

Solvency II

Prudential treatment of equity exposures



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Abstract

Insurance companies are important investors in EU capital markets. Most of their investments are in debt instruments, while equity investments can contribute to higher returns for policyholders and overall EU economic growth. This study analyses the treatment of equity investments by insurance companies in (proposed) EU legislation; it is considered that this legislation will have limited impact on equity investments. To enhance equity investment significantly drivers other than prudential ones would have to be targeted.

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LIST OF ABBREVIATIONS

AIF	Alternative investment fund
ALM	Asset and liability management
CMU	Capital Markets Union
ECB	European Central Bank
EEA	European Economic Area
EIOPA	European Insurance and Occupational Pensions Authority
EC	European Community
EU	European Union
GFC	Global Financial Crisis
IFRS 17	International Financial Reporting Standard 17
IMF	International Monetary Fund
IGS	Insurance Guarantee Scheme
MCR	Minimum capital ratio
MTF	Multilateral trading facility
OECD	Organisation for Economic Co-operation and Development
SCR	Solvency capital ratio
SII	Solvency II (Directive 2009/138/EC)
SME	Small and medium-sized enterprises
UL-IL	Unit-linked or index-linked
VaR	Value at Risk

EXECUTIVE SUMMARY

Background

Insurance companies are an important source of long-term stable funding for governments and businesses. The ability of insurance companies to fund governments and businesses is bound by prudential legislation. Prudential legislation aims to limit the chances of insurance companies failing, while maximising the possibility to contribute to the economy throughout economic cycles.

Harmonised prudential legislation for (re)insurance companies in the EU was introduced in 2009 under Solvency II (Directive 2009/138/EC). The prudential legislation is risk based, which means that the insurance companies are required to hold more capital for riskier exposures. The equity exposures are interesting in this context as they have the opportunity to generate higher returns than other safer categories of assets such as bonds. Their returns however, especially in the short term, are more volatile and harder to predict.

There have been ongoing debates as to whether insurance companies can contribute more to the real economy through equity investments. The main focus of the existing policies to develop and integrate the capital markets in the EU is to attract investments for EU companies, and especially SMEs. In recent years these have complemented the need for large investments in the EU economy to finance post-COVID-19 economic recovery and green transition.

In this context, the European Commission has launched two legislative proposals, to respectively i) remove 'unjustified barriers' for insurance companies to invest in equity, and ii) set up a harmonised EU-wide framework for recovery and resolution of insurance companies.

Aim

The objective of this study is to assess the impact of amendments to Solvency II (Delegated Regulation (EU) 2015/35 and Delegated Regulation (EU) 2019/981) as well as the expected impact of the two European Commission proposals on equity investments by insurance companies. The study considers both the expected impact on post-COVID-19 economic recovery and green transition, and the potential negative implications for financial stability. It further considers potential alternatives to the Commission's proposals. The assessment is based on an extensive literature review and basic data analysis.

Key Findings

EU insurance companies only invest about EUR 1.4 trillion in equity, excluding investments in related parties, which is equivalent to roughly 16 % of their total investments (end-2021).

The equity investments by insurance companies depend on the characteristics of the respective equity as well as various internal and external drivers. Equity investments can be categorised based on various factors such as the form of investment and the destination of investments. The main internal drivers concern asset and liability management and characteristics of liabilities, while the main external factors concern financial market conditions and the regulatory framework. In addition to the prudential rules, the latter also includes accounting standards and tax treatment.

The level of equity investments is highest for unit and index-linked insurance of which almost half of the investments are in equity (approximately 45 %), while investments in equity for life, non-life and re-insurance/composite insurance are much lower at about one-tenth of the total investments (between 7 and 8 % of investments).

The main reason for this divide is that the risks for price volatility of linked insurance products are mostly covered by the policyholders, while for other insurance products the returns are at least to some extent guaranteed by the insurance companies.

The equity investments of insurance companies are mostly indirect through collective investment funds and asset managers, but a substantial part is directly invested in equity (between 25 and 57 % across types of insurance). In addition, a large majority of the investments are in listed equity, especially of unit and index-linked insurance which are almost exclusively invested in listed equity. The insurance companies have a home bias in their equity investments, which is least strong for unit and index-linked insurance that invest the majority of their equity investments in other EU Member States and third countries.

