selected companies are those that demonstrate a commitment above the average in implementing sustainable measures, positively contributing to social and environmental well-being. The best-in-class system not only rewards companies that stand out for their responsibility and innovation but also incentivizes other companies to improve their practices to be considered attractive and competitive for investors. There are also two additional types of best-in-class: best-in-universe and best-in-effort. The former involves excluding certain sectors or companies based on ESG criteria from an initially broad investment universe covering various areas; the latter includes in the portfolio only those companies that demonstrate the greatest commitment and progress towards sustainable development. This strategy allows for the construction of portfolios that aim not only for solid financial returns but also to promote sustainable and responsible development in the long term.

2.2.5 Norms-based screening

The norms-based screening method consists in evaluating and selecting investments based on their compliance with international laws and standards related to ESG issues, such as environmental protection, human rights, labour standards, and anti-corruption efforts. These standards are based on international norms established by European or global organizations or institutions, such as United Nations conventions and OECD guidelines. If a company within an investor's portfolio is found to have violated these principles, a more in-depth analysis can lead to its exclusion from the portfolio or the implementation of engagement strategies with the company. Therefore, norms-based screening can be used either independently or in combination with other SR strategies, such as engagement or exclusion. Ultimately, the goal is not only to mitigate the risks associated with non-compliant practices but also to encourage responsible behaviour, ensuring that investments are aligned with globally recognized ethical and regulatory principles.

2.2.6 Exclusion or negative screening

The exclusion or negative screening strategy is a common practice in the world of responsible investing and involves the non-inclusion or removal of certain sectors or companies from the universe of potential investments to be included in a portfolio, in light of the integration of ESG criteria and the respect of ethical principles. This approach is adopted to avoid providing financial support to industries considered morally questionable and operating in controversial sectors, such as the arms industry, tobacco, gambling, alcohol, or nuclear energy. The reasons for exclusion may include improper and unethical behaviours, such as causing environmental damage, violating human and labour rights, or lacking transparency. The main objective of negative screening is to reduce reputational and legal risks for investors associated with various controversial sectors, while at the same time protecting the long-term value of their portfolios. It also aims to promote positive change in corporate behaviour concerning social and environmental issues, moving towards sustainable and responsible development, to meet the criteria for investment inclusion.

2.2.7 Sustainability-themed investing

Sustainability-themed investing is closely linked to the concept of sustainable development and selects investments based on one or more ESG themes. Through this method, investors direct their capital towards sectors and companies that address global challenges and contribute to sustainable and responsible solutions. The themes involved may include renewable energy, climate change, water, sustainable agriculture, green infrastructure, health, and well-being. According to some market participants, this SRI strategy is considered the purest, because the chosen assets directly deal with specific sustainability issues, while in other strategies, ESG criteria and standards are simply applied or integrated into basic portfolios, regardless of the sector or activity. However, this strategy has historically attracted fewer investments in Europe, making it one of the smallest, in spite of its ability to foster a more sustainable economy[6].

[6] EUROSIF, "European SRI Study".

Sustainability-themed investing thus offers the opportunity to:

- Diversify portfolios through a variety of investment areas;
- Create growth opportunities by following expanding sectors and global trends;
- Maintain competitive financial returns;
- Support the transition to a more sustainable and resilient future.

2.3 Pension fund investment process

Italian law allows pension funds to manage their resources by entering into agreements with specialized entities (such as banks, insurance companies, authorized brokerage firms, and savings management companies), and this currently seems to be the practice used by all. Alternatively, they are allowed to invest directly in shares or units of real estate companies or real estate funds, provided that only a portion of the total assets is used.

Therefore, in the management model adopted by pension funds, the implementation of the investment strategy is delegated to contracted third parties, while the responsibility towards the members remains with the fund.

The investment process of pension funds is divided into several phases:

1. Definition of asset allocation and investment strategy. The administrative body of the fund establishes the asset allocation and investment strategy to be adopted, assigning resources to contracted managers and ensuring regulatory compliance. In this crucial phase, the board members are supported by the finance function and, if needed, by financial advisors, who, although not required by law, are commonly used in practice. Financial advisors assist in deciding the investment strategy, the benchmark for the investment compartments, the number of managers to be involved, the predefined combinations of compartments, and the adoption of a life cycle approach.
2. Selection of the manager. The members of the administrative body use the support of an investment advisor to select, through a public tender as required by regulations, one or more managers. The selection is based on both qualitative and quantitative criteria in line with the previously established asset allocation choices.
3. Formalization of the management agreement. After the appropriate evaluations, the administrative body identifies the most suitable entities to manage the

resources and proceeds with signing the management agreement. This contract sets out the operational guidelines for the managers, including details of the management mandate, review procedures, compensation, reporting, and contract duration. All of this is determined based on the fund's asset allocation and the specific expertise of the selected manager.

4. Selection of the custodian bank and signing of the agreement. The pension fund is legally required to appoint a custodian bank for various functions: safekeeping of the fund's resources; execution of the instructions of the fund manager; verification of the compliance of these instructions with investment regulations, the management agreement, and the principles established in the fund's articles of association; examination of the consistency of the net assets for funding the benefits to be provided. In addition, the custodian bank may conduct additional checks, beyond those required by law, including those related to SRI strategies, in line with the contractual agreements of the convention.
5. Financial management and monitoring. The final phase is the commencement of management, where each entity involved begins to perform its tasks. The manager executes the investment allocation with the available resources and prepares a report on their activities; the custodian bank performs its deposit and supervision functions; while the fund's administrative body oversees the manager's activities.

When a pension fund intends to adopt a sustainable and responsible investment strategy, it is integrated into every phase of the fund's investment process, and for this reason, the ESG advisor plays a crucial role. Non-financial rating agencies, with advanced expertise in the ESG field, offer specialized advisory services. ESG advisors support the pension fund in defining responsible investment policies and monitoring management activities, providing managers with independent information and assessments on the sustainability of issuers. While the functions of the ESG advisor can also be performed by the investment advisor or manager, they must have specialized knowledge in responsible investments and ESG analysis. In any case, the pension fund must ensure that the operational structure implemented by the ESG advisor is adequate for the SRI policy it intends to follow. The investment advisor, if involved, may intervene at three key moments: in the development of the SRI strategy, in the selection of the manager, and in the periodic supervision of their activities.

2.4 Adoption of SRI strategies in pension fund

Pension funds that adopt sustainable and responsible strategies in their policies and investment processes choose a path of sustainable development, driven by ethical reasons, aiming to reduce or eliminate harm to the environment and society while promoting a positive impact. Alternatively, they may operate on the assumption that companies or projects that incorporate ESG issues into their business have a higher chance of achieving concrete results, with all other conditions being equal compared to those that do not. Therefore, it is necessary to complement financial analysis with non-financial analysis, conducted by third parties such as ESG advisors, investment advisors, and managers, who support pension funds in implementing sustainable and responsible strategies in their activities. This approach enables funds to avoid investments that could damage their reputation, maintain a balance between their investment objectives and economic returns, and fulfil their fiduciary duties towards their members.

The four operational alternatives that pension funds can implement when deciding to embrace one or more sustainable and responsible strategies are:

- General principles;
- Specialized benchmarks;
- ESG ratings;
- Active ownership.

Initially, however, each pension fund must explicitly outline the fundamental principles and objectives of its investment policy to be followed in its activities in official documents, such as the Statement of Investment Principles, including its ESG policy if applicable, and declaring any sustainable and responsible strategies. The criteria for the investment policy are also detailed in another necessary document, the Resource Management Agreement, which establishes and regulates the pension fund's mandate to the manager, including in relation to the utilized sustainable and responsible strategies. The agreement specifies the scope of the sustainable and responsible management mandate, which can be either open or closed: in the case of an open mandate, the investment principles and strategy are stated in general terms, allowing the manager some autonomy based on their expertise and knowledge; in the case of a closed mandate, the sustainable strategy is

described in detail, and the manager thus has a purely passive role, acting strictly according to the provided instructions.

In conclusion, the pension fund has the option to incorporate more than one sustainable and responsible strategy, combining them with each other, as well as the four previously listed operational methodologies, since, despite their different characteristics, they are not mutually exclusive. Furthermore, the sustainable and responsible investment policy can be extended to every fund compartment, specific assets, or even create dedicated compartments.

2.4.1 General principles

The first methodology is that of general principles, which has two different variants based on the type of mandate between the pension fund and the manager, which can be either closed or open.

In the case of an open mandate, the pension fund fixes the general approach to sustainable and responsible investment, while the manager is responsible for implementing it. It is crucial for the fund to show a clear interpretation of the ESG issues deemed important, explaining the reasons and objectives. On the other hand, the manager translates the general principles into operational practices to achieve the targets set by the fund through their expertise and experience in sustainable and responsible investments. Additionally, the manager must have the means and resources to independently implement the pension fund's SRI strategy, including non-financial analysis, such as an investment model that integrate ESG aspects or a team of specialized analysts. A relevant figure is the ESG advisor, who can play different roles and participate in various stages of the investment process, especially when there are potential conflicts of interest, which may require the intervention of multiple ESG advisors. If the investment advisor lacks the appropriate skills, it is advisable to support the fund with a specialized expert who can assist in defining the principles, selecting, and supervising the manager. Similarly, if the manager does not have an ESG expert analysis or management team, they should turn to an ESG research provider. This provider can offer databases, such as ratings, benchmarks, and profiles, and support the manager in determining the investable universe.

The fund then has the final obligations of verifying, during periodic assessments, whether the manager has adhered to the investment principles in their actions and of informing the members, through periodic communications, about the environmental, social, governance, and ethical aspects considered, in accordance with the policy statement. Finally, concerning the last party involved, the custodian bank, it performs checks that vary significantly based on the type of principle approved by the fund. If the principle is concretely definable in a list, the custodian bank can carry out an ex-post check through a specific agreement with the pension fund included in the custodian's mandate, identifying the data provider and the frequency of updates. If, on the other hand, the principle is more aspirational and general, such as expanding risk management analysis through ESG indicators, a formal control cannot be implemented. In this case, the custodian bank continues its monitoring activities without changes to its duties.

In the case of a closed mandate, the pension fund provides detailed criteria to follow to comply with the chosen SRI strategy. Examples might include the exclusion of controversial sectors, or the selection of opportunities based on ESG aspects to consider in managing investments. The manager thus simply operates by following the guidelines outlined in the agreement and adhering to the pension fund's directives, building the financial portfolio from the investable sustainable and responsible universe. Unlike the open mandate, in this case, the manager does not have the ability to influence the evaluation of the investable universe. The ESG advisor, on the other hand, performs three main functions: compiling a list of ESG aspects useful for analysing different issuers; clarifying the investable universe by specifying the issuers that meet the ESG criteria; monitoring the manager’s activities to ensure that investments align with what has been defined by the fund. To effectively perform these tasks, the ESG advisor has the authority to discuss with the pension fund regarding ESG assessments and the ethical principles contained in the strategic statement, as well as economic and financial decisions. Lastly, the custodian bank verifies that the portfolio decisions made by the manager are aligned with the requirements set by the fund and the ESG advisor, based on the agreement with the pension fund within the mandate.

2.4.2 Specialized benchmarks

The specialized benchmark strategy is characterized by its elementary realization: in this way, the pension fund has clear and functional tools for resource management, designed to measure the performance of portfolios and investment funds based on the ESG criteria selected by the fund and the benchmarks available in the market. Benchmarks come in two types: market benchmarks and customized benchmarks.

Market benchmarks are sustainability indices designed according to various methodologies based on specific ESG aspects. The pension fund that chooses to adopt this strategy selects the most suitable market benchmark for its investment policy and designates it as the reference benchmark for its activities, including it along with general guidelines in the agreement with the manager. The sustainable benchmark can be used for one or more fund segments and applied to one or more asset classes. Real examples of sustainable benchmarks available on the market include MSCI ESG indices, Dow Jones Sustainability indices, ECPI indices, and Vigeo Eiris indices. The manager's role is to purchase the selected benchmarks and conduct activities within the limits set by the pension fund in the mandate, specifying how much and in what manner deviations from the chosen benchmarks are allowed. As for the custodian bank, it maintains its usual role of ensuring that the portfolio composition is coherent with the sustainable benchmark used and with what is specified in the mandate.

On the other hand, customized benchmarks are an alternative when the pension fund does not find a suitable benchmark in the market that fits its vision. In this case, the fund can opt for the custom creation of a sustainable index based on its own considerations and defined specifications. To support this phase, the ESG advisor translates the fund's rules and guidelines into precise ESG criteria, identifying the most suitable components for forming the indicator, and then assigns the task to an index provider for the calculation and creation of the actual benchmark. The manager and the custodian bank, as with market benchmarks, perform their standard functions, except that the agreement with the bank must specify the entity responsible for providing the necessary information on the benchmarks used for its monitoring activities.

2.4.3 ESG rating

The ESG rating is a technique used by pension funds to evaluate companies operating in compliance with certain sustainability and ethical criteria, and to select only those that meet the quantitative ESG threshold decided by the fund through the rating. Initially, the pension fund outlines the strategy it intends to pursue, the ESG criteria, and the quantitative thresholds useful for constructing the investable universe, and finally identifies the most suitable ESG advisor to implement its policy. The advisor assists the fund in translating its ideas and principles into a concrete sustainable and responsible strategy and it is responsible for performing ESG analyses and assigning final ratings to various issuers, thus creating a database with all the necessary information, which is then made available to the manager and the custodian bank. Finally, the manager constructs the investable universe by carefully selecting companies and securities based on the received parameters, while the custodian bank ensures that the portfolio created is aligned with the chosen rating.

2.4.4 Active ownership

Active ownership allows investors to use their influence through voting rights to promote social responsibility practices in the companies they invest in. In pension funds, the general principles of the sustainable policy and ESG criteria are defined to guide active ownership activities. The fund can choose to exercise its rights directly or delegate them to the manager, ensuring that the established policy is strictly followed. The ESG advisor provides support during the planning and implementation phases, suggesting engagement strategies for the portfolio companies. Additionally, the custodian bank guarantees that the fund can exercise its voting rights by providing the necessary documentation for shareholder meetings.

CHAPTER 3

European regulations on sustainability and ESG in pension funds

3.1 Introduction

In recent years the European Union has taken a significant step towards promoting environmental and social sustainability especially by endorsing the United Nations Sustainable Development Goals and the Paris Agreement on climate change. This commitment placed the importance of environmental protection and social well-being at the heart of European policies.

The Sustainable Development Goals (SDGs) are the targets that are established in September 2015 by the member states of the United Nations for the Global Agenda for 2030, to reduce any form of poverty and to face the challenges of climate change. The Paris agreement, on the other hand, is an international treaty subscribed by 195 states as part of COP21 on 12 December 2015 with the following principal goals:

- avoiding the increase of global temperature more than the 2°C respect to the pre-industrial levels;
- reducing by a minimum of 40% the greenhouse gas emissions compared to 1990 levels;
- increasing the share of energy consumption met by renewable sources to at least 32%;
- enhancing energy efficiency by a minimum of 32,5%.

In line with this European view the determination among policymakers to align the actions of both public and private economic players towards sustainable development is in constant increase. The necessity of pursuing economic growth and, at the same time, of meeting sustainability criteria demands a long-term approach that involves careful risk management. These risks encompass environmental factors, such as the impact of human behaviour on the consumption of natural resources and on climate change, social factors, which entail equitable access to the benefits of growth for all segments of society and the

observance of human and social rights, and governance factors, which necessitate the strict adherence to laws by all companies and institutions, avoiding harmful phenomena such as corruption and misappropriation. These risk factors are commonly referred to by the acronym ESG, which stands for Environment, Social, and Governance.

At this stage, the financial system assumes a crucial function, being the primary process for resource and investment allocation. This is particularly true for pension funds, especially from a sustainability perspective. They indeed have significant financial means to invest, setting long-term objectives as their primary focus.

In Italy, for example, according to the data collected by COVIP[7] on supplementary pension system, the members of pension funds are 9,430 million in 2023, with an increase of the 2% compared to the end of 2022, for a total of 214 billion of euro under management respect to the 205 billion of previous year that confirms a trend of progressive growth. Thanks to the size of assets under management and the underlying commonality between pension plans' investment strategies and ESG investment policies, pension funds can play a role of primary importance on the issue of sustainable finance. As matter of fact just as pension funds that look at the medium-long term, the ESG investments are oriented by definition to the same time frame, for the reason why the social and environmental sustainability of investments is evaluable only in relation with the medium-long horizon. In addition, it should be noted that pension funds have a specific social purpose: they work to ensure their members receive adequate pension benefits, whether provided by the public system or the private sector. This mission is recognized and supported by the Constitution itself, which promotes and protects this public function. Therefore, these entities are fully integrated into initiatives aimed at environmental, social, and governance goals. The need to consider a medium-long time frame for both pension institutions' investments and sustainability assessments related to climate, environment, and social stability makes the inclusion of ESG factors in the investment strategies of pension funds a natural choice. These subjects are particularly exposed to risks associated with environmental and/or social factors, making this integration even more essential.

[7] Covip, "La previdenza complementare. Principali dati statistici", June 2023.

For this reason, the prudent long-term investment policy of pension investors must inevitably consider risk assessments of this kind; additionally, it should take into account internationally agreed strategic objectives and the potential influences they can exert on financial markets.

In this context, the adoption of ESG investment strategies is perfectly suited to fulfil the fiduciary duty that pension funds owe to their members. This commitment can be carried out without compromising financial goals, thanks to a combined approach that integrates purely financial objectives with social responsibility. It is crucial to emphasize that this integration process must be proportionate to the size, nature, and complexity of the pension fund's activities, and furthermore, safeguarding the decision-making autonomy of pension investors, whose primary objective is to ensure reliable pension benefits, is essential.

But first and foremost, one crucial aspect that demands analysis within the ESG criteria concerning pension funds is undeniably regulation. Community legislation has undergone significant changes, reflecting the evolution envisioned by the European Union to bring out ESG themes. Consequently, the legal framework in this realm plays a vital role in comprehending the direction the EU intends to pursue and in outlining how economic players must align their behaviour with sustainable development goals. In this direction the European commission has realised a programme of reform to finance economic activities towards the realization of the above-mentioned aims with the canalization of huge amounts of money that come from the capital market. December 2016 saw the creation of a group of experts called High-level Experts Group on Sustainable Finance, HLEG, to favour the transition to a sustainable finance through the definition of some recommendations: this led to the formation of the "Action Plan on Financing Sustainable Growth". This plan was published in March 2018, it contains a structured roadmap of specific actions to put into practice within the related deadlines and affects all subjects of financial system like brokers, managers, and investors. Moreover, the plan underscores the needs to introduce in Europe a defined way of classifying the sustainable economic operations from the point of view of the ESG criteria and the sustainability in general.