The Solvency II prudential requirements for insurance companies in the EU have evolved over the years following changes in political needs and priorities. The rules were most recently subject to a broad review by the European Commission in 2020. The review found EU prudential rules to be effective in protecting policyholders and ensuring financial stability. However, it also found EU prudential rules to be constraining for equity investment by insurance companies. The two previously mentioned proposals were put forward in response to the review.

Looking at the various elements of the proposals they are likely to have a limited impact on the investments in equity, while they are unlikely to lead to a significant deterioration of financial stability as regards the capital buffers of insurance companies.

The proposal to widen the upper and lower bounds of the symmetric adjustment is likely to only impact the capital requirements in extreme market conditions, which are quite rare and therefore likely to have a limited impact on the investments in equity. Similarly, clarifying and expanding the criteria for long-term equity investment would increase the scope of equity investment that is considered long term, which might, in turn, through reduction in capital charges, increase equity investments somewhat. Finally, the changes concerning the duration-based equity module are not expected to have any significant impact considering the alternative options available and the current low take-up.

To significantly increase the investments in equity by EU insurance companies it is recommended to look beyond prudential treatment of equity, as this is unlikely to change the behaviour of the well-capitalised insurance companies much. The two avenues to consider are to grow the unit and index-linked segment, which relatively speaking invest most in equity, and to make it more attractive to invest in equity for life and composite insurance companies. Indeed, the future obligations could be discounted by an interest rate closer to the real interest rate considering that the volatility of equity returns is less when longer holding periods (> 20 years) are considered.

1 INTRODUCTION

KEY FINDINGS

- Insurance companies are among the largest institutional investors in the EU;
- Long-term equity investments are important for EU businesses; and
- The equity holdings by insurance companies are, amongst others, limited by the Solvency II requirements to ensure financial stability.

1.1 Background

Insurance companies are among the largest institutional investors in the EU and a source of stable, long-term funding for governments and businesses. However, insurance companies pose a potential risk to financial stability, which justifies prudential legislation. More specifically, the financial stability risks originate from holding illiquid assets and interlinkages with banks and other financial institutions (Jourde, 2022). Insurance companies are further increasingly engaged in non-insurance activities such as derivatives trading that enhance the counterparty risks (IMF, 2016).

Effective prudential regulation aims to reduce the chance that insurance companies fail and contributes to the economy throughout the economic cycles¹. In the EU, prudential regulation for insurance companies was introduced under Solvency II (Directive 2009/138/EC) in 2009. The objective of Solvency II is to ensure that (re)insurance companies are able to absorb potential losses in case of headwinds. This also gives reasonable assurance to policyholders and beneficiaries that payments will be made by insurance companies as they fall due.

The solvency risks of insurance companies stem from the development of the value of assets and claims from policyholders. The treatment of equity exposures is one of the most important aspects of the prudential capital requirements, as these are among the riskier exposures. Indeed, equity exposures can bring higher returns than other 'safer' types of assets, but are also more volatile². The solvency requirements must find the right balance between the benefits and costs of investments in equity.

Current debates about amendments to Solvency II are centred on ensuring that the prudential treatment of equity exposures contributes to the wider EU policy goals such as post-COVID-19 economic recovery and green transition. In this context, the European Commission launched two legislative proposals in September 2021, these are i) to remove 'unjustified barriers' for insurance companies to invest in equity and ii) to set up a harmonised EU-wide framework for recovery and resolution of insurance companies.

1.2 Objectives of the study

Against this background, the objective of this study is to assess the effect of amendments to Solvency II as well as the latest European Commission proposals on the investment behaviour of insurance companies. More specifically, the extent to which they will increase support for the European economies post COVID-19 and contribute to the financing of the European Green Deal.

¹ European Commission, Web-article on Prudential requirements. Available at: https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-supervision-and-risk-management/managing-risks-banks-and-financial-institutions/prudential-requirements_en.

² Article 106.1 of the Solvency II. Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009L0138>.

The study further considers the potential negative implications for financial stability and analyses potential alternative options.

1.3 Reading guide

The study first discusses the drivers of investments in equity in Chapter 2. The current level of investments in equity is shown in Chapter 3. This is followed by a discussion of the various legislative treatments of equity exposures in the past, current, and proposed legislative amendments in Chapter 4. The impact of the adopted amendments and proposed revisions of equity investments by insurance companies are analysed in Chapter 5. Finally, Chapter 6 draws conclusions from the analysis and proposes recommendations to promote equity investments by insurance companies, while ensuring financial stability.

2 DRIVERS OF INVESTMENTS IN EQUITY

KEY FINDINGS

- Equity investments can be categorised based on various factors such as the form of investment (solvency, channel, market, participation); and destination of investment (geography, size, sector);
- Considering the objectives of CMU, the main focus is on attracting investments for EU companies, and especially SMEs active in the real economy;
- Various other internal and external drivers affect the allocation to equity of insurance companies, including asset liability management, liability characteristics, financial market conditions and legislation; and
- In addition to the solvency legislation central in this study, accounting and tax policies also impact the investment in equity.

This section discusses the main categorisations of equity, with consideration to the policy priorities. It also identifies the main drivers behind investment in equity by insurance companies, and the extent to which public policy is one of them.

The analysis in this chapter is based on a review of existing literature.

2.1 Types of equity investments

Investment in equity results in the investor acquiring an ownership-share of a company (voting rights or capital). A typical example of equity investment can be the purchasing shares of a company on a stock exchange (i.e. public equity). However, there are other types of equity investments.

Equity investment can be categorised based on a number of different factors. These can be grouped under two main categories: i) factors that describe the form of investment (solvency, channel, market, participation); and, ii) factors that describe the destination of investment (geography, size, sector) (see Figure 2.1).

Distinguishing between different types of equity is crucial as it allows for a better understanding of their relative importance for economic development and public policies. Moreover, it is also important for the analysis of the drivers of investment in equity (see Chapter 2.3) as drivers differ depending on the type of equity investment.

Figure 2.1 Types of equity investment

Form	Solvency	Equity	Holdings in related undertakings, including participations		Collective Investment Undertakings
	Channel	Direct investments		Indirect investments	
	Market	Listed equity (=public)		Unlisted equity (=private) (private equity, venture capital, etc.)	
	Participation	Non-substantial	Minority	Partner	Linked
Destination	Geography	Domestic	Other Euro area	Other EU	Non-EU
	Size	Micro cap (=SME)	Small cap	Mid cap	Large cap
	Sector	Other insurance undertakings	Other financial undertakings	Real estate	Other non-financial companies

Source: Authors' elaboration based on [Deloitte & CEPS, 2019](#).

Solvency II distinguishes between three main types of equity investment.

First, equity investment covers all ownership rights in corporations. This includes common equity, equity of a real estate-related corporation, equity rights, preferred equity and other equity.

Second, investment in collective investment undertakings covers investment in undertakings that invest collectively in transferable securities and/or other assets. Typically, collective investment undertakings invest in a range of assets such as bonds, money market instruments, real estate, etc. Only those undertakings that invest mainly in public or private equity would be considered as equity collective investment undertakings.

Third, equity investment in related undertakings covers investment in subsidiaries, enterprises in which participation is held or that are part of the insurance group ([EC, 2009](#)). Typically, the parent undertaking within the insurance group exercises significant influence over related undertakings. Depending on the holding and management strategy, Solvency II further distinguishes between strategic and non-strategic investment in related undertakings.

Depending on the **channel**, equity investment can be direct or indirect. Direct investment considers equity held and managed by the insurance company itself. Indirect investment considers equity managed by third-parties on behalf of the insurance company. A typical example of an indirect investment is investment in collective investment undertakings.

Typically, indirect investment in particular through funds, offers a more diversified pool of equity investments compared to direct investments. However, as management is delegated to a third-party under indirect investments, insurance companies are not fully in control of the portfolio composition. Moreover, some of these investments (e.g. alternative and private equity funds) are highly complex and opaque ([ECB, 2019](#)). This means there is – in general – more uncertainty about risks, returns and destination of investment.

Equity can also be classified into listed (public) and unlisted (private) depending on the **trading market**. Listed or public equity consists of shares of companies that are listed and traded on regulated or unregulated (Multilateral Trading Facilities - MTF) stock exchanges³. Unlisted equity consists of shares of companies that are not listed on public markets, but traded and held privately. This can be private equity, venture capital, business angels, crowd funding through platforms without secondary markets, etc.

Unlisted equity traditionally has a higher liquidity risk compared to listed equity. This is primarily due to lack of secondary markets and related pricing difficulties. However, one advantage of unlisted equity compared to listed equity is its smaller volatility compared to listed equity. Volatility in unlisted equity is primarily driven by earnings' expectations, while for listed equity earnings' expectations are usually supplemented by 'excess volatility' ([Rudin & Fink, 2019](#)). Lower volatility argument is particularly important for long-term investors as it has a stabilising effect on their balance sheet ([Diller & Jackel, 2015](#)).