In May 2018, the European commission presented the first normative proposals that gave the start to the actualization of the Action Plan on:

1) taxonomy of the eco-sustainable activities;

2) benchmark low-carbon and positive carbon impact;
3) report of the environmental, social and governance sustainability issues by institutional investors.

The regulation on taxonomy was published by European Union in June 2020 and it was created to establish a unified European system to classify the economic activities respect to environmental and sustainable parameters. The others two regulations were published in December 2019. The one on the indexes of benchmark has introduced some specific indexes to select the eco-sustainable investments and activities in line with the new green policies of EU. While the third is focused on ESG disclosure in the financial services sector, it involves some transparency requirements on sustainability of the products and services that are offered to the public.
On the last topic of ESG disclosure there are two fundamental regulatory actions for European states, that are also transposed in the Italian law, that dictate how institutional investors should report on incorporating sustainability factors into their strategies:

1) The EU Directive 2016/2341, commonly known as "IORP II," addresses supplementary pension funds;
2) the EU Directive 2017/828, referred to as "Shareholders Rights II", focuses on defining the rights and responsibilities of shareholders in publicly listed companies.

The Directive IORP II of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs), adopted in Italy through Legislative Decree 147/2018 and effective from February 1, 2019, emphasizes that the integration between social and sustainability themes and the risk and investment management of pension funds is crucial. These actors must declare if they take in consideration ESG criteria in the decision-making process and how they incorporate these criteria in the risk management through a clear and transparent communication, otherwise if they don’t adopt ESG criteria they must provide a motivation for the missed incorporation. The directive Shareholders Rights II (SRD II), transposed in Italy by Legislative Decree 49/2019 in force from June 10, 2019, encourages a long-term approach and institutional investor activism in exercising voting rights associated with their equity participation in invested firms.

It emphasizes the importance of responsible and engaged ownership, fostering sustainable corporate practices and shareholder involvement in decision-making processes. The main goal is to facilitate dialogue between investors and issuers on corporate policies aligned with medium to long-term objectives.

3.2 The Action Plan on financing sustainable growth

The European Union was founded to create an integrated financial environment which promotes the economic growth and protects the interests of investors, and to coordinate the fiscal and monetary policies of the European states to guarantee the coherence and the stability in the euro area. The aim is a unique financial market for all the members states, where barriers among the national financial markets are reduced or eliminated, so that there can be a free circulation of capital, a better efficiency and a fair competition among the financial operators. In addition, the EU must guarantee the financial stability and the protection of the investors, through the supervision and the regulation of the European economy to prevent systematic crises.

After the subscription of Paris agreement on climate and of the Global Agenda for 2030 for the sustainable development of the United Nations, the European Union has adopted with strength of purpose a sustainable approach in the economic and political strategy to reach, in this way, the realisation of the transition towards growth models focused on environmental issues. It's at this point that the "Action Plan on Financing Sustainable Growth" comes into play: it represents the interconnection between the process of development of sustainable finance and the political and economic evolution of EU in favour of our planet and our society. The Action Plan, born in March 2018, had the express objective of enhancing investments in sustainable projects and of encouraging the integration of ESG criteria within the time frame of financial operators. From this moment the European institutions have approved and developed the guidelines provided by the Action plan, giving priority to the clarification of the definitions about sustainable investments and improving the transparency in financial activities and products that incorporate ESG criteria.

The Action plan is essentially a list of crucial points with the relative deadlines for pursuing the following goals:

- directing the flows of capital to sustainable investments;

- managing potential financial risks connected to climate change, environmental degradation, and social inequalities more effectively;
- enhancing transparency and promoting a long-term approach in financial operation.

These three targets gather the ten points that are present in the list of actions declared by European commission for the execution of the Action plan (Table 3.1).

	Table 3.1 "The ten points of the action plan on financing sustainable growth"
1)	Introduce a European "taxonomy" for the sustainable finance, namely a shared system for defining and classifying sustainable economic activities.
2)	Create quality standards and certifications for green bonds, aimed at ensuring market credibility and strengthening investor confidence.
3)	Increase investments towards sustainable infrastructure (for example, transport networks) both in member states and in partner countries.
4)	Amend the MiFID II and IDD Directives and the ESMA guidelines on product suitability assessment, including customer preferences on sustainability among the factors to be considered in advisory services.
5)	Make the methodologies adopted by index providers in the construction of sustainability benchmarks more transparent, particularly harmonizing the low-carbon indices.
6)	Encourage the integration of environmental, social, and governance (ESG) criteria by rating agencies and market research companies.
7)	Introduce sustainability criteria into the definition of fiduciary duty, which obliges institutional investors to act in the best interest of beneficiaries.
8)	Assess the possibility of introducing a reduction in the minimum capital requirements for banks with respect to environmentally sustainable investments (the so-called "green supporting factor"), if the risk profiles are indeed lower.
9)	Improve the quality and transparency of corporate non-financial reporting by aligning current guidelines on climate risks with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures.
10)	Encourage the integration of ESG criteria and the adoption of a long-term approach in the decision-making processes of Boards of Directors.

Source: Forum per la finanza, "L'Unione Europea e la finanza sostenibile Impatti e prospettive per il mercato italiano", 2019.

3.2.1 Directing the flows of capital to sustainable investments

In EU there is an insufficiency of investments turned towards sustainable economic system from the environmental and social profile, also due to the inability of the investors in recognising a sustainable investment correctly, and this can slow down the financing of the projects in favour of the equality and inclusion issues.

The transformation of the European economy to a green and circular one is crucial for the environmental and social impact on our planet, but also for strengthening the competitiveness reducing the costs for resources and increasing the quality and the efficiency of the production processes.

This target includes the first five actions of the ten points established by the Action Plan:

1) "A unified system for the EU for the classification of the sustainable activities". A system or "taxonomy" in the European area to clearly define the activities that can be considered "sustainable". It can be seen as the most important point of the Action plan because it offers detailed information on all sectors and activities on the basis of the realization of ESG aspects to facilitate the selection of the projects and investments towards this new type of economy. The taxonomy is an essential element to orient the flows of capital to the sustainable sector but, given its difficult definition and its very high technical nature, its integration in European law will be gradual to ensure a superior certainty and comprehension of the law.
2) "Creating standards and certification of quality for the sustainable financial products". After the execution of the European taxonomy, the standards and the certifications for the sustainable financial products would preserve the reliability and the confidence in financial markets oriented to sustainability, making the access easier for the investors interested in these products, like green bonds that finance the green projects and activities. While the systems of assignment of the certification and brands can be useful and a fundamental support for retail investors during their decision process in the field of sustainable activities to express their investment preferences respect to environmental, climatic, and social aspects, through the application of instruments as web sites and services of financial planning.

3) “Increasing the investments in sustainable projects”. The use of private capitals for sustainable projects, as the infrastructure, is an indispensable element for the transition towards an economic model more sustainable. Since the expertise on the implementation of projects varies depending on the sectors and areas of the European Union, a greater technical and advisory support would represent. a substantial contribution to the development of more sustainable projects.
4) “Integrating the sustainability in the financial consulting sector”. Investment firms and distributors of insurance products, through advisory activities, can play a guiding role towards sustainability. They are required to assess clients' goals and risk tolerance to offer the most suitable financial products. Therefore, the primary objective is to prioritize client preferences, particularly those related to ESG factors, in order to take them into account during the evaluation of the suitability of financial instruments to recommend.
5) “Elaborating benchmarks of sustainability”. The benchmarks are necessary to provide information useful to fix the prices of financial products and activities. Here there is the need of producing benchmarks for ESG factors with transparent and reliable methodologies to seize the targets of sustainability.

3.2.2 Integrating sustainability in risk management

The second goal of the Action plan is taking into account the environmental and social objectives before making every financial decision, in this way the financial impact of the environmental and social risks would be reduced for the economic actors. For instance, environmental risks such as the rising occurrence of natural catastrophes in recent years could produce a potential escalation in costs for insurance companies or could cause a lower profitability for firms that makes banks more exposed to the losses. Similarly, the risks connected to social factors, like the inadequate work conditions and the inequalities, could lead to financial losses for companies that disregard international laws, since this gives life to juridical complications and image damages.

For this point there are three actions of the plan:

1) “Promoting the inclusion of the sustainability in the rating companies and in the market research”. Market research providers have increased their commitment in assessing the environmental, social, and governance performance of companies,

and their ability to manage risks related to sustainability. However, the methodology employed in such evaluations must be transparent and clear to ensure a sustainable allocation of capital. On the other hand, credit rating agencies provide an evaluation of the creditworthiness of companies, but there is still a need for a greater understanding of how these agencies take sustainability factors into account in their operations.

In this case the European Commission will have the role of verifying and guaranteeing that rating agencies incorporate the sustainability in their activities.

2) "Introducing the criteria of sustainability in the trusty duty for the institutional investors". It's necessary that, during the decisional process of investments, institutional investors systematically take into account the factors and risks related to sustainability, making every choice and action for the superior interest of the beneficiaries. This is the concept of "Trusty duty".
3) "Integrating the sustainability in the prudential requirements of banks and insurance companies". Banks and insurance companies are an important pool of funds to invest, for this reason they could give a serious push towards an economy more sustainable. So, there is the need of improving the integration of climate risks and of others environmental factors into prudential regulation avoiding any compromise to the credibility and effectiveness of the current prudential framework of EU and its nature founded on risks. The final point is to achieve capital requirements that reflect the risk of sustainable operations carried out by banks and insurance companies adequately.

3.2.3 Enhancing transparency and promoting a long-term vision

The transparency in the activities of financial market is crucial, in particular on environmental and social issues, to evaluate the capacity to create value on a long-term vision and the risk management connected to the sustainability of firms.

Transparency on sustainability not only provides precise information to the actors of the market, but also encourages firms towards sustainability and long-term approach.

Moreover, the use of innovative technologies allows private investors, through a superior transparency and clearness, to compare the performances of companies in terms of ESG criteria and to take their decisions with a well-defined information panel.

The long-term approach and the transparency are with no doubt associated: this highlights the necessity of orienting the investments to ESG goals in a long-term horizon, to reduce the pressure of immediate returns.

The last two voices of the Action plan are:

1) "Improving the quality of the communication and of the no-financial reporting of companies". To ensure a sustainable future, it is essential for financial institutions to transparently and clearly communicate crucial information regarding environmental, social, and governance aspects and risks. This will enable investors to assess and select the best long-term investment opportunities with all the necessary information at their disposal. It is as well crucial to strike a balance in the mode of information disclosure, which should be flexible but, at the same time, standardized. Finally, the European Union has the task of promulgating rules on accounting principles related to financial instruments to encourage sustainable long-term investments.
2) "Encouraging the integration of ESG criteria e the long-term approach in the decision processes of the boards of directors". Corporate governance can provide a significant contribution to a more sustainable economy by enabling companies to develop new technologies, strengthen entrepreneurial models, and improve performance by integrating ESG criteria into their policies. On the other hand, undue short-term pressures from the markets can hinder the extension of the time horizon in the decision-making process: it appears that corporate executives have become too focused on short-term financial performance, neglecting opportunities related to long-term environmental and social sustainability. On this issue, the European Commission will need to intervene to mitigate the pressure exercised by financial markets on companies.[8]

[8] The targets of Action Plan from "Action Plan: Financing Sustainable Growth" of European Commission, Brussels 2018. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0097

3.3 Taxonomy of the eco-sustainable activities

The regulation EU 2020/852 on "taxonomy", which has introduced in the European regulatory system the taxonomy of economic activities eco-friendly, is one of the three regulations, listed in the first paragraph of this chapter, that lead off the implementation of the Action plan. The regulation, published in June 2020 in the Official Journal of European Union, provides a unified system at European level of classification of the activities that are considered sustainable respect to the achievement of the environmental goals of EU and to some social clauses.

This system is conceived to increasing the transparency of market and to guide private investors and firms during their decision processes with a view to an economic growth without negative impact on environment, climate, and society. The general target is therefore intensifying the volumes of investments in sustainable projects giving specific instructions for:

- investors, to understand the environmental impact of their investments or possible investments and to introduce the ESG criteria in their investment policies;
- firms, to define their policies and operations according to a superior sustainability, and for a more complete and comparable report to be presented to stakeholders;
- public institution, to enhance the policies in favour of the ecological transition.

This regulation clarifies that an economic activity is considered environmentally sustainable if [9]:

- it's in compliance with technical criteria established in specific articles of the regulation;
- it contributes to at least one of the six environmental targets set out in Article 9;
- it doesn't significantly damage any of the others environmental objectives;
- it is carried out in compliance with minimum social safeguards (for example, those identified in the Declaration of the International Labour Organisation).

[9] "Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088", June 2020, Article 3.

The six environmental targets are defined in the article 9 of the regulation and they are:

1. the mitigation of the climate changes;
2. the adjustment to the climate changes;
3. the sustainable use and the protection of water and of the marine resources;
4. the transaction to a circular economy;
5. the prevention and the reduction of pollution;
6. the protection and the reactivation of the biodiversity and of the ecosystems.

Regarding the transparency of market, that represents one of the objectives of taxonomy regulation, the Article 5 sets off that a financial instrument, which invests in an economic activity defined eco-sustainable by Article 3, must be supported by a communication containing:

- information on the environmental targets, listed in Article 9, to which the economic activity contributes;
- information about the way and the measure in which the investments underlying the financial instrument refer to economic activities described environmentally sustainable by Article 3.

Instead, the article 8 requires that companies obligated to disclose non-financial information according to Directive 2013/34/EU must include in their non-financial statement information regarding the alignment of their activities with the taxonomy. Specifically, they must provide information on:

- the percentage of turnover derived from products or services related to economic activities in line with the taxonomy;
- the percentage of capital expenditure and of operating expenditure related to assets or processes associated with economic activities defined environmentally sustainable by Articles 3 and 9.

Among the requirements of the Article 8, the disclosures of the percentage of capital expenditure and of operating expenditure in line with taxonomy are extremely significant: they are respectively the dynamic indicator for firms' strategical projects and the indicator of the intermediate targets of the plans towards the ecological transition.

These data allow investors to compare and analyse companies and their actions in relation with their predetermined environmental goals in a more transparent and conscious way, so that they can select and undertake the sustainable investments that they judge the best according to their impact on environment, climate, and society.

On the other side companies find the financing for their strategies and projects by issuing sustainable bonds, like green bond, or through the banks, for example with green loan.

In general, a classification for the taxonomy has been created by the TEG (a Technical Expert Group), a group of leading experts nominated by the European Commission in June 2018 for consultations and recommendation on Action plan, based on the economic activities, and not on the type of investible firms, to enable each company to communicate its activities with a positive impact on environment and climate. The selection of these activities is made on the basis of the sectors (for example, agricultural sector, transport sector and manufacturing sector) and on technical-scientific criteria, fixed by the experts of each sector. These criteria can define the qualitative or quantitative requirements that allow to understand the contribute of the activities to at least one of the six environmental targets (in the article 9) and to ensure that activities don't significantly obstruct the realization of the others. The objective of all that is always the same: guaranteeing to investors and companies the greatest number possible of information to take decisions on the investments that respect our planet.

The TEG, during his mandate, has developed recommendations on the mitigation and adjustment of the climate changes, stressing the only first two environmental goals. According to TEG the taxonomy includes for the aim of "mitigation" all the activities, that try to reduce the negative impact of human behaviour on climate through the decrease or suppression of the emissions of gas that increase the greenhouse effect. In this way it has identified all the sectors with the highest levels of emissions of carbon dioxide and those that can decrease the emissions in other sectors; and for each sector all the activities that favour the mitigation based on the technical criteria discussed above. Instead, for the second sphere of taxonomy classification that regards the adjustment's aim there are the activities that are able to enhance the capacity of identifying and contrasting the negative results of the climate change, to avoid present or future damages to environment, economy, and society, and each one is connected to local dimension in which is integrated.

For instance, one type of these activities can be the set of actions that are carried out to increase the capacity of the soil of absorbing and holding the water back to limit the effects of drought.

3.4 Benchmark of sustainability

The second proposal of regulation of the European Commission for the actualization of the Action plan is the regulation EU 2019/2089 on new "benchmarks", which was published in December 2019 in the Official Journal of EU, and it brings some modifications to old regulation EU 2016/1011 on benchmarks. Its aim is that of providing a superior transparency and a clear orientation to let investors select the benchmarks in line with the investment strategies of long term, following a positive environmental and social impact. A climate benchmark represents a reference parameter for investments that chooses and assesses the securities to reach financial and specific targets connected to the reduction of greenhouse gas emissions and to the transition towards a low-carbon economy.

The proposal introduces two new types of benchmarks:

- the EU climate-transition benchmark (Low-Carbon Benchmark). Their underlying activities are chosen or removed on the basis of the objectives of reducing the emissions of greenhouse gas, so that the benchmark portfolio follows the process of decarbonization;
- the EU benchmark aligned with Paris agreement on climate changes. They select the activities that contribute to prevent the increase of global temperature above the 2°C respect to the pre-industrial levels.

These new climate benchmarks can be used by investors for strategies that protect portfolios against climate transition risks and identify investment opportunities related to the energy transition. Moreover, the regulation includes ESG disclosure requirements for all types of benchmarks, in this way index providers have to compose their benchmarks based on a methodology which integrates the ESG factors, and to clarify whether and how benchmarks aim at decreasing the levels of emissions and aligning with Paris agreement.

3.5 Disclosure on sustainability

The last regulation, produced following the realization of Action plan, is the regulation EU 2019/2088 on the "disclosure related on sustainability" in the financial services sector (SFDR – Sustainable Finance Disclosure Regulation), published in the Official Journal of EU in December 2019. It establishes rules to align all the participants of financial sector with the requirements of transparency for the reporting of financial products and services related to:

- the integration of risks of sustainability and their impacts' evaluation on the results of investments;
- how their remuneration policies are coherent with the integration of the risks of sustainability;
- the consideration of the adverse effects of the investment decisions on the factors of sustainability;
- the communication of the information regarding the sustainability of the financial products and services offered.

The regulation imposes requirements related, on one hand, to the object of the disclosure, that can regard the information for the financial products or those referred to the participants of financial market; on the other hand, to the methods of communication of information. All these new information requirements defined by the regulation on sustainability's disclosure must be fulfilled through different types of communication as web sites, pre-contractual notice, and periodical communications.

The financial operators and consultants must communicate information about their policies of incorporation of ESG factors and risks in their products, that are sold in the European markets, and in their decision processes related to the investments. In addition, article 4 highlights how the participants to financial market, if they don't consider the negative effects of their choices on sustainability, must publish through their communication channels a complete motivation about this lacking consideration and, if it's the case, all the information about if and when they intend to consider these negative effects.