Equity investment can be classified based on the **level of participation** – the extent to which investors can participate in the governance of the companies (e.g. by voting in shareholding meetings,

³ Including crowd funding platforms with accessible primary and secondary markets.

participating in the board, etc.). The level of participation is defined based on main regulatory thresholds on ownership stake used for consolidated financial accounts⁴.

Four types of equity investments are distinguished depending on the size of the ownership stake of insurance companies. Non-substantial investments cover all investments that result in insurance companies holding an ownership stake of less than 5 % in a company⁵. Minority investments concern investments with ownership stakes ranging between 5 % and 25 %. Ownership stakes between 25 % and 50 % would result in partner investments. Ownership stakes of more than 50 % are considered linked investment as the investors have dominant influence over the company they invest in.

This classification of equity based on level of participation is important for investors for two main reasons. First, the larger the ownership stake in the company – the more control the insurance company has over its activities. Second, liquidity of equity investment differs depending on the participation. For example, for listed equity the larger the ownership stake – the harder to exit the investment by selling the stake in the public market without price impact. In turn, for private equity, a larger ownership stake can make it easier to exit such an investment.

Apart from form, equity investment can also be classified based on destination. These factors are important in the context of the Capital Markets Union (CMU), whose objective is to strengthen investment in EU equity in order to contribute to EU-wide economic growth.

Based on **geographic location**, the equity investment can be classified into four categories: domestic, other Euro-area, other EU, and non-EU. The distinction between investment in EU (domestic, other Euro-area and other EU) and non-EU companies is important in the policy context. To ensure the EU's economy is more competitive and grows in a sustainable way the CMU aims to attract more investments in the EU from both local and foreign investors ([EC, 2020](#)). Moreover, the risk sharing should primarily happen between EU countries ([Deloitte & CEPS, 2019](#)).

Similarly, equity investments differ depending on the **size** of the company receiving the investments. Size is important in light of the recent [CMU Action Plan](#), one of whose objectives is to stimulate investment in EU SMEs. EU SMEs are the backbone of the EU economy, nevertheless many of them lack a stable funding model and remain reliant on bank loans as the main source of funding ([EC, 2020](#)). Therefore the CMU aims to develop equity financing for SMEs.

In the context of capital markets, company size varies between micro-cap (i.e. SME), small-cap, mid-cap and large cap depending on the market capitalisation⁶ ([EC, 2014](#)). Companies with a market cap of less than EUR 200 million are considered as micro-cap or SMEs. This definition is traditionally used for listed equity and might not be very suitable for unlisted equity due to the unavailability of a current verifiable market price.

Finally, equity investment can also be classified based on the **sector** the company is active in. The CMU aims to unlock investment in the real economy or in other words non-financial companies. Thus, the classification distinguishes between financial sector companies (separated into other insurance companies, other financial companies and real estate) and other non-financial companies.

⁴ Directive 83/349/EEC based on the Article 54 (3) (g) of the Treaty on consolidated accounts.

⁵ Legal threshold for registering an investment in public liability companies in most EU states ([Deloitte & CEPS, 2019](#)).

⁶ Total value of all the company's outstanding shares.