The fundamental goal of this regulation is the creation of a common framework of transparent, distinct, and understandable reporting in such a way as, at first, to help investors to distinguish what is sustainable and incorporates ESG criteria, from what that pretends to be; while, later, to facilitate them to compare the different possibilities of investments regarding the ESG factors.

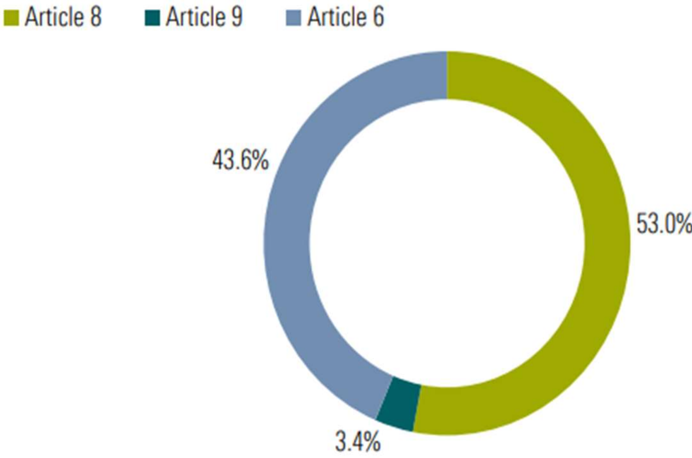
Furthermore, this regulation classifies the investments in three groups based on the degree of relevance of the ESG criteria, each one defined by a different article:

- the products that cannot be identified as sustainable, in their disclosure we will not find the abbreviation "ESG" or the world "sustainability" in any case (Article 6);
- the products that promote social and environmental characteristics, among the majority of the other types of characteristics, known as "light green" (Article 8);
- all the products with the primary aim of sustainable investments, known as "dark green" (Article 9).

The rule dictates specific obligations depending on the groups in which the financial products are classified: the first category needs a clarification of why the investment decisions don't consider the sustainable investments and of the reasons why the risk of sustainability isn't assessed relevant; for the products falling in the other two categories there is the need of an explanation of their sustainable targets, the methods necessary to achieve them, and the way used to define and integrate the risks of sustainability, in addition to their impact on the financial return of the respective instrument.

An overview of the ESG world in Europe is given by a report produced by Morningstar of the third quarter 2023 on the funds available for sale in the EU on the basis of the classification made by Articles 6, 8 and 9, which shows as the "light green" funds cover more than the half of the investments solutions present on the market (53% of the total market share), with the "dark green" funds' share equals to the 3,4% and a total assets collected of 301 billion of euro, while the funds defined by Article 6 cover the 43,6% of the total (see Figure 3.2).

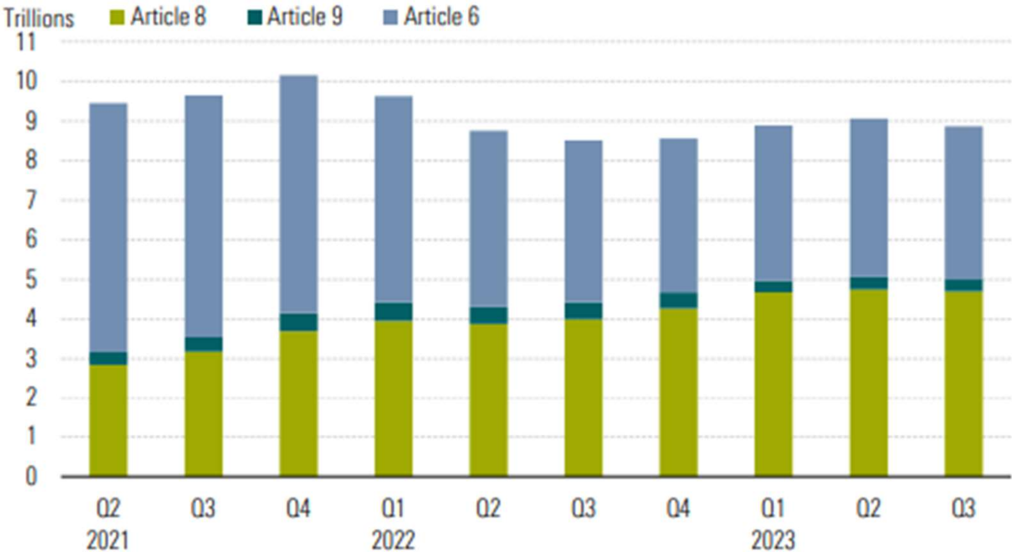
Figure 3.1 “SFDR fund type breakdown (by Assets)”.



Source: Morningstar research, “SFDR Article 8 and Article 9 Funds: Q3 2023 in Review”, October 2023.

The total assets managed by funds of Article 8 and Article 9 at the end of September 2023 are 5 trillion of euro (around 4,7 trillion of euro for “light green” funds), a result almost similar to the 5,1 trillion of the second quarter 2023; on the other hand, the Article 6 fund assets managed to reach 4 trillion of euro in June, instead in September they suffered a slight decrease (around 3,9 trillion of euro).

Figure 3.2 “Quarterly asset breakdown by SFDR classification (EUR Trillion)”.



Source: Morningstar research, “SFDR Article 8 and Article 9 Funds: Q3 2023 in Review”, October 2023.

3.6 IORP II

When we talk about IORP II we refer to "*the directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs)"*, and the "II" is due to the fact that it's the revision of the directive 2003/41/EC, known as IORP I, that has been subjected to substantial amendments several times and for clarity's reasons it became necessary to recast it. The Italian government has adopted IORP II with law 147/2018, published in the Gazzetta Ufficiale in January 2019 and in force by February 2019.

IORP II was released with the primary aim of the creation of a unified and harmonized regulatory framework at community level to develop the European market of the institutions for occupational retirement provision (IORPs) with the guarantee of an elevated degree of protection and security for all members and beneficiaries of pension system; in this sense IORP I was the first legislative step towards this kind of result.

In fact, according to the directive IORP II this kind of internal market is fundamental "*for economic growth and job creation in the Union and for tackling the challenge of an ageing society".* This is achievable thanks to others intermediary objectives that the directive tries to reach through its instructions:

1. A substantial improvement of governance standards and a reinforcement of the risk management procedures of IORPs;
2. A high level of security, transparency, and protection for all the members of pension system;
3. The IORPs' duty of provision of the essential and necessary information for the members by drawing up annual accounts and reports taking into account each pension scheme, also including ESG factors if they are considered in the investments policies;
4. The facilitation of cross-border activities of IORPs through the removal of unnecessary barriers and the clarification of the main procedures;
5. An adequate level of investment freedom for IORPs;
6. The assurance that the competent authorities have the right powers and instruments to guarantee a control and supervisory activity on IORPs.

3.6.1 IORP I

The directive 2003/41/EC (IORP I) was released in European Union in 2003, during a period with a future perspective of a well-integrated and uniform European community under the economic and financial point of view, and after the introduction of Euro in many countries. In this direction IORP I immediately declared the necessity to establish an internal financial services market wherein financial institutions could operate across members States, ensuring a high level of users' protection; a plan of fundamental importance that aimed at fostering economic growth and creating new jobs. A European regulation, at this stage, for institutions managing corporate or professional pension funds was essential, as these entities play a crucial role in promoting integration, efficiency, and liquidity in financial markets.

Given these circumstances, EU reached the enactment of IORP I, that represented the first milestone towards the publication of IORP II in 2016, both in fact aspired to a harmonized regulatory context for pension funds based on a uniform legislation in EU to facilitate the management of "occupational pension schemes" of workers and, more in general, their activities in all member states.

IORP I paved the way for the regulation of this kind of market and to its future revision IORP II, many of its instructions were proposed again in the new directive and others were inspected and modified, without completely distorting or abrogating them. At first, the directive disciplines the condition of access and of execution of the activities conducted by occupational pension institutions (Article 7 and 9), while article 8 guarantees the legal separation between the promoting company and the pension institutions, so that in case of bankruptcy of the promoting firm the interests of participants and beneficiaries are protected. Successively, it introduces information requirements through the supply of annual account and report of pension schemes to all participants and beneficiaries (Article 10 and 11), as well as the provision of a document regarding the principles of investment policy (Article 12), and also the transmission of necessary information of the activities of pension institutions to competent authorities for supervisory purposes (Article 13). The following articles regulate the work of control and supervision, the intervention powers and the obligations of competent authorities (Article 14), and the technical provisions and their funding (Articles 15 and 16).

Finally, the article 18 on investment rules disciplines the investment process of pension institutions that must be in compliance with the "prudent person" principle and other rules listed in the article with qualitative and quantitative limits for the welfare, social security, and no speculative nature of the investment; the article 19 regards the management of investment portfolio and the custody of the activities of pension institutions; instead, article 20 deals with cross-border activities, it settles the way and the duties through which the IORPs located within a determined member State (home member State) can conduct operations in another member State (host member State), furthermore, the roles of the supervisory authorities of both the home and host member States are specified.

For these reasons the directive IORP I was a good starting point for the regulation of the IORPs in EU, but if a revision eventually became necessary, it was clear that IORP I wasn't sufficient to reach the predetermined goals. In the years after 2003 until 2016 there were various changes that led to the processing of a new directive, IORP II, mainly of 3 different natures:

- Demographic changes;
- Financial and economic changes;
- Normative changes.

The last few decades have been characterized by various demographic changes affecting all European countries. In particular, we have currently reached a low birth rate compared to past levels, and at the same time the mortality rate has decreased sharply due to the general increase of the quality of life and advances made in health care. This, therefore, has produced a growth in life expectancy, which is certainly a positive element for humanity, but it hides indirect consequences that affect the activity of pension funds, for which it is crucial to understand whether this figure will undergo further changes in the future or remain constant. Another element of considerable importance in pension fund activity is the heterogeneity of life expectancies among the various countries of the European Union, as differences still persist (Italy, for example, has a higher life expectancy at birth than the average European level), and since IORP II set out to encourage cross-border operation of pension funds it is important to consider it.

In addition to demographic changes, also financial and economic changes have contributed to push towards the revision of IORP I. The primary cause was the financial crisis of 2007/2008, which had a significant impact on European pension funds. The first effect was the reduction of the saving capacity of workers (saving rate) and, as a consequence, the decrease of the capacity of collecting contributions to be allocated to a supplementary pension. In this way the saving rate, calculated as the percentage of the annual income without considering the consumption, became different from a country to another in view of the fact that in each one this rate had not the same fluctuation. This represents a negative implication for the IORPs' cross-border activities given that it creates another factor of heterogeneity among European States.

Moreover, the crisis produced negative effects on the short-term returns of the investments of contributions made by IORPs, while on the long-term side it was necessary to increase the levels of protection of all the contributors, for example ensuring the restitution of the amounts paid through the guaranteed sub-funds.

Lastly, the normative changes, that affected various European countries to battle the rise of the public expenditure and the insufficiency of contributions of active population that threatened the sustainability of pension systems. From here the transition towards a multi-tiered pension system was conducted in Europe to mitigate pension risks through diversified management and funding strategies. As a result, supplementary pensions gained significance alongside mandatory pensions, which alone may not ensure an acceptable standard of living. However, substantial differences persist among EU member states in basic state pension regulations and supplementary pension frameworks. These disparities are evident and require time to bridge, aiming for a cohesive internal market for IORPs.

3.6.2 Normative framework of IORP II

The directive (EU) 2016/2341 was introduced to integrate and improve the regulations established by the directive IORP I and, in particular, to create a same playing field for pension funds in all European member states.

In its foreword the directive IORP II states its goal to promote the mobility of workers between European countries, guaranteeing a good governance and risk management, the transparency, and the provision of information to scheme members.

Moreover, the directive pushes member States to set up pension systems that facilitate the cross-border activities of IORPs and the transfer of cross-border pension schemes, explaining the right procedures and removing barriers. Finally, another relevant aspect that the directive emphasizes is the integration of ESG factors in the investment policies and risk management systems of IORPs, clarifying explicitly that, in case they are considered in the investment decisions, IORPs must communicate all information about how these factors are integrated, for example the pertinence and the relevance for the investments of a scheme. After the different points of the directive's introduction, it's essential the analysis of its normative framework.

The first article declares textually that the directive "lays down rules for the taking-up and pursuit of activities carried out by institutions for occupational retirement provision (IORPs)"; article 2 clarifies that the directive "shall apply to IORPs" and provides a list of institutions that aren't covered by the directive, while article 5 gives the right to member States to decide not to apply the directive to IORPs which have less than 100 members in total. According to article 3, IORPs that manage also pension schemes of compulsory nature, considered as social security schemes, must have the related liabilities and assets separated and ring-fenced, and they cannot be transferred to no compulsory pension schemes and vice versa. Successively, for the occupational retirement provision business of life insurance undertakings, article 4 enunciates all the applicable rules by member States; instead, the article 6 contains all the definitions useful to fully understand the directive, such as "IORPs", "pension scheme" or "member", even if some of them were present also in the directive IORP I.

The activity of IORPs is regulated by article 7, that specifies the operative limits and suggests taking into account "the aim of having an equitable spread of risks and benefits between generations in their activities"; after the directive sets out the legal separation between an IORP and a sponsoring organization, so that in the case of bankruptcy of the sponsoring organization the assets of the IORP are protected (Art. 8). The following articles, 9 and 10, regulate respectively the registration and the authorization of every IORPs, and the operating requirements of IORPs.

The cross-border activities are disciplined by the article 11: it illustrates all the necessary indications and requirements that allow IORPs to conduct this kind of activities into member States' territory, as well as all the dispositions related to the duties and responsibilities of the supervisory authorities of the host and home member State. The last article of this first part is the number 12 on cross-border transfer, that occurs when an IORP transfer to another one all or part of a pension scheme's liabilities, technical provisions, and assets. It contains the indispensable conditions for the authorization of a transfer that must be respected by IORPs, and the procedures and the verifications that the competent authorities of the member States must execute to permit the transfer.

3.6.3 Quantitative requirements

The second title of IORPs II is defined "Quantitative requirements" and includes the articles from the number 13 to 19. IORP II encompasses a range of provisions concerning the regulation of technical provisions (Art. 13), establishing in the initial point that IORPs, as managers of occupational or professional pension schemes, must maintain a sufficient quantity of liabilities to cover the financial commitments made through the pension contracts they have entered into; in the following points it stipulates that the amount of technical provisions should be calculated annually or every three years if the IORP submits a certification or report regarding updates in intermediate years to the members or competent authorities, and that such calculations should be conducted using sound actuarial techniques in adherence to specific principles outlined in the article.

Instead, article 14 on the "funding of technical provisions" requires EPAPs to maintain adequate assets to cover the technical provisions of the pension schemes in their portfolio. It also allows, for a limited period, the possibility of having insufficient assets, providing that a feasible recovery plan is devised within specific timeframes and under certain conditions. If an IORP ensures the coverage of biometric risks or a certain investment return, it must permanently hold additional assets beyond the technical provisions as a guarantee of the commitments made (Art. 15 on "Regulatory own funds").

Article 16 establishes that each IORP must constantly maintain an adequate solvency margin calculated based on the requirements set forth by the directive: an IORP's solvency margin consists of paid-up share capital, statutory and free reserves, profits, or losses (excluding dividends), less any own shares held by the IORP.

At discretion of member States, subordinated loans, cumulative preferential share capital, and securities with no specified maturity may be added to the calculation of the margin, subject to the conditions outlined in the article. Subsequently, the directive defines, in article 17, the so-called "required solvency margin" as the result of two components described in detail in point 2, specifying in successive points the differences in calculating the required margin for various cases that may arise. Meanwhile, article 18 regulates the calculation of the required solvency margin for supplementary insurances.

At last, article 19, the final article in the section on quantitative requirements, sets out the "investment rules", which include imposing that IORPs invest according to the "prudent person" principle while adhering to the following rules:

- Investing in the best interest of members and beneficiaries;
- Investing with the guarantee of safety, quality, liquidity, and profitability of the portfolio;
- Considering the long-term impact of investment choices on ESG factors;
- Investing predominantly on regulated markets, while following prudential standards for the rest;
- Diversifying adequately;
- Investing in derivatives only if they reduce investment risk or enhance portfolio management efficiency;
- Not investing more than 5% of the portfolio in the sponsoring undertaking, and if it belongs to a group, investments shall be less than 10% in undertakings of the same group;
- Not lending money or act as guarantor for third parties.

The final points emphasized in the article clarify that member States may impose stricter investment rules on IORPs if justified from a prudential perspective, and that host member States of an IORP conducting cross-border activities cannot impose limits on investments made to cover cross-border technical provisions.

3.6.4 System of governance

This part of directive IORP II regarding the system of governance is divided in three sections:

1. Section 1 (“General provisions”, from art. 20 to 23);
2. Section 2 (“Key function”, from art. 24 to 27);
3. Section 3 (“Documents concerning governance”, from art. 28 to 30).

In the first section article 20 confers the responsibility to the management or supervisory body of an IORP for the compliance with the laws, regulations, and administrative provisions.

According to article 21, member States shall require all IORPs the “General governance requirements”:

- An efficient governance system, proportionate to the size and the nature of IORPs, with a sound and prudent management of the activities, and a transparent and appropriate organizational structure;
- A system of governance focused on ESG factors connected to investment policy;
- Written policies regarding the risk management, internal audit, and actuarial functions;
- A valid internal control system, which executes also administrative and accounting operations;
- The guarantee of the continuity and regularity of the execution of activities;
- Two people who run the IORPs, or alternatively, one individual in event of a justified evaluation carried out by the competent authorities.

People who effectively run IORPs and those (including external parties) who hold essential functions must respect the “requirements for fit and proper management”, outlined in article 22, when perform their duties; furthermore, the same article assigns to competent authorities of member States the powers and responsibilities to oversee adherence to the aforementioned requirements. After that, article 23 delineates the “remuneration policy” that each IORP must clearly implement, in accordance with several principles expressed in the third paragraph of the article.

This policy is directed towards all individuals who occupy positions of effective management of the entity, as well as other relevant functions, and who engage in activities with a significant impact on the risk profile of the IORP.

At this juncture, the second section opens with article 24 (“General provisions”), concerning “Key functions” that every EPAP must necessarily establish. These include risk-management, actuarial functions and audit: the first two may be performed by a single organizational unit, while audit must be independent.

The following three articles are dedicated to each particular function:

- Article 25. Each IORP has a risk management function, proportionate to its size and nature, aimed at identifying, reporting, and managing individual and aggregated risks related to the pension schemes held within the IORP's portfolio.
- Article 26: It mandates an internal audit function within the IORP, which evaluates the adequacy and effectiveness of internal control procedures and other components of the governance system.
- Article 27. In the event that the IORP guarantees investment returns or covers biometric risks, it must also establish an actuarial function that carries out various activities, including overseeing the calculation of technical provisions, particularly the procedures and tools used for this purpose.