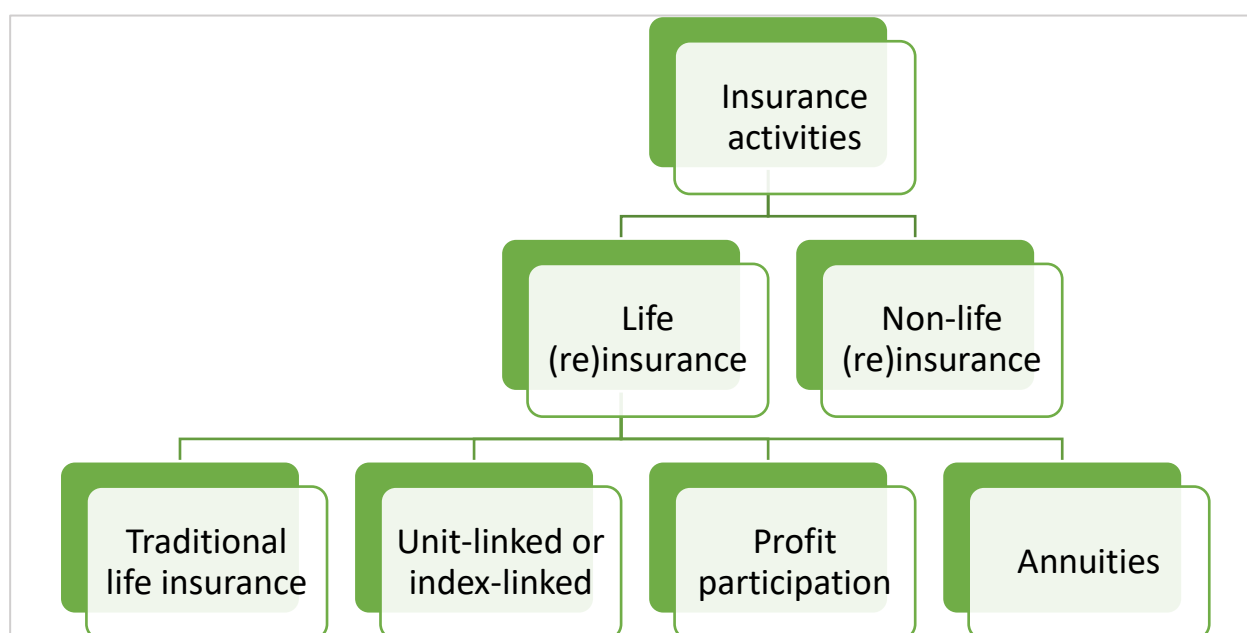
2.2 Types of insurance activities

The type of activities exercised by the insurance company can have an impact on the share and composition of its equity investments. It is thus important to distinguish between the main types of insurance activities to understand the equity investment of insurance companies, which are discussed in more depth in Chapter 2.3.

The EU insurance sector can be divided into two main sub-sectors (see Figure 2.2):

- Life (re)insurance; and
- Non-life (re)insurance.

Figure 2.2 Types of insurance activities



Source: Authors' elaboration.

Due to structural differences between the two sub-sectors, Solvency II requires insurers to manage their life and non-life insurance activities separately in order to protect the interests of policyholders. This means that profits received from life insurance can in principle only be used to benefit life insurance policyholders.

Life insurance covers all activities linked to insurance contracts that offer policyholders protection against risk of death or longevity ([Deloitte & CEPS, 2019](#)). This means that a pay-out (lump sum or reinvested premiums) is guaranteed in the case of the death of the insured person and potentially in other cases (e.g. at maturity or after achieving certain age). Life insurance contracts usually have a long duration (i.e. more than 5 years).

Depending on the modalities of the contract there are four main types of life insurance.

- First, **traditional life insurance** covers all simple insurance contracts that protect against risk of death and do not accrue cash value at the end of the contract. Under traditional life insurance contracts, the insurance company collects monthly premiums from the policyholder and guarantees to pay out a pre-defined lump sum in case of death of the insured person as long as the contract is valid. After expiration, the contract can be renewed, however premiums would be revised upwards in line with the heightened biometric risk. Many insurance companies also set caps on maximum age to conclude the contract. The insurance company

manages collected monthly premiums in line with its investment strategy with the main goal of meeting the liabilities (i.e. pay-out) on time. The insurance company carries the full risk of the equity investments;

- Second, **unit-linked or index-linked insurance** comprises all complex insurance contracts that protect against risk of death and accrue cash value through reinvestment of collected premiums on behalf of the policyholder. The contract is usually set for a certain period of time and accrued cash value is paid out at maturity or if the insured event occurs. The pay-out is determined by reference to the value of a fund (unit-linked) or an index (index-linked) and is therefore fully exposed to market fluctuations. This essentially means that the policyholder carries the full risk of the equity investments;
- Third, insurance with **profit participation** is similar to the unit-linked or index-linked insurance as it is a complex insurance contract that accrues cash value through reinvestment of collected premiums on behalf of the policyholder. However, under this type of insurance, policyholders participate in the periodic distribution of profits/losses arising from activities of the insurance company. Usually, these contracts have lower and upper bounds on the profits / losses that can be shared and offer a full or partial capital guarantee ([EIOPA, 2022](#)). This means that the risks of the equity investments are shared between the insurance company and the policyholder; and
- Fourth, **annuity** is also a complex insurance contract that offers policyholders a combination of investments and a guaranteed lifetime annuity. The main purpose of this contract is to insure income after reaching a certain age (i.e. retirement). Usually annuity contracts include two main phases: i) accumulation and ii) decumulation. Under the accumulation phase, the policyholder pays premiums⁷ which are then reinvested on behalf of the policyholder. Traditionally, premiums collected under an annuity contract benefit from full or partial capital guarantee. The decumulation phase starts once the contract reaches maturity: the pay-out is distributed as series of regular payments made at equal intervals. Depending on the contract specification the pay-out lasts for a predefined period of time or for the lifetime. This means that the investment risk is carried entirely by the insurance company.

Non-life insurance covers all other insurance contracts where the main insured event does not include death of the insured person. These are usually property or casualty insurance products. They are typically of shorter (renewable annually) duration and have a higher degree of uncertainty about timing and volume of claims. Under these contracts the pay-out happens after occurrence of the insured event and the risk is born entirely by the insurance company.

Reinsurance covers all contracts between (re)insurance companies where one undertaking (cedant) insures its risk portfolio with a reinsurance company in an effort to protect itself from a major claims event (e.g. hurricane or wildfire). This effectively means that insured liabilities and the risk that they carry are being passed on from the balance sheet of the cedant to the balance sheet of the reinsurance company.

The nature and duration of liabilities of re-insurance is fairly similar to the insurance equivalent, therefore the reinsurance will be treated in the same way as insurance for the purposes of this study, unless otherwise stated.

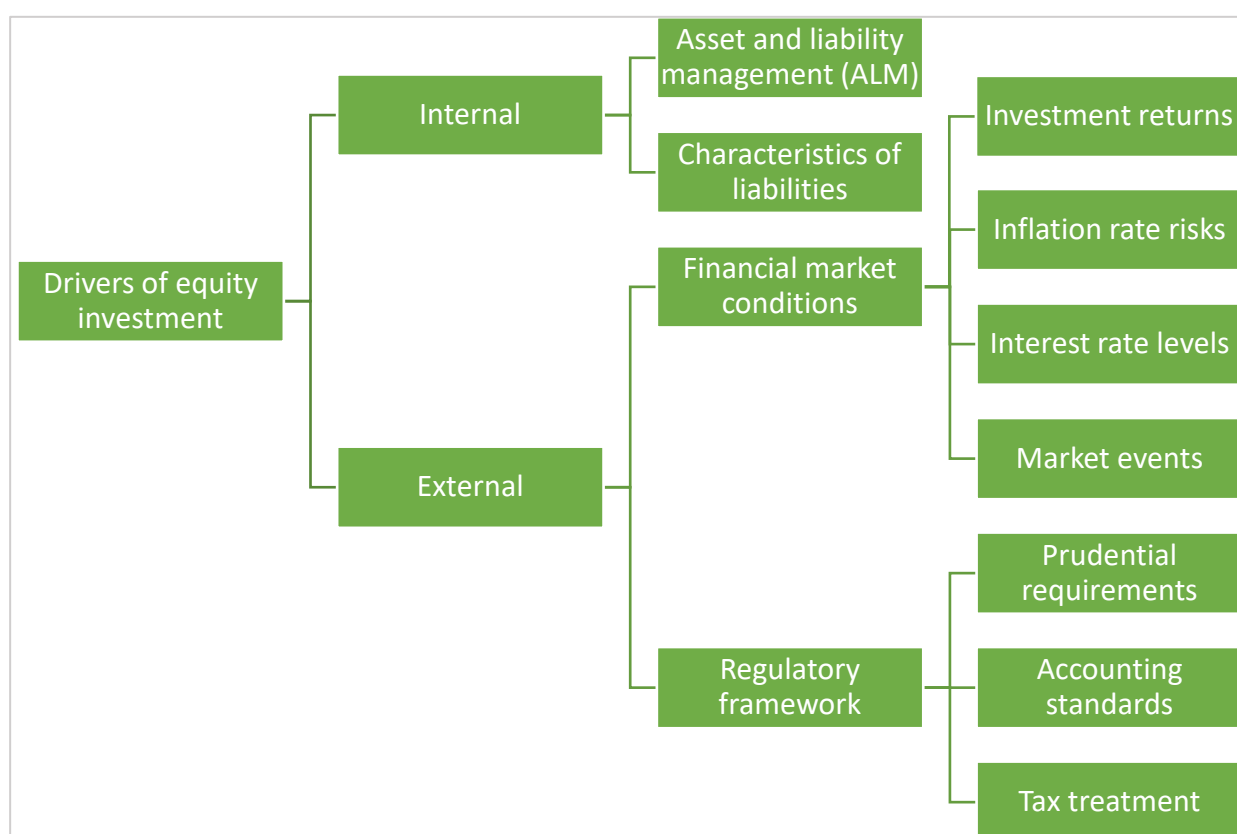
⁷ Lump-sum or regular payments.