Lastly, the third section on "Documents related to governance," of which the first article (Art. 28) regulates the "Own-risk assessment," imposed for every IORP, to be conducted every three years or immediately after any significant change in the risk profile of the IORP or its pension schemes. It establishes a series of other activities and analyses that must be included, such as evaluating the effectiveness of risk management procedures and conducting qualitative analysis of operative risks.

This section also stipulates that IORPs must prepare "Annual accounts and annual reports" (Art. 29), comprehensive and coherent, concerning the pension schemes they hold in their portfolio, to disclose the financial situation, assets and liabilities of the institution, and significant investments. In conclusion, article 30 asserts the obligation for IORPs to produce, every three years or after any significant change, a public document attesting to the principles of the investment policy: certain parts are mandatory, like methods for risk management and measurement, and in the event of how the policy integrates ESG factors.

3.6.5 ESG references in IORP II

The directive IORP II represents an important step forward in integrating ESG (environmental, social and governance) factors into the investment strategy of European pension funds. This perspective reflects the growing awareness concerning the importance of considering not only financial aspects, but also those related to sustainability and social responsibility in investment decisions. Among directive's provisions those connected to ESG factors have a significant impact on the investment decisions and long-term financial performance of pension funds, and additionally they contribute to protect the rights and the interests of beneficiaries.

In fact, regarding the concept of the "prudent person" principle, which IORPs are required to follow, article 19 of the directive reads out "Member States shall allow IORPs to take into account the potential long-term impact of investment decisions on environmental, social, and governance factors".

In particular, the key points and novelties present in IORP II regarding the integration of ESG elements in pension funds are:

- Disclosure requirements: the directive emphasizes the importance of transparency and communication regarding ESG factors. Pension fund managers must provide clear information about their approaches and policies regarding ESG, enabling beneficiaries to understand how their pension savings are managed.
  This fosters greater confidence in the pension system and allows workers to make informed decisions regarding their financial future.
- Integration of ESG factors: the directive encourages the consideration of environmental, social, and governance impacts, with the goal to promote the integration of these aspects into the overall investment strategy of pension funds. In this way, it not only leans towards greater environmental and social sustainability but also aims to protect the rights of beneficiaries and ensure the financial stability of pension systems in the long term.
- Duty of diligence: IORP II imposes on pension fund managers to conduct adequate due diligence, namely to adopt measures to identify, assess, and manage risks and opportunities related to environmental, social, and governance aspects that can influence the financial performance of investments.

- Long-term investment policy: the directive promotes a long-term perspective in managing pension fund investments. This is in line with the objective of ensuring the safety and sustainability of pensions in the long run, considering the long-term impacts of investments on the financial performance of funds. In this context, ESG factors play a crucial role, as they can influence the resilience and profitability of investments over time, especially in a context of climate change, regulatory evolution, and social changes.

The overall goal is therefore to raise awareness in the economic world, particularly in the realm of pension funds, regarding the issue of environmental, climate, and social sustainability. In this regard, the references related to the topic of ESG expressed by directive (EU) 2016/2341 are multiple and can be found in various articles:

- Article 19 ("Investment rules") gives IORPs the possibility to assess the long-term weights that ESG elements can have in investment decisions;
- Article 21 ("General governance requirements") requires pension funds to establish a governance system enabling sound and prudent activities management, involving a clear organizational structure, and taking into account ESG issues within the entity's investment policies;
- Article 25 ("Risk-management") states that IORPs must organize an internal risk management system, suitable for their size, capable of identifying and mitigating the risks that may arise, including ESG risks associated with the entity's portfolio.
- According to article 28 ("Own-risk assessment"), each IORP must be structured to conduct its own internal risk assessment, which includes, among various analyses, the consideration of emerging or novel risks when investment decisions take into account ESG factors. Among such risks may be those of a social nature, related to climate change, and resource usage;
- Article 30 ("Statement of investment policy principles") demands the triennial drafting of a written document regarding the investment policy adopted by each IORP, containing information regarding the presence of ESG elements in the entity's investments;
- Article 41 ("Information to be given to prospective members") dictates that each IORP must provide potential members with the necessary information regarding, among other things, how ESG factors are incorporated into the investment strategy.

Ultimately, in compliance with European legislation, member states are required to mandate IORPs to explicitly provide current and prospective members with information on whether and how ESG factors are considered during the phases of analysis and decision-making in final investments, as well as how these factors are integrated into their risk management system. Additionally, the IORP II directive does not establish any constraints on the inclusion of ESG factors and, in general, on sustainability-related investment requirements, nor it compels pension funds to allocate capital towards sustainable enterprises. However, it is required to assess whether the companies in which investments are made may present risks related to ESG aspects, and in case of a positive result, to divest the funds or inform members of the pension fund's decision to invest in companies that may jeopardize environmental sustainability and endanger the health of the planet.

3.7 Shareholders Rights II

Directive (EU) 2017/828, known as "Shareholders Rights Directive II" (SRD II), represents a significant regulatory tool in the realm of shareholder rights within the European Union. Adopted in 2017, this directive amends the previous 2007/36/EC and aims, in general, to strengthen corporate governance, improve transparency, and promote shareholders' effectiveness in exercising their rights. Addressing a wide range of issues, from executive remuneration to the transparency of voting policies, the directive seeks to create a harmonized regulatory framework that fosters active shareholder participation in company decisions and encourages the long-term sustainability of businesses. Through a series of provisions and measures aimed at enhancing “long-term shareholder engagement” and improving their ability to influence corporate decisions, the "Shareholders Rights Directive II" aspires to promote a culture of responsible and transparent corporate governance throughout the European Union.

3.7.1 Principal provisions and ESG elements

Within the shareholder base of publicly listed European companies, there are often significant shareholders such as institutional investors and asset managers who, for this reason, can play a key role in their corporate governance, particularly during the phase of defining strategy and short/long-term outcomes.

Nevertheless, over the years, these major shareholders have often shown a low presence and especially a low engagement in the companies they hold in their portfolios, thus hindering the achievement of both financial and non-financial objectives set and causing a possible suboptimal choice of investments. In this regard, the directive encourages institutional investors, such as pension funds, who often hold a significant percentage of shares in companies but do not play an active role in them, to be more involved in the governance of these firms, in particular in the decision-making process of investments, in an effective and sustainable manner.

This concept is clarified in Article 3g "Engagement policy", which requires institutional investors and asset managers to structure and publicly communicate, on an annual basis, an engagement policy that includes how they integrate shareholder engagement into their investment strategy, how they monitor investee companies regarding strategies, financial and non-financial outcomes, risks, social and environmental impact, and how they exercise voting rights. If they fail to meet this obligation, they are required to provide a clear explanation of the reasons.

Among the principal provisions contained in the directive, we find those related to the exercise of shareholder rights (Article 3c, "Facilitation of the exercise of shareholder rights") and the "transmission of information" (Article 3b), which aim to guarantee a more active participation of shareholders of listed companies and with greater information in general meetings, effectively exercising their voting rights.

To achieve this, the directive requires member states to ensure that companies provide shareholders with all necessary information in time before the general meeting in a standardized manner, and conversely, that information from shareholders reaches the companies. Additionally, SRD II promotes the use of modern technologies to facilitate communication between companies and shareholders, including the possibility of voting electronically and remotely. SRD II encourages the consideration of ESG factors in its key provisions through mechanisms that promote greater transparency and accountability in listed companies, which are consistent with the principles of responsible investment.

The points of the directive that focus ESG factors and support their integration are the following:

- Shareholder engagement: SRD II stimulates greater shareholder involvement in corporate activities by requiring institutional investors (such as pension funds and insurance companies) and asset managers to publish their engagement policies. This serves as a lever that can help improve corporate performance towards the achievement of non-financial objectives, which pertain to environmental, social, and governance aspects;
- Voting policies and annual reports: institutional investors are required to publicly disclose their voting policies and to report annually on how these votes have been exercised. This may include how investors have voted on ESG issues during company general meetings, thereby indirectly supporting sustainable business practices;
- Long-term investment strategy: by encouraging a long-term approach in investment and shareholder engagement, the directive aligns the interests of institutional investors with the need for long-term sustainability of companies, advocating for investment strategies that consider environmental, social, and governance impacts as an integral part of the creation of sustainable value;
- Greater transparency and responsibility: the directive requires increased transparency in the remuneration policies of administrators. This transparency can encourage companies to consider the environmental and social impacts of their operations and their governance policies more thoroughly, as this information is now more visible to shareholders and the public.

CHAPTER 4

ESG and sustainable finance in pension funds: an overview in Europe and Italy

4.1 Introduction

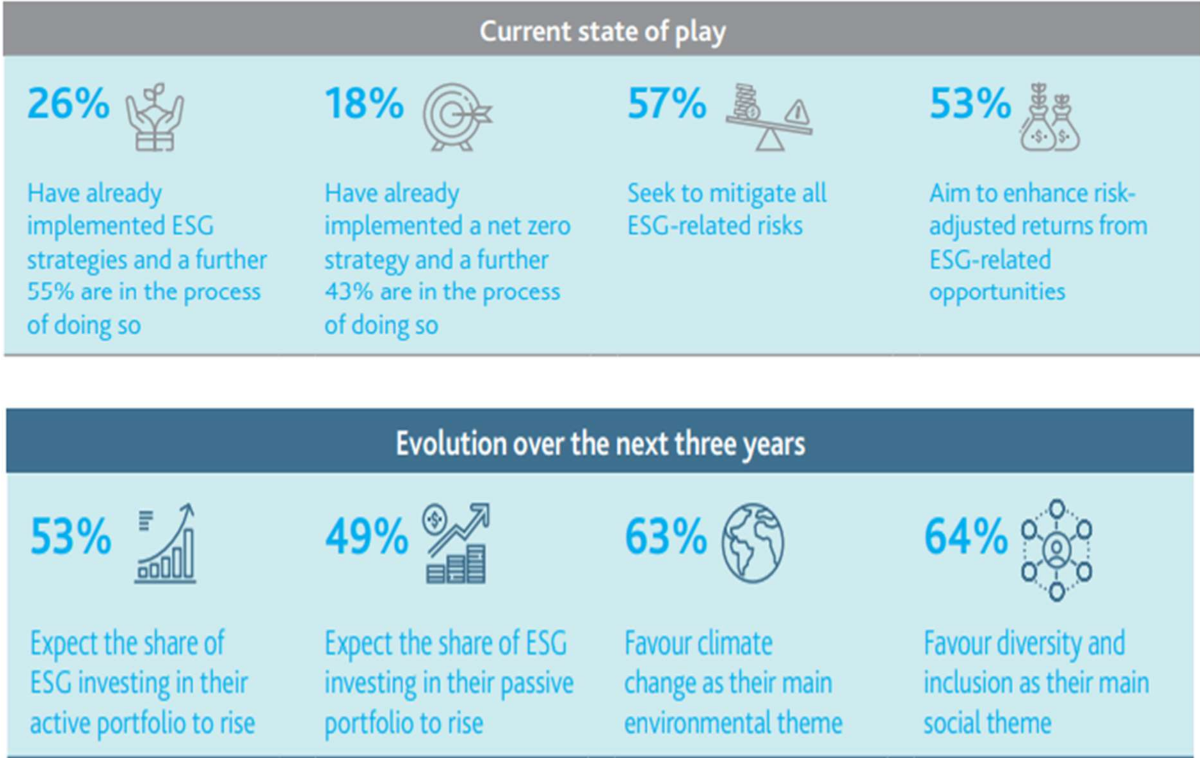
In recent years, the introduction of ESG criteria in investment strategies has sparked a particular attention among financial institutions, both private and public, including pension funds. The latter have recognized the importance of responsible investment approaches that, through their internationally diversified portfolios, not only ensure financial returns but also contribute to a positive impact on society and the environment, as well as to the reduction of financial risks associated with unsustainable practices. The integration of ESG factors into pension funds should be seen as an opportunity to promote sustainability and create long-term value, rather than as an obligation. However, it should be done gradually and after careful discussion among stakeholders to avoid chaotic and ineffective implementation.

In Italy and Europe, the spread of ESG-themed pension funds has been remarkable, driven by the growing awareness that sustainable investments are essential to addressing global challenges such as climate change, social inequality, and poor corporate governance, influencing corporate practices and promoting high standards. The increase in ESG strategies adopted by pension funds reflects a cultural and regulatory shift towards more sustainable finance. This trend not only meets stakeholder expectations but also positions pension funds as pioneers in this area. At the European level, various regulations and directives have encouraged the application of ESG factors in the investment policies of pension funds, promoting greater transparency and accountability. In Italy as well, the regulatory framework has progressively aligned with European directives, thus stimulating the spread of sustainable and responsible investment practices by pension fund managers. Since the 2015 Paris Agreement, ESG investments have generally met investors' return expectations, but recent market volatility has shown that even these strategies are not immune to global economic turbulence.

Despite this, ESG investments have revolutionized traditional models focused solely on financial factors, highlighting the importance of environmental, social, and governance criteria in addressing negative externalities that impact corporate profitability. Regulatory and policy developments in key markets like the United States, China, Europe, and Japan have created fresh momentum for the adoption of ESG, demonstrating that we are in the middle of a major global transition towards greater sustainability.

To provide an initial overview of the world's largest ESG investors that are the pension plans, in particular on their structure and future view in this field, a pension survey was conducted by CREATE-Research in collaboration with the Amundi Investment Institute in 2023, titled "The Next Stage of ESG Evolution in the Pension Landscape"[10]. The survey included the participation of 158 pension plans across Asia, Europe, and North America, with a total of €1.91 trillion in assets under management, of which 67% invest in the private sector and the remaining in the public one.

Figure 4.1. "Survey highlights"



Source: Amundi, CREATE-Research, "The next stage of ESG evolution in the pension landscape".

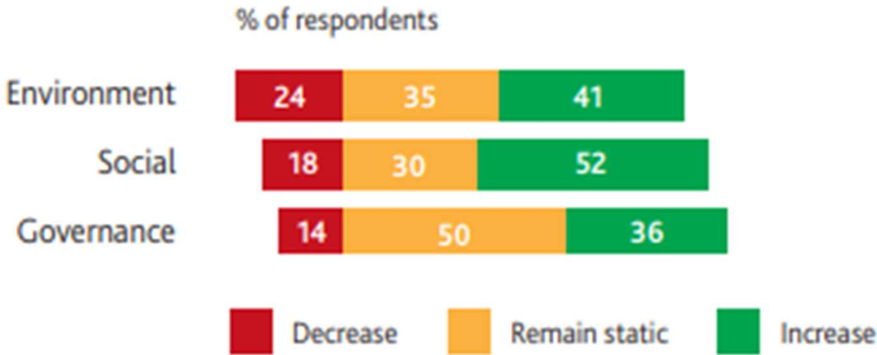
[10] Amundi, CREATE-Research, "The next stage of ESG evolution in the pension landscape", November 2023.

From some survey highlights reported in Figure 4.1 it is evident that almost one third of the survey respondents have already included ESG criteria into their portfolios, and more than half are about to integrate them; about 60% of interviewees have a net zero strategy or are in the process of doing so (respectively 18% and 43%); and half of pension plans hopes to enhance the risk-adjusted returns from ESG-related opportunities.

All these positive results underline a growing closeness to ESG factors among pension plans worldwide, showing a widespread commitment to sustainable investments and an increased sensitivity to these issues. Furthermore, also the projections on the future of the evolution of ESG investing are good, with about the 50% of the respondents that are confident that the share of ESG investments will rise in their active or passive portfolios.

According to the survey, ESG concerns are beginning to appear more frequently in pension plans' top-down strategic asset allocation, much like other well-known risk indicators like GDP, inflation, and interest rates. Of comparable significance the ESG allocations to the three pillars are likely to increase in the next years (figure 4.2), with a high percentage of respondents that believe in positive change especially for the environmental and social aspects, respectively 41% and 52%, while 50% of the pension plans think that the ESG allocation towards the governance pillar will remain static.

Figure 4.2. "How are allocations to the three ESGs pillars likely to change over the next three years?".

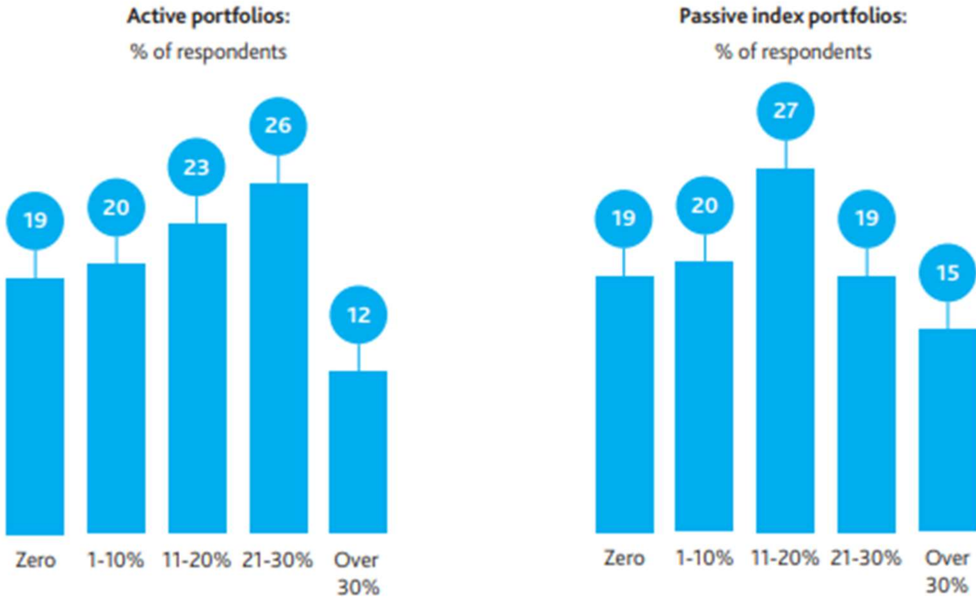


Source: Amundi, CREATE-Research, "The next stage of ESG evolution in the pension landscape".

Evidently, ESG investing is becoming more and more prevalent in the pension context. In fact, the share of ESG investments for the 38% of interviewees covers for over the 20% their active portfolios; on the other hand, for the same statistic in the passive portfolios

the pension plans are the 34%. Lastly, only one out of five has a percentage of ESG investments equal to zero in both types of portfolios (Figure 4.3).

Figure 4.3. "The share of ESG investing in pension plans' portfolios".

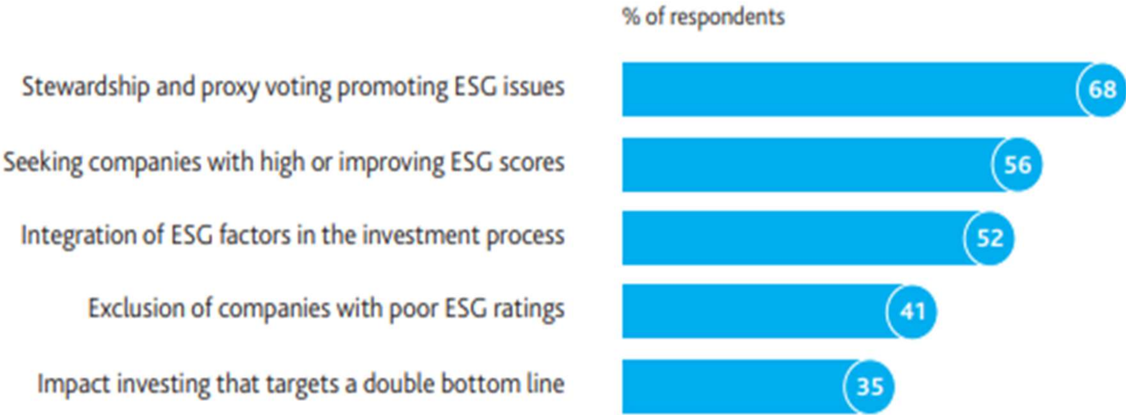


Source: Amundi, CREATE-Research, "The next stage of ESG evolution in the pension landscape".

These data as well contribute to demonstrate a rising trend in ESG investing, further accelerated by the Covid-19 pandemic, which highlighted the relevance of issues such as biodiversity and human rights. These investments align with new global values for a sustainable planet and inclusive societies, and they also reinforce modern portfolio theory by improving risk and return management. Besides, they provide more in-depth understanding of how value is created in a society where unfavourable externalities have the potential to hurt business profitability.

The last intriguing results of this pension fund survey regards the techniques that pension plans apply in the ESG investment process (Figure 4.4). The most used approach (68%) and the least used approach (35%) both belong to the category of strategies that lead to analyse the impact and the influence of the investee companies' activities on the social, environmental and economic spheres. While the other three approaches are the best-in-class (56%), the ESG integration (52%) and the exclusion (41%), which instead help to identify those external forces that can have a negative effect on the performance of companies present in the portfolio of the respondents.

Figure 4.4. “What are the dominant approaches that your pension plan currently uses in its ESG investing?”.



Source: Amundi, CREATE-Research, “The next stage of ESG evolution in the pension landscape”.

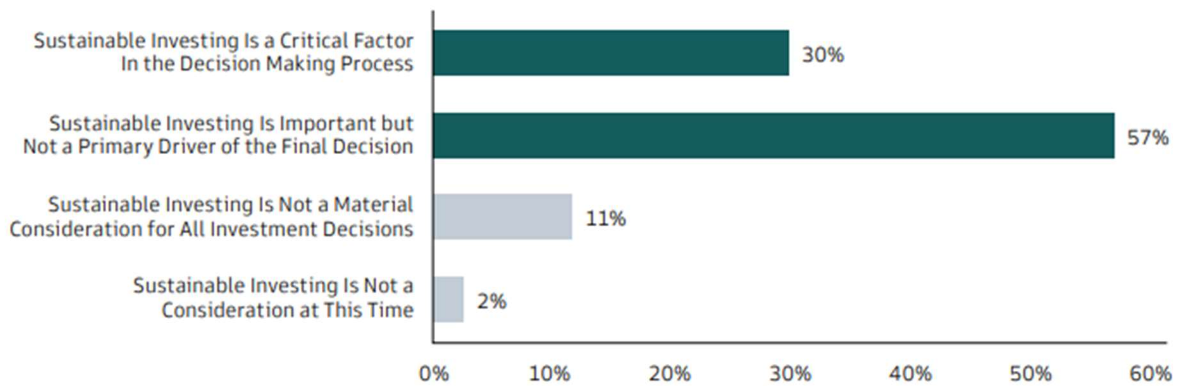
4.2 The integration of ESG factors in European pension funds

In line with the information and the statistics reported so far, the first edition of the European pension fund survey by Goldman Sachs Asset Management[11] confirms in Europe a progressive approach and involvement of pension funds in sustainable investing and in the integration of ESG criteria (expected to become more intensified in 2024) and proves how these themes are ingrained in pension world. The survey collects the responses of 126 senior managers and executives of defined benefit pension funds across the Europe interviewed at the end of 2023, and to be precise each fund has assets under management with a total value of between $500 million and $50 billion.

The results express how much sustainable investing is embedded in European pension funds: 30% of respondents affirm that sustainability is a key factor during the decision-making process and 57% consider it only an important but not fundamental element (Figure 4.5). Another important aspect, similar to that collected by the Amundi’s survey, is that 63% of the funds have a percentage of allocation of their portfolios to sustainable investing above 10%, while almost one out of two allocates over 20%.

[11] Goldman Sachs Asset Management, “Finding opportunity in uncertain markets”, February 2024.

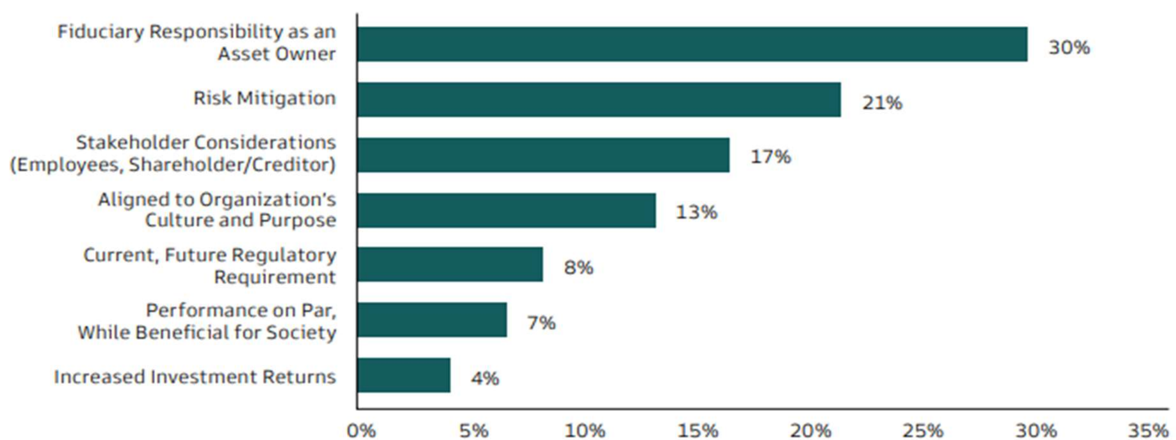
Figure 4.5.



Source: Goldman Sachs Asset Management, "Finding opportunity in uncertain markets".

Among the most prominent themes at the centre of the ESG policies of the interviewed funds stand out: first, climate transition risks, which 75% of respondents consider important, making it the primary reason for adopting sustainable investment; second, good governance, a key focus for 61% of the funds; followed by around 49% who have identified human rights, physical climate risks, and climate-related investment opportunities as relevant themes.

Figure 4.6

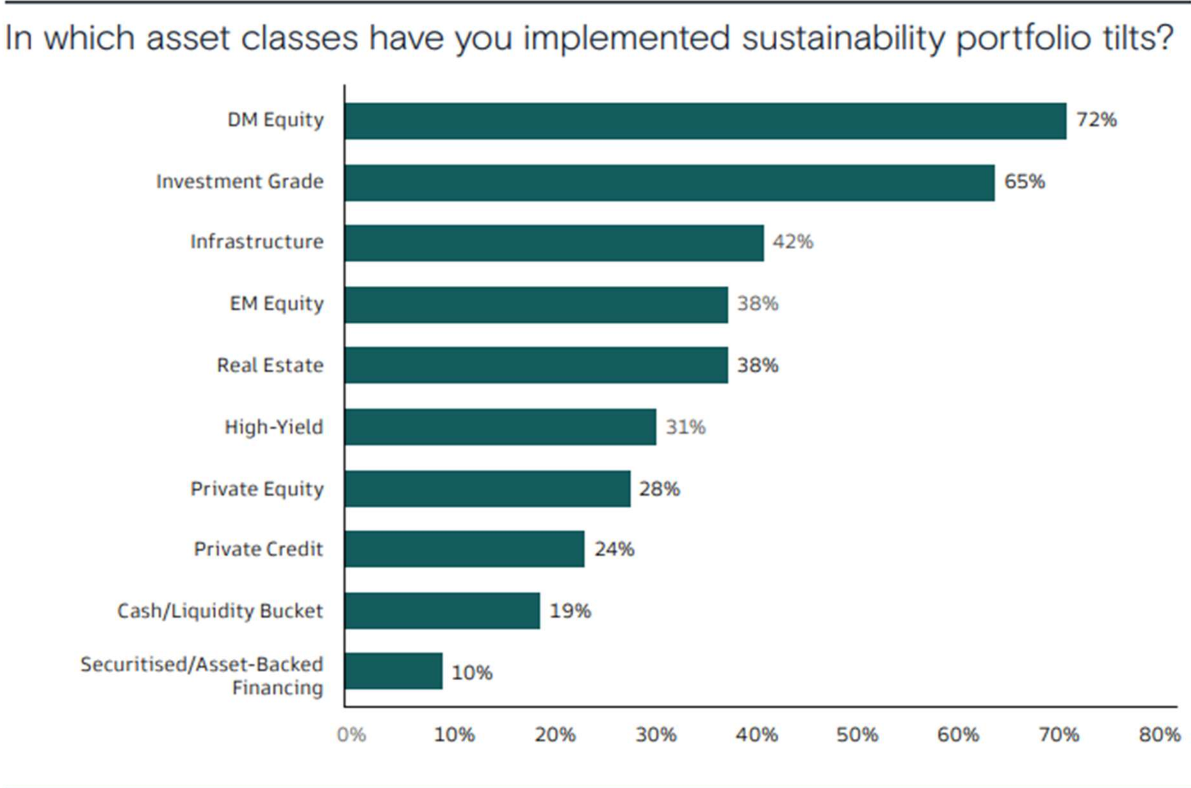


Source: Goldman Sachs Asset Management, "Finding opportunity in uncertain markets".

An additional engaging topic, highlighted in the survey and showed in Figure 4.6, is the motivations driving pension funds to adopt sustainable investments and integrate ESG factors, with the variety of these reasons aligning with the specific objectives that ESG strategies help to achieve. A third of pension funds prioritizes fulfilling its fiduciary responsibility as the main reason; meanwhile, 21% have responded that the primary reason is risk mitigation, in particular the reduction of long-term risks. Other widely shared motivations include stakeholder considerations, alignment with the organization's culture and purpose, and current and future regulatory requirements.

A negative aspect pointed out by the research is the partial or total lack of necessary information in certain areas of the market, which poses an obstacle to sustainable investments. In fact, as shown in Figure 4.7, the asset classes most frequently selected by pension funds for sustainable investments are developed-market equities (72%) and investment-grade debt (65%). The reason is that these asset classes are composed by listed, solid, large-cap companies that provide a substantial amount of high-quality data and information related to sustainability.

Figure 4.7



Source: Goldman Sachs Asset Management, "Finding opportunity in uncertain markets".

Finally, the results generally suggest that risk management is essential in sustainable investing, however, the way capital is allocated, and the asset classes chosen to build a portfolio and address the identified issues are equally important. Alongside that, recent market experiences have shown that selecting strategies that unlock real value is crucial to achieving solid financial results. Today, environmental and social targets are aligned with profit goals, demonstrating that it is possible to achieve financial performance while contributing to a more sustainable and inclusive economy.

4.2.1 Nordic pension funds: a model for sustainable investment

Nordic pension funds stand out significantly in the European landscape for their advanced commitment to ESG practices. These funds have integrated sustainability criteria into their investment strategies well before the concept became mainstream, demonstrating remarkable foresight. Countries like Norway, Sweden, and Denmark are at the forefront of promoting responsible investments, adopting strict policies that prioritize transparency, environmental respect, and social well-being. This approach not only enhances the long-term resilience of their portfolios but also serves as a powerful catalyst for positive change in the companies they invest in. Such leadership in the ESG field positions Nordic pension funds as a model to follow for the rest of the continent.

Below are some of the most relevant sustainability initiatives undertaken by Nordic pension funds, as collected by Influence Map in a study conducted in 2022 [12]:

1. In the Netherlands, pension funds have chosen to divest from fossil fuel companies. In 2021, the PME fund eliminated its holdings in oil and gas exploration and transportation companies, focusing instead on downstream firms. Subsequently, the ABP fund announced a similar decision to exit these companies, citing the lack of opportunities to influence a rapid energy transition. In 2022, another Dutch fund, PFZW, further strengthened its exclusion policy by committing to sell its holdings in fossil fuel companies without emission reduction targets by the end of the year.
2. In 2022, the Finnish pension fund Varma sets a goal to decrease emissions across all asset classes and cut investments in the coal sector.

[12] Influence Map, "The European Pensions Sector and Sustainable Finance Policy", 2022.

3. In 2022, the UK pension fund USS and other investors sent letters criticizing 17 oil and gas companies, such as BP and Shell, for their persistent lack of commitment to climate accounting. Additionally, funds like the BT Pension Scheme and USS have helped promote the climate transition in emerging markets.
4. In Sweden, the AP7 pension fund invests part of its resources in firms that address climate change and environmental damage issues by implementing engagement strategies. It has also created a list of companies in which it does not invest or has divested from because they were not in compliance with its sustainability objectives.

The research by Influence Map has analysed the 25 largest pension funds in Europe (by assets), which collectively represent a total of $3.4 trillion (2020), with most of them coming from Northern Europe. The funds that have received the highest ratings and demonstrated the greatest commitment to sustainable finance are four, all from Northern Europe: Norwegian fund Norges Bank Investment Management, the Dutch fund Pensioenfonds Metaal en Techniek (PMT), and the UK funds Universities Superannuation Scheme (USS) and BT Pension Scheme (BTPS). The research has assigned each fund a score, but none has achieved the highest rating; only the PMT fund has obtained the best score (B+), and good results also in the other areas examined.

Table 4.1. "Pension fund results"

Pension Fund	InfluenceMap Performance Band	Organization Score	Relationship Score	Engagement Intensity	Country	CA100+	Net Zero Asset Owners Alliance
Pensioenfonds Metaal en Techniek (PMT)	B+	84%	58%	10%	Netherlands	Yes	No
Norges Bank Investment Management (NBIM)	B	78%	n/a	11%	Norway	No	No
Arbejdsmarkedets Tillaegspension (ATP)	B	76%	n/a	5%	Denmark	Yes	Yes
BT Pension Scheme (BTPS)	B	78%	60%	12%	UK	No	Yes
Universities Superannuation Scheme (USS)	C+	71%	64%	8%	UK	Yes	No

Source: Influence Map, "The European Pensions Sector and Sustainable Finance Policy".

Table 4.1 shows the results of the top pension funds concerning several relevant aspects:

- organization score, that represent the engagement of the organization with policy;
- relationship score, which assesses the overall involvement in sustainable finance policy by the sector associations of which a financial institution is a member;

- performance band, which is a comprehensive indicator of a financial institution's involvement in sustainable finance policies that rates its own and its industry associations' actions on an A–F scale;
- engagement intensity, that is the degree of involvement in sustainable financial policy, whether favourable or unfavourable.

Instead, the final two columns indicate if a pension fund has joined international climate associations:

- Climate Action 100+. A group of important institutional investors with a total amount of assets under management above $68 trillion, that aim to involve several target companies in the transition towards zero greenhouse gas emissions.
- Net-Zero Asset Owners Alliance, composed by asset owners, decided to achieve net-zero greenhouse emissions in investment portfolios by 2050.

As can be observed, only one out of four funds do not participate in either initiative, and, in general, two-thirds of the 25 funds analysed in the study are members of at least one alliance. This highlights how, in Europe, particularly in Northern European countries, some pension funds are committed to climate and sustainability issues, actively participating in initiatives that prioritize environmental protection and the fight against climate change.

4.3 ESG criteria and sustainability in Italian pension funds

In Italy, the situation of ESG in the pension sector is slowly gaining ground, but there is still a long way to go compared to other European countries, especially those in Northern Europe. The integration of ESG criteria into Italian pension funds is less advanced and has more recent origins compared to the rest of Europe, where awareness and regulation regarding the importance of responsible investments are more developed.

Since 2015, the Forum for Sustainable Finance has provided a detailed overview of sustainable investment policies and the inclusion of ESG aspects in the investment decisions of the most important Italian pension plans, through a survey “Gli investimenti sostenibili degli investitori previdenziali italiani”, consisting of an online questionnaire.

The latest edition of this research is the ninth (conducted in 2023) and has a sample size of 114 pension plans with a total of €289.574 million in assets under management: 21 welfare funds (Casse di Previdenza), 33 negotiated pension funds, and the 20 pension plans with the largest assets under management from each remaining category (open pension funds, PIPs, and pre-existing pension funds). Additionally, the response rate was 83%, with 95 responding plans out of the total of 114.

The first aspect considered concerns governance in relation to ESG issues: 25% of the 95 responding plans stated that their Board of Directors has specific responsibilities for ESG matters, and another 27% assign these tasks to external parties; meanwhile, 41% do not assign these responsibilities either internally or externally of their governing body. An interesting fact is the imperfect integration of the ESG and SRI approach in the governance of some plans; in fact, of the aforementioned 41%, 24 plans still make sustainable investments (including 8 negotiated funds, 4 open funds, and 3 pre-existing funds).

The questionnaire further has revealed that 33 plans have set sustainability goals, and 27 are considering adopting them. Among the most selected objectives there are:

- Reduction of the carbon footprint of the investment portfolio (24 plans);
- Staff management policies that respect gender equality (21 plans);
- Reduction of emissions that harm the environment and climate (18 plans);
- Staff management policies focused on the inclusion of disadvantaged individuals (12 plans).

Table 4.2. "The main results of the nine editions of the study".