Depending on the type of activity, the insurance company would manage its assets (collected premiums) in such a way as to ensure that its liabilities (guaranteed pay-outs) are met when they fall due. These risks are at the basis of the business model of the insurance company, therefore insurers have a number of tools to mitigate them. These include duration gap management, portfolio diversification reinsurance and others. In some cases, both life and non-life insurance and reinsurance activities can give rise to **ring-fenced funds** – setting a certain share of the assets aside for a specific purpose.

2.3 Drivers of investments in equity

There are various factors influencing the investments of individual insurance undertakings. The extent to which they invest the received premiums in certain asset classes depends on a number of drivers (see Figure 2.3). The interplay of these drivers impacts the investment behaviour of (re)insurance companies defining their asset composition. Drivers of investments in equity for insurance companies can be divided into internal and external drivers.

Figure 2.3 Main drivers of investments in equity by EU insurance undertakings in literature



Source: Authors' elaboration based on [Deloitte & CEPS, 2019](#).

2.3.1 Internal drivers

Internal drivers stem from own structure and operations of insurance companies.

2.3.1.1 Asset and liability management

Asset and liability management (ALM) deals with the portfolio choice problem. Insurance companies need to structure their balance sheet in such a way that the changes in liabilities are offset by equivalent changes in assets ([Fleuriet & Lubochinsky, 2005](#)). In short, the principal and investment returns on assets must be able to fulfil future liabilities ([Deloitte & CEPS, 2019](#)).

Two aspects of ALM appear to influence the allocation of investments to equity. First, the average duration of liabilities; insurance companies are incentivised to invest more in equity when the duration of liabilities is longer than the maturity of bonds. The duration mismatch can be efficiently closed with equity investments, which needs to be held for a long maturity to account for larger volatility. Second, expected outflows; when executing their asset management within the ALM framework, insurance companies have to consider outflow profiles of liabilities. Where the timing of liabilities is harder to predict (e.g. contracts with surrender options) insurance companies are incentivised to hold more liquid assets, such as listed equity ([Deloitte & CEPS, 2019](#)).

2.3.1.2 Characteristics of liabilities

The characteristics of liabilities play an important role in the investment behaviour of insurance companies. Characteristics such as duration of commitments and level of security offered to the policyholder often depend on the type of insurance activity (see Chapter 2.2).

Traditional life insurance usually implies long-term liabilities as most life insurance contracts are typically concluded for more than 5 years. Insurance companies primarily engaged in providing life insurance thus have a longer investment horizon and are more resilient to short-term market shocks ([De Haan & Kakes, 2011](#)). This allows them to invest more in equity.

Moreover, offering unit-linked or index-linked life insurance usually implies long-term liabilities with policyholders bearing all the investment risk. The latter means that the policyholder is ultimately responsible for the risk profile of the underlying asset composition. Policyholders usually exhibit more willingness to invest in riskier assets against higher returns (e.g. equity instead of bonds) as they view unit-linked or index-linked life insurance more as an investment product rather than a pure insurance product ([Deloitte & CEPS, 2019](#)). Thus, insurance companies offering unit-linked or index-linked life insurance can have larger equity exposures.

Profit participation life insurance and annuities also imply long-term liabilities. However, these products often feature capital guarantee which means the investment risk is borne by the insurance company. Offering financial guarantee products require more certainty about the investment results, which are reflected in more low-risk investments (e.g. fixed income) ([Stowe, 1978](#)).

Finally, non-life insurance tends to have more short-term liabilities as most of the non-life insurance contracts are renewable annually. Non-life insurers are therefore much more exposed to short-term price changes and have a shorter investment horizon ([Deloitte & CEPS, 2019](#)). This could disincentivise non-life insurers from investing in equity.

The tendencies to invest in equity based on the liability characteristics / type of insurance are confirmed by the actual investments by type of insurance undertaking in Figure 3.2 above.

2.3.2 External drivers

External drivers of equity investments are those drivers imposed on insurance companies by market forces, policymakers and other stakeholders.

2.3.2.1 Financial market conditions

Financial market conditions are one of the most important drivers of the investment decisions of insurance companies. Among others, market conditions include investment returns, inflation rate risks, interest rate levels, market events and market volatility.