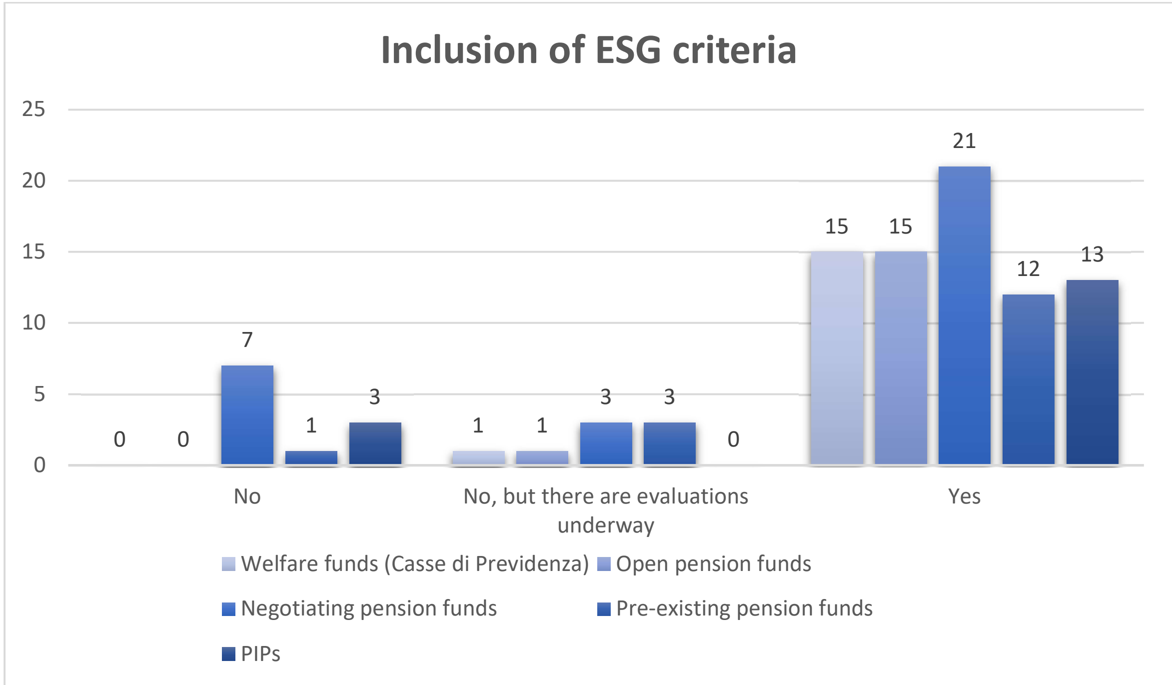
Edizione	Campione	Rispondenti (in valore assoluto)	Rispondenti (in %)	Inclusione criteri ESG (n. rispondenti)	Inclusione criteri ESG (% rispondenti)
2015	50	30	60%	12	40%
2016	50	36	72%	16	44,4%
2017	50	40	80%	17	42,5%
2018	50	43	86%	16	37,2%
2019	115	90	78,2%	42	46,6%
2020	115	85	73,9%	53	62%
2021	115	88	76,5%	55	62,5%
2022	115	89	77%	68	76%
2023	114	95	83%	76	80%

Source: Forum for Sustainable Finance, "Gli investimenti sostenibili degli investitori previdenziali italiani".

Over the years, the number of pension plans that have responded to the survey has almost always increased, as has the number of plans that include ESG criteria in their investment choices, with a significant increase of 81% from 2019, while maintaining the same reference sample (see Table 4.2). In 2023, as many as 76 plans, about 80% of the respondents, have integrated ESG criteria into their investment processes, managing approximately €195 billion. Of these, 48 plans, about 63%, have sustainable investments for 75-100% of their portfolio (most of them are negotiating and open pension funds), a number that has grown compared to 2022 (when there were 35 plans) and the previous years, demonstrating the spread of SRI strategies within the investment process applied across the entire assets of various pension schemes.

Figure 4.8 exhibits that the category with the highest number of funds adopting ESG factors is the negotiating pension funds (21), followed by open pension funds and welfare funds (both 15). On the other hand, about 10% of respondents answered "No" and another 10% answered "No, but there are evaluations underway," thus highlighting a very positive result that demonstrates the increasing presence of sustainability within the investment policies of pension funds.

Figure 4.8



Source: personal elaboration from the research "Gli investimenti sostenibili degli investitori previdenziali italiani".

Subsequently, to delve deeper into this section of the research, the various pension plans have explained the reasons that led them to their current situation and to respond as shown in Figure 4.8. The reasons provided by the plans for the lack of integration of ESG criteria are:

- lack of discussion on the topic;
- absence of reliable and standardized data;
- excessive costs;
- lack of protection against greenwashing[13];
- maximizing short-term returns as the sole objective;
- desire to avoid limitations in investment decisions.

On the contrary, the reasons that led the pension plans to implement ESG factors in their investment choices are listed below:

- fiduciary duty;
- achievement of better financial results;
- mitigation of reputational risk;
- incentives from regulatory requirements;
- more effective management of financial risks;
- opportunity to align social and environmental impact with financial performance.

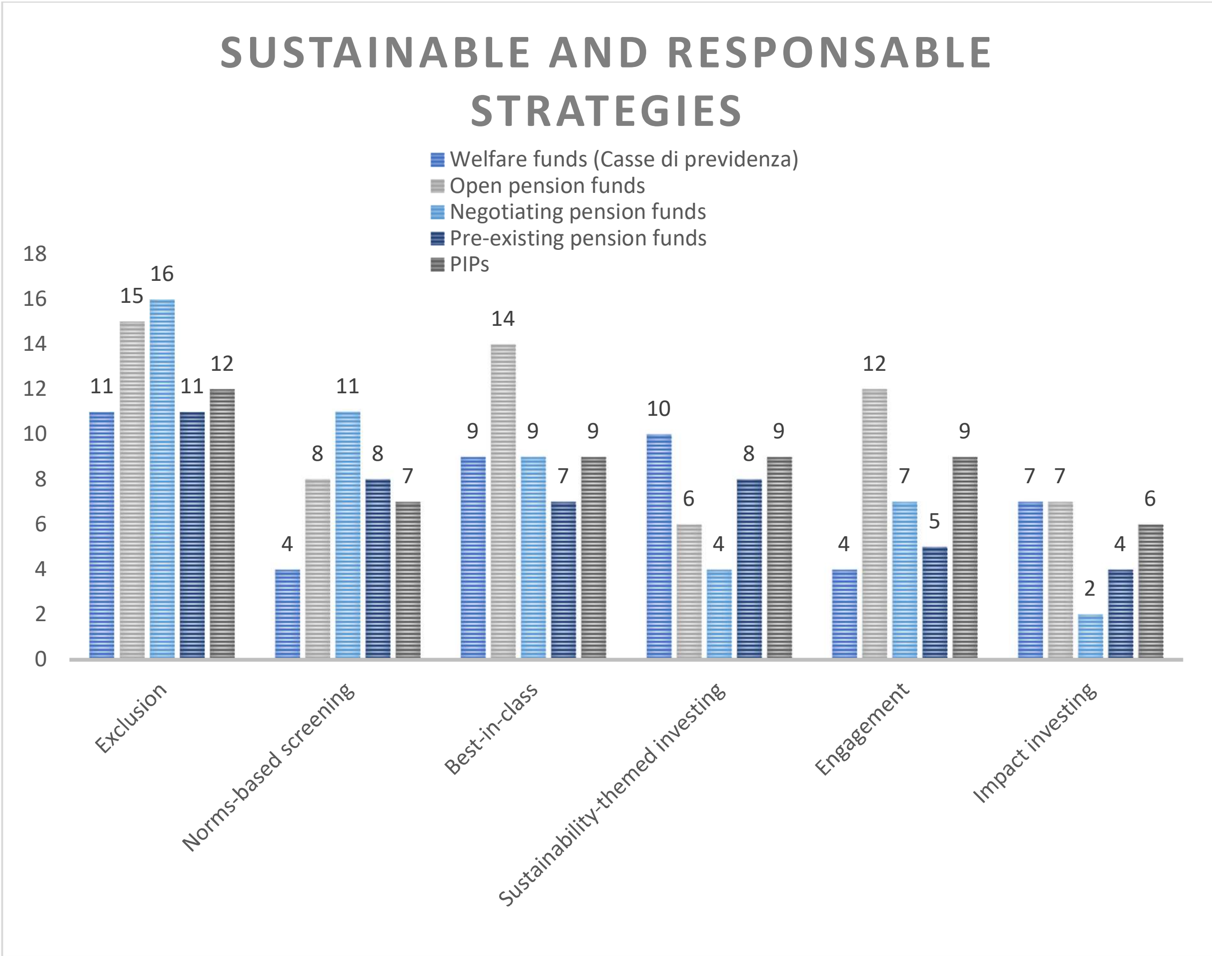
Regarding the sustainable and responsible strategies implemented by pension plans that are not self-excluding, the most common are certainly exclusions, the most widely adopted strategy, chosen by 86% of the respondents active in SRI, primarily by negotiating and open pension funds (Figure 4.9). Following this, the most adopted strategies are best-in-class, selected by 48 pension plans, mainly open funds; norms-based screening (38 plans); engagement and sustainability-themed investing (both chosen by 37 plans); and lastly, impact investing used by 34% of the SRI-active plans (26 plans in absolute terms).

Afterward, the research has examined in more detail certain aspects of the strategies implemented by the interviewed pension plans. For example, regarding exclusions, the most avoided sectors in 2023 are: arms, tobacco, betting, gambling, and pornography.

[13] Greenwashing is a company's communication strategy that involves promoting its products, policies, and achievements as environmentally and climate-friendly, while actually engaging in behaviours that are completely opposite, thus creating a distorted and false image.

For the sustainability-themed investing strategy, the most cited themes are renewable energy, health, energy efficiency, and digital technology. Concerning engagement, 21 plans has declared to participate in collective and collaborative initiatives, such as Climate Action 100+, the Forum for Sustainable Finance (FSS) group, and Borsa Italiana's Sustainability Week, to facilitate the dialogue with companies and strengthen investor influence. Finally, for impact investing, adopted by 26 plans, the primary products used are green bonds, social bonds, and sustainability bonds, while the main sectors of application are renewable energy, healthcare, energy efficiency, and urban regeneration.

Figure 4.9

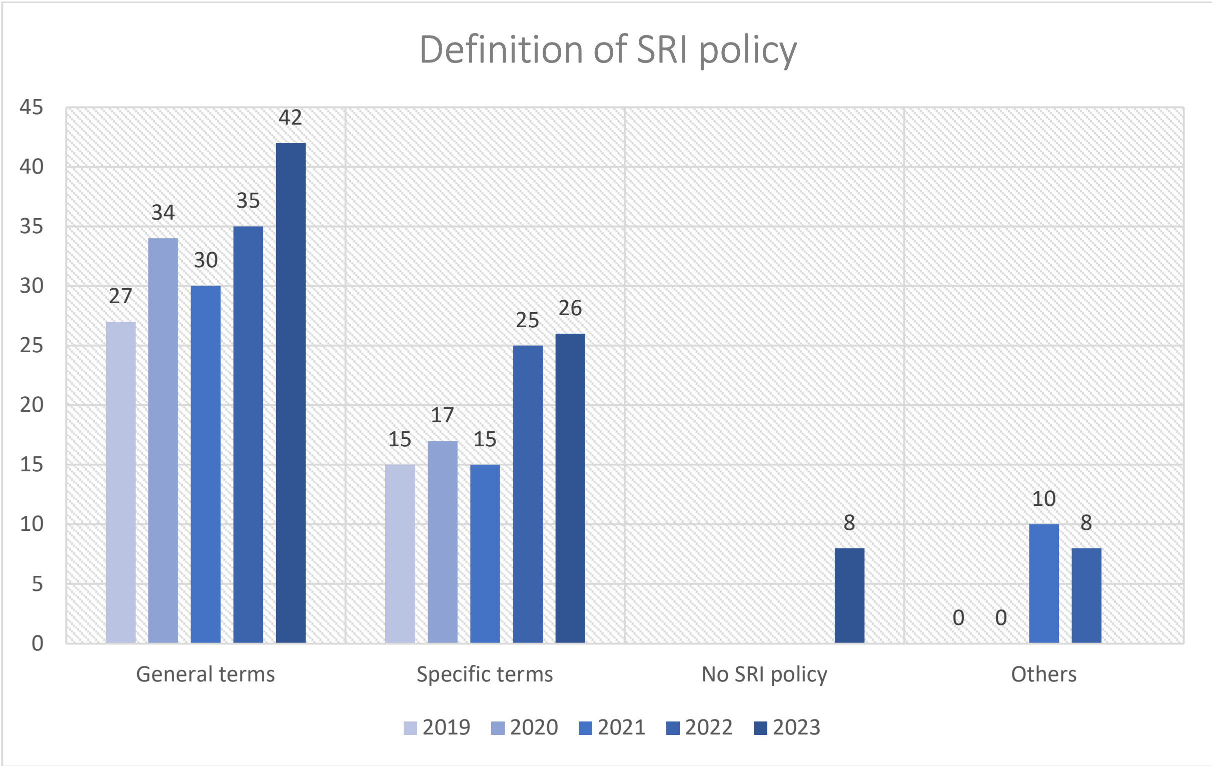


Source: Forum for Sustainable Finance, "Gli investimenti sostenibili degli investitori previdenziali italiani".

Another significant element investigated by the research is the role of the Board of Directors with respect to the sustainable and responsible investment policy of the interviewed plans.

Figure 4.10 illustrates that from 2019 to 2023, the proportion of pension plans where the Board of directors sets a general investment approach versus those that specifically define the sustainable investment policy has remained roughly stable, about 50% for the former and 30% for the latter relative to the total number of SRI-active plans. This indicates that the role of the manager is considered crucial by the majority, as in plans where the Board establishes general terms, the manager translates these principles into operational practices, thus placing trust in its expertise and knowledge in the field. Specifically, in 2023, in 55% of SRI-active plans (42 plans) the Board of directors fixes general terms, giving the manager flexibility; while for 26 plans, the Board determines specific terms (this situation is predominantly present in negotiating and open funds).

Figure 4.10



Source: personal elaboration from the research "Gli investimenti sostenibili degli investitori previdenziali italiani".

Half of the SRI-active plans also confirm that they seek the support of an ESG advisor for consultations on topics such as ESG risk management, the evaluation and assignment of ESG ratings to portfolio assets, annual reporting, and the definition of sustainable investment policies.

To conclude, in line with potential future obligations for pension funds to consider their members' sustainability preferences in the offerings they propose, the research has illustrated that currently 17 plans collect data and information from their members on ESG issues; the same number of plans intends to do so in the future, while, conversely, 61 respondents do not plan to adopt such practices.

CHAPTER 5

A case study: Amundi SecondaPensione

5.1 Amundi

Amundi is a French asset management company controlled by Crédit Agricole. Founded in 2010, it is now the leading asset manager in Europe and among the top ten investment managers worldwide, with over 2 trillion euros in assets under management, more than 100 million retail clients, and 1,000 institutional and corporate clients.

Since its inception, sustainable and responsible investment has been a fundamental and central component of Amundi's investment management approach. Amundi also firmly believes that integrating ESG criteria into investment decisions is a key factor for long-term financial performance, and that economic and financial players, together with governments and consumers, all have a responsibility towards society and the environment. According to the "Amundi Sustainable Finance Disclosure Statement"[14] Amundi's management of sustainability risk is based on several key pillars: the targeted exclusion policy, the integration of ESG scores into investment processes, and the Stewardship policy.

The first pillar is characterized by minimum standards and exclusion policies on critical sustainability issues, which are integrated into all actively managed portfolios and all of Amundi's ESG passive products (unless otherwise specified by clients). These are subject to constant and careful monitoring, with escalation procedures in case of violations that may lead to engagement, voting actions, or exclusions.

Regarding the second pillar, Amundi believes that ESG analysis contributes to value creation by providing a comprehensive view of the company under evaluation. For this reason, it has integrated ESG criteria into active management and implemented an engagement policy.

[14] Amundi, "Amundi Sustainable Finance Disclosure Statement", December 2023.

The ESG integration is based on the conviction that a solid sustainable development strategy enables issuers to better manage regulatory and reputational risks and improve operational efficiency. Amundi has therefore established an internal division specialized in ESG analysis and ratings, with the aim of generating sustainable returns by assessing how ESG factors can affect a company's value and, at the same time, how companies can impact the environment and society.

The stewardship policy, on the other hand, is applied through the engagement and voting policy across all managed funds and is an essential part of Amundi's ESG strategy. The engagement policy aims to promote best practices and the integration of sustainability into the governance and business models of investee companies, encouraging a transition towards a more sustainable and low-carbon economy by setting specific goals to be achieved within certain time frame. Meanwhile, the voting policy supports responsible and diverse corporate governance, capable of addressing environmental and social challenges.

In addition, Amundi is an active member of several working groups that seek to promote a sustainable transition and development, such as the Net Zero Asset Managers initiative, the Climate Action 100+, the European Sustainable Investment Forum (EUROSIF), and the International Corporate Governance Network.

In conclusion, as previously mentioned, Amundi has created its own ESG analysis and scoring methodology, with the goal of measuring an issuer's ability to manage sustainability risks and opportunities, limit environmental impacts, manage human capital, and implement effective governance to support long-term corporate value. Amundi's ESG score is assigned on a scale from A to G, with A being the highest score, and it is the result of a combination of internal valuations and data from external providers. Thus, this score reflects corporate behaviour in environmental, social, and governance areas, considering exposure to sustainability risks and how they are managed.

5.2 Secondapensione

Secondapensione is an open pension fund with defined contribution, managed by Amundi and supervised by the Pension Fund Supervisory Commission (COVIP). Participation in the fund is voluntary and open (with 124,023 members registered at the end of 2023), and its objective is, of course, to provide a complementary pension based on contributions made and the returns achieved.

Amundi's pension fund includes five investment lines:

- Secondapensione GARANTITA ESG (guaranteed line, 97% bonds and 3% equity);
- Secondapensione BILANCIATA ESG (mixed line, 72% bonds and 28% equity);
- Secondapensione SVILUPPO ESG (balanced line, 53% bonds and 47% equity);
- Secondapensione ESPANSIONE ESG (equity line, 23% bonds and 77% equity);
- Secondapensione PRUDENTE ESG (mixed line, 87% bonds and 13% equity).

All the listed investment options have a long-term perspective and are focused on social responsibility. The financial instruments they invest in are chosen based on both financial and non-financial analyses, systematically considering environmental, social, and governance (ESG) factors. Secondapensione integrates ESG criteria and sustainability risks into its investment decisions, and because all its investment options promote ESG characteristics, the fund is classified as "light green" and falls under the Article 8 products of the EU Regulation 2019/2088 (SFDR). Initially, Secondapensione was not a pension fund ESG and "light green" product, but several steps over the past five years were necessary to shape it into what it is today[15]:

1. in July 2019, the management of the fund's investment lines began to include extra-financial analyses that considered ESG criteria, renaming each investment line by adding the abbreviation "ESG";
2. in October 2019, COVIP authorized regulatory changes concerning the fund's investment decisions and policies, which were made official in December 2019;
3. since March 2021, according to the provisions of EU Regulation 2019/2088, with specific additions to the information on the investment lines' characteristics, the pension fund has been classified as a product under Article 8 of the SFDR.

[15] Amundi, Documento sulla politica di investimento, 2023.

For the selection phase of financial instruments, Amundi follows specific procedures, including evaluating issuers through an ESG rating and applying exclusion strategies to the investable universe that the manager must follow. Through the ESG rating approach, Amundi assesses an issuer's sustainability performance, also consisting of the ability to manage sustainability risks and opportunities related to its industry. The ESG rating is the product of the combination of the judgment of the issuer's activities across three dimensions:

- Environmental. This dimension examines companies' management of their environmental impact, energy and resource conservation, reduction of greenhouse gas emissions, and protection of biodiversity;
- social. The assessment focuses on how the issuer manages human capital and respects human rights;
- governance. Issuers are evaluated on their ability to maintain good corporate governance practices and sustain long-term corporate value.

Each issuer, therefore, based on the analysis made and considering the specific dynamics of its sector, receives a score on a scale ranging from "A" (highest rating) to "G" (lowest rating). The exclusion strategies of issuers from the list of potential investments for the investment lines can include:

- Sector exclusions (such as coal and tobacco)
- Regulatory exclusions (for example, due to violations of international regulations on the production and distribution of chemical and biological weapons, anti-personnel mines, and depleted uranium, as well as violations of international principles established by the United Nations and the International Labour Organization)
- Exclusions based on ESG ratings (issuers/investments with a score of E, F, and G are not considered).

Finally, in all investment lines of the open pension fund, the portfolio share allocated to financial instruments without an ESG rating cannot exceed 10%.

5.3 Performance analysis

This paragraph is entirely dedicated to an analysis of the performance of the Secondapensione pension fund through a comparison with another pension fund, Previdsystem, from Intesa Sanpaolo Vita S.p.A. (Intesa Sanpaolo Group). Previdsystem is an open pension fund with defined contributions, just like Secondapensione. The investment lines of Previdsystem are:

- PrevidSystem TFR+ (guaranteed line, 87% bonds and 13% equity);
- PrevidSystem Crescita Prudente (mixed line, 93% bonds and 7% equity);
- PrevidSystem Crescita Dinamica (mixed line, 83% bonds and 17% equity);
- PrevidSystem Accumulazione Bilanciata (balanced line, 49% bonds and 51% equity);
- PrevidSystem Rivalutazione Azionaria (equity line, 14% bonds and 86% equity).

The interesting aspect is that an ESG pension fund is compared with a non-ESG one. The Intesa Sanpaolo fund does not promote environmental or social characteristics or aim for sustainable investments through its investment policy, unlike Secondapensione, which actively pursues these goals.

This analysis unfolds through comparisons between the investment lines of Secondapensione and those of Previdsystem, on the basis of similar characteristics such as investment line category, risk aversion, asset allocation, and investment objectives. This approach aims to provide a juxtaposition of performances that is as accurate, fair, and meaningful as possible, ensuring comparable results.

The performance analysis consists of the following components:

- calculation of cumulative monthly returns over the past five years;
- calculation of annualized returns over various time periods;
- analysis using the CAPM model;
- comparison of several performance measures, such as the Sharpe ratio, Treynor's measure, Jensen's Alpha, and the Information ratio.

Initially, data for each investment line of both pension funds were downloaded from Yahoo Finance (adjusted closing prices) on a monthly basis for a five-year period, from August 2019 to August 2024. Subsequently, cumulative monthly returns for all five years were calculated using the following formula:

$$r_p = \left(\frac{P_t}{P_{t-1}}\right) - 1$$

Where P_t is the fund's value today and P_{t-1} is the last fund's value recorded during the period of interest. Subsequently, the annualized returns were calculated for different time periods using the formula:

$$r_p = \{[(1 + r_1)\,(1 + r_2) \ldots (1 + r_n)]^{1/n}\} - 1$$

Where n is the number of years or months considered for the calculation. Since this formulation takes into account the compounding effect, the result can be seen simply as the geometric mean of the cumulative returns.

Annualized returns are often used to compare different investments over varying time horizons and are defined as the constant annual return rate that would provide the same total cumulative return for the entire investment period.

Regarding the development of the CAPM model, it was estimated through regressions using the excess returns of the two pension funds as the dependent variable and the excess returns of the market as the independent variable. The formula for the regression is therefore as follows:

$$\bar{r}_p - \bar{r}_f = \alpha_p + \beta_p(\bar{r}_m - \bar{r}_f) + \varepsilon_p$$

The two coefficients are α_p and β_p: α_p, the intercept, represents the part of the fund's return not explained by the CAPM (for this model, it assumes a value of zero). If statistically significant, it indicates whether the fund has generated a return above or below what the model predicts; β_p, the slope, measures the sensitivity of the pension fund to market movements, if it takes a value greater than 1, it indicates higher volatility compared to the market. Additionally, ε_p represents the residual, corresponding to the specific risk of the pension funds that is not explained by the CAPM model. The risk-free rate r_f chosen was the 1-month T-Bill rate provided on the website by Kenneth French[16].

[16] see http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

To estimate market returns r_m benchmarks were constructed for each investment line based on the individual asset allocations and geographic areas in which they invest (monthly adjusted close prices from Yahoo Finance over the past five years were downloaded for the various computations). Below a list of the ETFs considered for the composition of the benchmarks:

- iShares € Govt Bond 1-3yr;
- Amundi MSCI World ex EMU;
- Xtrackers MSCI EMU;
- SPDR Bloomberg Euro Government Bond;
- Xtrackers II Global Government Bond.

To conclude the comparison, several measures were analysed to evaluate the performance of the investment lines of the two pension funds:

- Sharpe ratio $S_p = \frac{(\bar{r}_p - \bar{r}_f)}{\sigma_p}$

The Sharpe ratio is the average return obtained in excess of the risk-free rate per unit of volatility. The formula contains both the idiosyncratic and systematic components of risk (σ_p in fact considers both types of risk).

- Treynor's measure $T_p = \frac{(\bar{r}_p - \bar{r}_f)}{\beta_p}$

Treynor's measure determines, similarly to the Sharpe ratio, the overall excess returns that is generated per each unit of risk taken. Treynor's measure differs from Sharpe because it does not include the total risk as Sharpe does, but it takes only the systematic risk.

- Jensen's alpha $J_p = \bar{r}_p - [\bar{r}_f + \beta_p(\bar{r}_m - \bar{r}_f)]$

The Jensen's Alpha is a risk adjusted performance measure that represents the difference between the average return of pension fund and the one predicted by CAPM, given the fund's β and the average market return (corresponding to that of the benchmark).

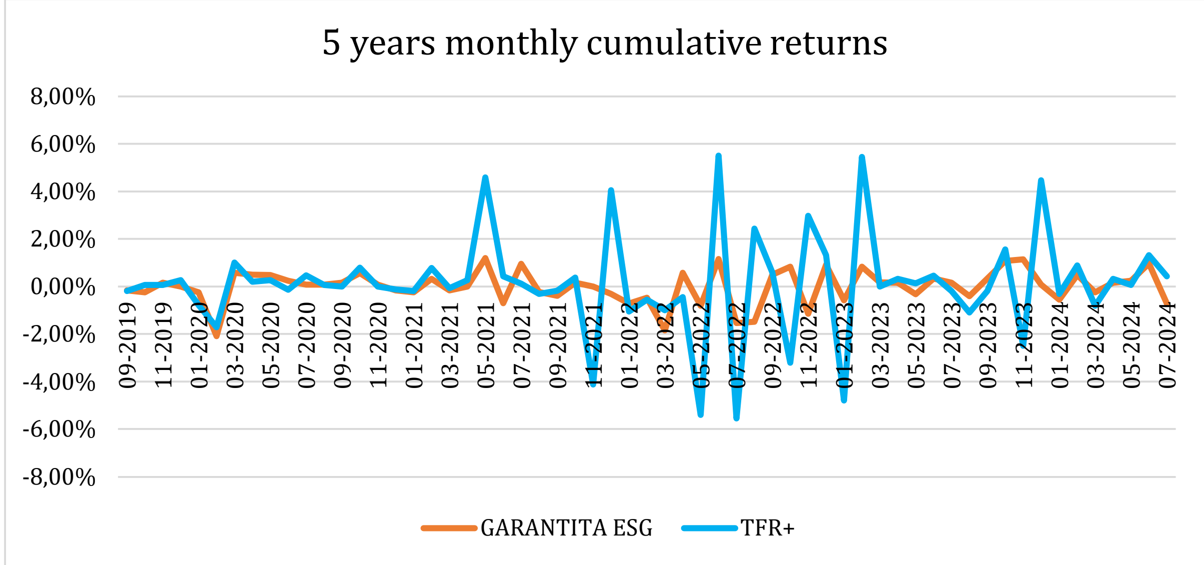
- Information ratio $\frac{\alpha_p}{\sigma(\varepsilon_p)}$

The Information ratio measures the returns beyond the market (abnormal returns, alpha of the fund) for each unit of non-systematic risk taken (the standard error of the residuals from the regression). This kind of risk, in theory, could be diversified and thus eliminated.

5.3.1 GARANTITA ESG vs TFR+

The first part of the paragraph focuses on the analysis of the returns between the two guaranteed investment lines of the pension funds (SecondaPensione GARANTITA ESG and Previdsystem TFR+). In Figure 5.1, it is possible to observe the trend of cumulative monthly returns over a 5-year horizon, providing a comprehensive view of the performance of the investment lines.

Figure 5.1



Cumulative returns	GARANTITA ESG	TFR+
1 Year	2,54%	4,04%
5 Years	-0,32%	6,29%

Annualized returns	GARANTITA ESG	TFR+
Last 3 months	1,94%	7,48%
1 Year	2,54%	4,04%
3 Years	-0,55%	-0,10%
5 Years	-0,06%	1,23%

Source: personal elaboration (from Yahoo Finance data)

For the first year and a half, the two pension funds exhibited very similar performance remaining quite stable. However, during the subsequent two years (from March 2021 to March 2023), the Amundi fund experienced slight price fluctuations ranging from +1% to -2%, on the other hand the Intesa fund saw more pronounced positive and negative peaks, sometimes reaching nearly +6% and -6%. The last year demonstrated a general stability, with the exception of a drop and a tip in the non-ESG pension fund (-2.5% and +4.5%). Overall, examining the annualized returns of both guaranteed lines they reveal that Previdsystem outperformed the Amundi fund by a small margin across all periods considered.

Over the 5-year period, Previdsystem's guaranteed line recorded a slightly positive cumulative return of +6.29% compared to the initial price in august 2019, while the guaranteed line of SecondaPensione remained relatively stable, with a cumulative rate of -0.32%. Following the return analysis, a regression based on the CAPM model was conducted, with the key results summarized in Figure 5.2.

Figure 5.2. "Regression results".

GARANTITA ESG	Coefficients	Std. error	P-value	R-Squared
α	-0,00053	0,00059	0,36949	0,61166
β	0,29396	0,03076	0,00000	

TFR+	Coefficients	Std. error	P-value	R-Squared
α	0,00071	0,00261	0,78647	0,13338
β	0,80769	0,27033	0,00411	

Source: personal elaboration (from Yahoo Finance data)

At first glance, significant differences emerge in terms of the model's predictive capacity and market sensitivity. For the GARANTITA ESG line, the R-squared suggests that 61% of the variability in its returns can be explained by the model. In contrast, the TFR+ line has a much lower R-squared of 0.13, highlighting a significantly lower capacity of the model to explain the variations in its returns, given that the constructed benchmark focuses on debt securities of varying maturities, while Previdsystem invests a significant percentage

in very short-term bonds (see the fund's information note[17]). In terms of market sensitivity, the GARANTITA ESG line has a beta of 0.29, indicating a low correlation with the movements of the benchmark and therefore lower risk. Conversely, the TFR+ line shows a beta of 0.81, signalling a greater exposure to market risk, although this value is not very reliable given the poor goodness of fit of the regression. In addition, both funds' alpha values are statistically not significant since the p-values are greater than the 5% significance level, indicating an absence of abnormal returns relative to the market.

These results suggest that although the Intesa fund is more exposed to the market, it does not offer a significant advantage in terms of risk-adjusted returns compared to the Amundi fund, which stands out for its more conservative management and greater predictive capacity according to the CAPM.

Figure 5.3. "Performance measures".

	Average returns (5 yrs)	Rm-Rf	Variance	Std. Dev.
GARANTITA ESG	-0,00003	-0,00179	0,00005	0,00706
TFR+	0,00124	-0,00053	0,00045	0,02128

	GARANTITA ESG	TFR+
Sharpe ratio	-0,25416	-0,02473
Treynor's M	-0,00611	-0,00065
Jensen's α	-0,00053	0,00071
Info. ratio	-0,11983	0,03559

Source: personal elaboration (from Yahoo Finance data)

Regarding the final part of the analysis, Figure 5.3 presents the performance measures of both investment lines, along with some useful data for their calculation. The Previdsystem line presents slightly better statistics compared to Secondapensione, although the difference is minimal. Most measures remain negative, some close to zero, indicating performance that is not particularly satisfactory given the risk taken. However, these results align with the objectives of guaranteed lines, which prioritize stability and capital protection over the pursuit of high returns. Both lines show negative values for the Sharpe ratio and Treynor's measure, indicating poor compensation for risk. In terms of Jensen's

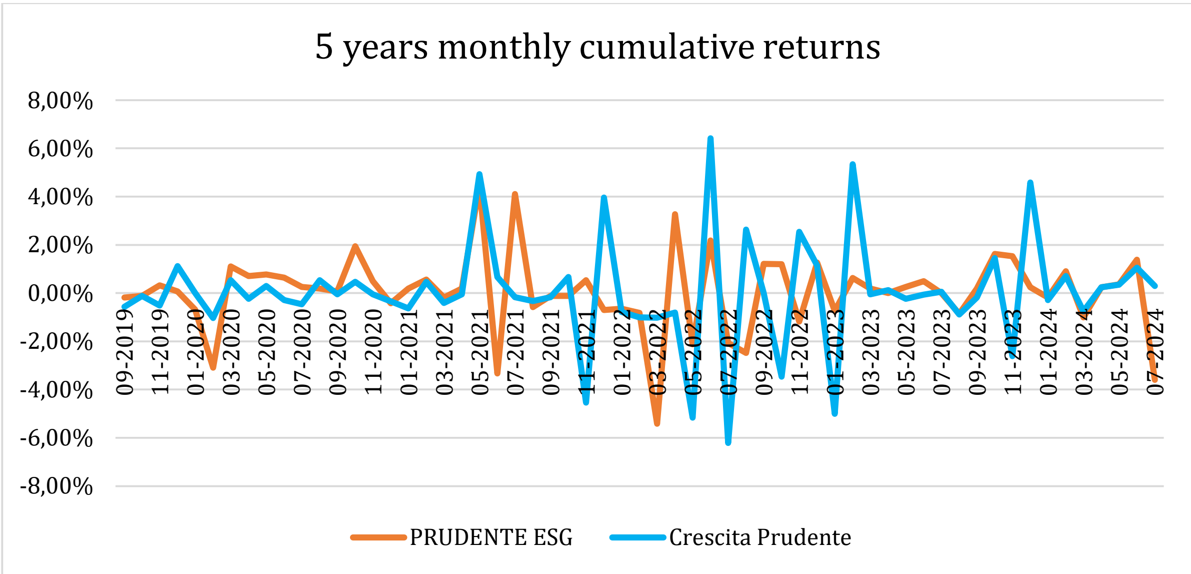
[17] Intesa Sanpaolo Vita S.p.A., "Nota informativa", 2024.

alpha, the TFR+ line shows a small positive alpha (0.00071), while GARANTITA ESG has a negative alpha (-0.00053), though neither is statistically significant (based on the regression results), signalling that the funds are not able to outperform the market. Lastly, the information ratio is positive for TFR+, demonstrating better management of specific risk compared to GARANTITA ESG, which instead has a negative ratio.

5.3.2 PRUDENTE ESG vs Crescita Prudente

The chart in Figure 5.4 represents the cumulative returns of two mixed lines that primarily invest in bonds, leaving only around 10% allocated to equities. Over the past five years, it is evident that the PRUDENTE ESG line has shown greater overall stability and lower volatility compared to the Crescita Prudente line, which has exhibited a higher number of both positive and negative peaks, with sharper fluctuations, especially during the central two years of the period.

Figure 5.4



Annualized returns	PRUDENTE ESG	Crescita Prudente
Last 3 months	-7,48%	6,96%
1 Year	0,68%	3,82%
3 Years	-1,81%	-1,12%
5 Years	0,47%	0,09%

Cumulative	PRUDENTE ESG	Crescita Prudente
1 Year	0,68%	3,82%
5 Years	2,39%	0,46%

Source: personal elaboration (from Yahoo Finance data)

The annualized returns display similar performance for the two lines over the past three and five years. However, in the short term, Intesa's fund has outperformed Amundi's, delivering a 14% and 3% higher return over the last quarter and the past year, respectively. Generally, considering the entire five-year period, the PRUDENTE ESG line has achieved better results, with a cumulative return of 2.39% compared to 0.46% for the other line, meeting its goal of moderate capital growth.

Figure 5.5. "Regression results".

PRUDENTE ESG	Coefficients	Std. error	P-value	R-Squared
α	0,00014	0,00175	0,93521	0,43945
β	0,48844	0,08947	0,00000	

Crescita Prudente	Coefficients	Std. error	P-value	R-Squared
α	0,00248	0,00270	0,36189	0,17213
β	0,84823	0,24426	0,00098	

Source: personal elaboration (from Yahoo Finance data)

Regarding the regression results in Figure 5.5, the models exhibit a low goodness of fit. For the PRUDENTE ESG line, 44% of the fund's variation is explained by market movements, while the other half is driven by factors outside the constructed benchmark. The R-squared for Crescita Prudente is very low, indicating an almost total independence of the fund's returns from the benchmark. Analysing alpha, neither fund shows a significant value, as p-values are high and exceed the significance level, suggesting a lack of risk-free profit opportunities. Finally, both betas are significantly different from zero but less than 1 (indicating lower volatility than the market). In particular, Secondapensione's beta, around 0.49, expresses a more conservative and less risky market exposure compared to Previdsystem.

Figure 5.6. "Performance measures".

	Average returns (5 yrs)	Rm-Rf	Variance	Std. Dev.
PRUDENTE ESG	0,00052	-0,00124	0,00027	0,01632
Crescita Prudente	0,00032	-0,00145	0,00049	0,02217

	PRUDENTE ESG	Crescita Prudente
Sharpe ratio	-0,07606	-0,06529
Treynor's M	-0,00254	-0,00171
Jensen's α	0,00014	0,00075
Info. ratio	0,01065	0,03666

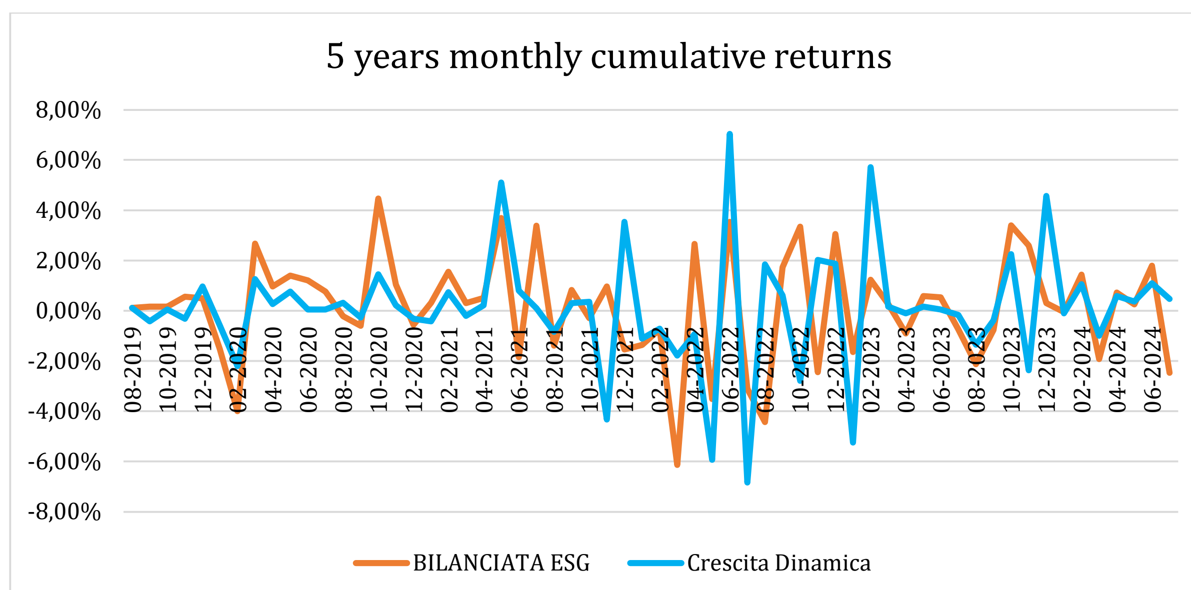
Source: personal elaboration (from Yahoo Finance data)

As the final step, the performance measures presented in Figure 5.6 do not reveal positive results, in fact, the first three indices are nearly identical for both funds. The Sharpe ratios and Treynor indices are negative, indicating that the returns do not adequately compensate for the overall and systematic risks taken, respectively. Nevertheless, the Jensen's alphas are positive but very small, almost negligible. The information ratio is also positive in both cases, but practically zero, suggesting a nearly passive management approach for both funds.

5.3.3 BILANCIATA ESG vs Crescita Dinamica

The representation of the BILANCIATA ESG investment line and the Crescita Dinamica line (in Figure 5.7) exposes a fairly similar trend in the first two years (from August 2019 to August 2021), where Previdsystem remained stable between 0% and 1%, while Secondapensione experienced more significant peaks.

Figure 5.7



Annualized return	BILANCIATA ESG	Crescita Dinamica
Last 3 months	-1,84%	7,97%
1 Year	3,03%	5,13%
3 Years	-2,38%	-1,12%
5 Years	1,48%	0,83%

Cumulative	BILANCIATA ESG	Crescita Dinamica
1 Year	3,03%	5,13%
5 Years	7,62%	4,23%

Source: personal elaboration (from Yahoo Finance data)

In the rest of the time frame, both investment lines showed ups and downs, more frequent and pronounced in the Crescita Dinamica line, reaching 6% and -6% on four occasions. In the last quarter, as in the last year, the annualized returns of BILANCIATA ESG suggest performance below that of the Previdsystem line, but in the long term, Secondapensione provided better returns, with a 5-year cumulative rate of 7.62%, almost double that of the other line (4.23%).

Figure 5.8. “Regression results”.

BILANCIATA ESG	Coefficients	Std. error	P-value	R-Squared
α	0,00006	0,00164	0,93521	0,64803
β	1,20786	0,11688	0,00000	

Crescita Dinamica	Coefficients	Std. error	P-value	R-Squared
α	0,00070	0,00265	0,79250	0,25969
β	0,83718	0,18560	0,00003	

Source: personal elaboration (from Yahoo Finance data)

At this point, the regression of excess returns according to the CAPM (results in Figure 5.8) demonstrates that for BILANCIATA ESG, the independent variable along with the intercept can explain a significant portion of the fund's performance variability (with an R-squared of 65%). However, this is not the case for Crescita Dinamica, where the excess returns explain only 26% of the fund's variability (a poor fit of the regression).

In this case as well, the alphas are not significant due to a high p-value, as mentioned in the previous paragraph. On the other hand, the betas are quite high, with Amundi's fund beta being greater than 1, so it is more risky than the market, while the beta for the Previdsystem line is estimated at 0.84, close to 1 but not as risky as the market.

At the end, the first measures of Figure 5.9 allow us to conclude that BILANCIATA ESG outperforms Crescita Dinamica, even though the values are slightly higher but still negative in the case of the Sharpe and Treynor ratios, the excess returns are not sufficiently high for the overall and systematic level of risk assumed. Otherwise, for the last two estimates, the Previdsystem line surpasses Secondapensione, although the alphas are not statistically significant, so these are evaluations to be taken with caution.

Figure 5.9. "Performance measures".

	Average returns (5 yrs)	Rm-Rf	Variance	Std. Dev.
BILANCIATA ESG	0,00145	-0,00032	0,00045	0,02119
Crescita Dinamica	0,00096	-0,00081	0,00055	0,02345

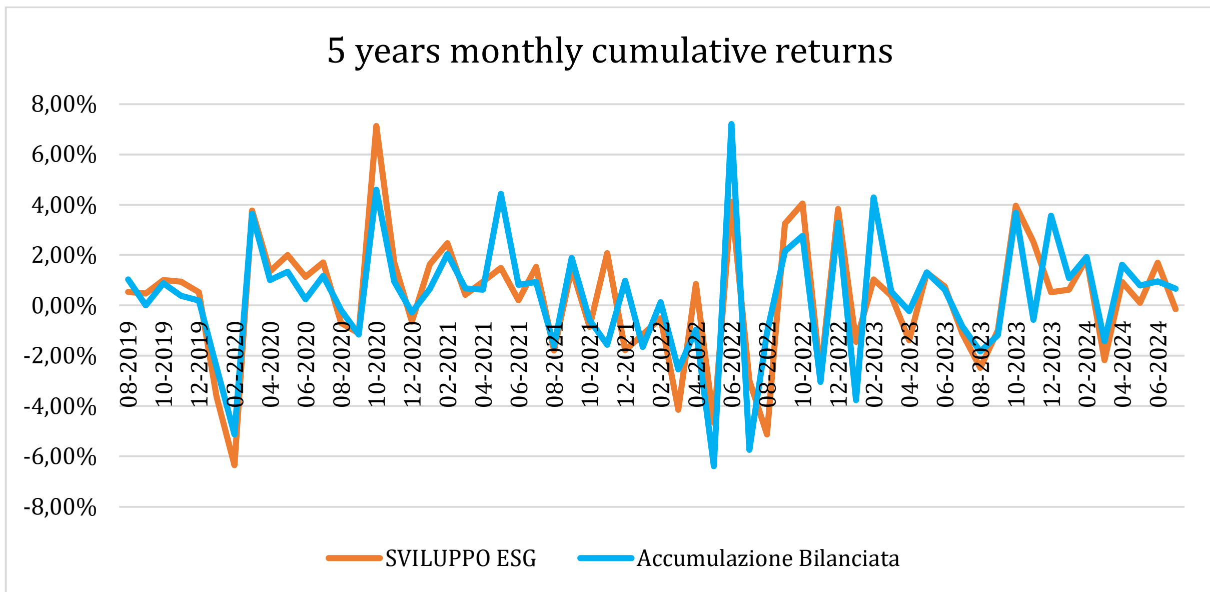
	BILANCIATA ESG	Crescita Dinamica
Sharpe ratio	-0,01511	-0,03433
Treynor's M	-0,00027	-0,00096
Jensen's α	0,00006	0,00070
Info. ratio	0,00460	0,03439

Source: personal elaboration (from Yahoo Finance data)

5.3.4 SVILUPPO ESG vs Accumulazione Bilanciata

In this paragraph, two balanced investment lines will be analysed, with asset allocation percentages of approximately 50% for bonds and 50% for stocks. In Figure 5.10, the first thing that stands out is the almost identical performance of the investment lines over the entire five-year period; in fact, the two graphs are nearly completely overlapping, displaying similar upward and downward movements at the same time.

Figure 5.10.



Annualized return	SVILUPPO ESG	Acc. Bilanciata
Last 3 months	6,75%	10,04%
1 Year	6,40%	9,46%
3 Years	-0,42%	1,04%
5 Years	3,36%	3,87%

Cumulative	SVILUPPO ESG	Acc. Bilanciata
1 Year	6,40%	9,46%
5 Years	17,96%	20,90%

Source: personal elaboration (from Yahoo Finance data)

In general, the annualized returns presented indicate that the balanced line of Previdsystem outperforms that of Secondapensione by a few percentage points across all time horizons. The cumulative returns are also higher; for example, over the entire 5-year period, the non-ESG fund offers a return of 20.90% compared to an initial investment, while Secondapensione offers approximately 18%, which is still high and quite close to that of Previdsystem.

Figure 5.11. "Regression results"

SVILUPPO ESG	Coefficients	Std. error	P-value	R-Squared
α	-0,00078	0,00138	0,57547	0,81215
β	0,93287	0,05891	0,00000	

Acc. Bilanciata	Coefficients	Std. error	P-value	R-Squared
α	0,00009	0,00168	0,95530	0,72132
β	0,78531	0,06409	0,00000	

Source: personal elaboration (from Yahoo Finance data)

Figure 5.11 points out that the estimated model explains the variability of the performance of the Previdsystem line well (at 72%), but the excess returns alongside the intercept are able to explain even better the variation in the performance of the Secondapensione line (with an R-squared of 81%). Furthermore, since the p-values of the alphas are greater than the significance level, the null hypothesis (H_0: α = 0) is accepted, indicating that there are no abnormal returns compared to the market. The betas are significant and slightly below 1, indicating a lower risk compared to the market, but both investment lines closely follow the movements and volatility of the market, with SVILUPPO ESG having a higher value than Accumulazione Bilanciata.

Figure 5.12. "Performance measures".

	Average returns (5 yrs)	Rm-Rf	Variance	Std. Dev.
SVILUPPO ESG	0,00305	0,00128	0,00060	0,02442
Acc. Bilanciata	0,00346	0,00170	0,00060	0,02444

	SVILUPPO ESG	Acc. Bilanciata
Sharpe ratio	0,05259	0,06939
Treynor's M	0,00138	0,00216
Jensen's α	-0,00078	0,00009
Info. ratio	-0,07303	0,00729

Source: personal elaboration (from Yahoo Finance data)

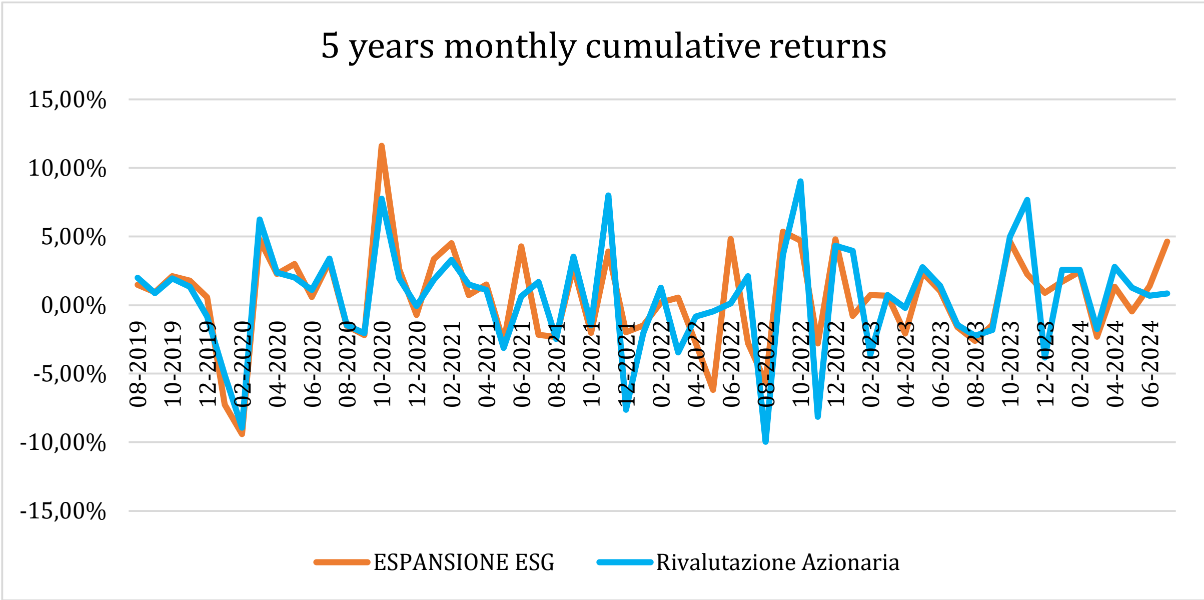
In conclusion, the performance measures indicate that the Sviluppo ESG line has underperformed compared to the balanced line of Previdsystem: it has lower Sharpe and Treynor ratios, reflecting a worse overall risk-return relationship and less efficient management of systematic risk. Even in this comparison, we cannot speak of abnormal returns in relation to the benchmarks, as the estimated alpha values are extremely low and, moreover, not significant.

The information ratios (to be considered with caution) are close to zero, with one being negative for the SVILUPPO ESG line and the other positive, indicating that the Previdsystem line assumes less nonsystematic risk to achieve the same alpha value.

5.3.5 ESPANSIONE ESG vs Rivalutazione Azionaria

The last part of this analysis refers to the two equity lines that take on more risk and aim to generate high returns while accepting a greater variability in results compared to the investment lines examined so far.

Figure 5.12



Annualized return	ESPANSIONE ESG	Rival. Azionaria
Last 3 months	24,31%	11,76%
1 Year	12,80%	13,96%
3 Years	3,45%	3,30%
5 Years	6,48%	5,72%

Cumulative	ESPANSIONE ESG	Rival. Azionaria
1 Year	12,80%	13,96%
5 Years	36,91%	32,05%

Source: personal elaboration (from Yahoo Finance data)

The graph in Figure 5.12 highlights how the two equity lines have performed similarly over the last five years, with some positive and negative exceptions from the Previdsystem fund, which reached peaks of 10% and -10%, unlike Secondapensione, values never achieved in the monthly cumulative returns of the other categories of investment lines from the two pension funds. Furthermore, unlike the other lines analysed previously, the cumulative returns represented are greater in both positive and negative terms, with most falling within the range of +5% and -5%. In line with what is illustrated, the annualized returns and cumulative returns for all time periods are nearly equal, with the ESPANSIONE ESG line that generates the best results, especially in the last quarter, showing a difference of 13 percentage points in annualized returns.

Figure 5.13. "Regression results".

ESPANSIONE ESG	Coefficients	Std. error	P-value	R-Squared
α	-0,00110	0,00209	0,59931	0,79262
β	0,87280	0,05862	0,00000	

Rival. Azionaria	Coefficients	Std. error	P-value	R-Squared
α	-0,00111	0,00335	0,74067	0,56814
β	0,77948	0,08924	0,00000	

Source: personal elaboration (from Yahoo Finance data)

The next point of the analysis is the regression according to the CAPM model, and the results in Figure 5.13 show a fine measure of the goodness of fit for the two regressions, with 79% for ESPANSIONE ESG and a less satisfactory 57% for the Previdsystem line. In this case as well, the intercept assumes a statistically not significant value, unlike the betas, which are 0.87 and 0.78, both close to 1 but still slightly less risky than the market represented by the benchmarks.

Figure 5.14. "Performance measures".

	Average returns (5 yrs)	Rm-Rf	Variance	Std. Dev.
ESPANSIONE ESG	0,00584	0,00408	0,00121	0,03475
Rival. Azionaria	0,00538	0,00362	0,00149	0,03864

	ESPANSIONE ESG	Rival. Azionaria
Sharpe ratio	0,11730	0,09365
Treynor's M	0,00497	0,00464
Jensen's α	-0,00110	-0,00111
Info. ratio	-0,06917	-0,04350

Source: personal elaboration (from Yahoo Finance data)

To evaluate the performance of the equity lines of the two pension funds, the first measures calculated are the Sharpe and Treynor ratios, which exhibit better results for ESPANSIONE ESG, which produced a higher average excess return over the risk-free rate per unit of overall risk and per unit of systematic risk respect to Rivalutazione azionaria. The last two measures are of little significance as the alphas are not significant according to regression, and the results are also negative.

Conclusions

The European Union has undoubtedly pushed towards a more sustainable world through the establishment and implementation of various regulations, prompting member states to consider this issue and make steps towards creating a system focused on development that is mindful of environmental, social, and good governance factors. Specifically, in the pension system, pension funds have begun to integrate sustainable investment strategies into their policies, aiming to have a positive impact on the environment and society while also achieving their financial objectives. In this regard, Europe, particularly northern Europe, is ahead of Italy; however, Italian pension funds are gradually making progress in incorporating ESG criteria while maintaining acceptable financial performance. In the last chapter of this thesis, an analysis was conducted comparing the ESG pension fund Secondapensione with the non ESG pension fund Previdsystem to evaluate their respective performance. In general, the case study did not reveal significant differences in returns and the performance measures calculated. Considering the long-time horizons, as pension funds operate over such periods, Secondapensione offers better returns, particularly in the balanced and equity lines, while Previdsystem slightly outperforms in the remaining two lines, with differences not exceeding 2-3 percentage points. Additionally, from the graphs provided, Previdsystem appears to be more exposed to price fluctuations, showing more pronounced cumulative monthly returns, both positive and negative, more frequently. The performance measures, while not delivering exceptionally high results, indicate that for three out of five investment lines, Previdsystem minimally beats the Amundi ESG fund, with marginal differences, and in some cases, these differences are not so significant. Based on these results, it can be concluded that an ESG pension fund, in this case Secondapensione, has the ability, contrary toa non ESG pension fund, to produce results with a dual impact: financially, it closely matches or even surpasses the performance of a fund that does not integrate ESG factors, meeting the general expectations of a potential investor; at the same time, it achieves a greater positive impact on the planet by promoting responsible practices and respect for the environment and the society in which we live.

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