2.3.2.1.1 Expected investment returns

Of the drivers related to market conditions, insurance companies consider market returns as the most important ([Deloitte & CEPS, 2019](#)). Indeed, the existing literature confirms positive correlation between returns on assets and investment allocation ([Blake et al., 1999](#)). In other words, the higher the return on a given asset class the more insurance companies would invest in it.

Equity investments are traditionally perceived as high-risk/high-return assets compared to other low-risk/low-return assets (e.g. fixed income instruments). Indeed, insurance companies that seek higher returns would be more likely to invest in equity ([Deloitte & CEPS, 2019](#)). This relationship is reversed in case of losses. Several studies ([Bijlsma & Vermeulen, 2016](#); [Duijm & Bisschop, 2018](#)) have found that insurance companies are quick to exit riskier assets when they underperform relative to other asset classes.

2.3.2.1.2 Inflation rate risks

Apart from the attractive risk-return profile, insurance companies seek to invest in equity in order to protect themselves against inflation risk ([Jakubik & Turturescu, 2018](#)). Rising inflation increases the risk for higher cash flows.

Inflation risk differs depending on the type of main insurance activity exercised. For instance, for non-life insurers inflation has a direct impact on the claims: growing inflation increases the value of the insured asset or event (e.g. property) thus leading to higher claims ([Ahlgrim & D'Arcy, 2012](#)). The impact of inflation on the real value of premiums received is less of an issue for non-life insurers as most non-life contracts are short term.

In turn, for life insurers the impact of inflation on claims is not substantial as most pay-outs are fixed ([Ahlgrim & D'Arcy, 2012](#)). However, inflation has an impact on premiums received: as most contracts are long term and have fixed premiums the real value of premiums goes down when inflation rises ([Li et al., 2007](#)).

Insurers can compensate for the inflation risk by investing in equity ([Boudoukh & Richardson, 1993](#)). As the value of an equity holding is largely determined by its price, which changes on a daily basis, equity investments are better protected from inflation than, for instance, bond investments.

2.3.2.1.3 Interest rate levels and developments

Interest rate is another important driver influencing the level of equity investments. Low interest rates push insurance companies' promised rate of return on long contracts above safe asset returns, making it unprofitable to invest in safer assets ([IMF, 2016](#)). This effect is especially pronounced for life insurance companies that provide profit participation and annuity contracts. These companies often opt for safe assets given that the contracts they offer have long-term guaranteed commitments, however protracted episodes of low interest rates eat into their profits.

This has been slowly pushing insurance companies away from low-risk low-returns assets (e.g. fixed income) towards equity and alternative investments with higher returns, but also higher risks ([Gründl et al., 2016](#)).

The relation also holds when reversed. Empirical findings of the analysis of EU insurance companies confirm that the higher the interest rates the lower the investments in equity ([Jakubik & Turturescu, 2018](#)).

2.3.2.1.4 *Market events and volatility*

Market events and volatility also serve as a driver for investments in equity. However, this driver shows a negative correlation with investments by insurance companies. Therefore, the higher the volatility and severity of market events (e.g. crises) the more insurance companies are likely to divest from equity towards other safer asset classes as part of their de-risking behaviour ([Deloitte & CEPS, 2019](#)).

Empirical studies show that most institutional investors (including insurance companies) seek to exit equity investment during large falls in equity prices and a financial crisis in an effort to bolster their balance sheets ([Impavido & Tower, 2009](#)). This puts further downward pressure on equity markets, requiring insurers to further decrease their equity exposures in order to safeguard their solvency margins.

2.3.2.2 *Regulatory framework*

The regulatory framework also has an impact on investments in equity by insurance companies. There are three types of regulations that can influence the investment behaviour: prudential, accounting and tax regulations.

2.3.2.2.1 *Prudential capital requirements*

Prudential capital requirements have an impact on allocation in equity and are impacted by investments in equity. Prudential regulation mandates insurance companies to hold capital buffers to ensure that insurance companies are able to absorb the risks in case of failure. Given their objective, capital buffers are risk based: the higher the exposure, the higher the buffer required to absorb potential losses. Therefore, while more capital is associated with higher allocations to equity, more equity investment leads to lower solvency ratios ([Deloitte & CEPS, 2019](#)).

The impact of EU capital requirements in the context of Solvency II and amendments are discussed in Chapters 3 and 5.

2.3.2.2.2 *Accounting standards*

Accounting standards can drive the investment behaviour of insurance companies through prescribing rules on preparation and disclosure of financial statements which influence the perception of stakeholders about the performance and growth of insurance companies. For instance, mark-to-market or in other words fair-value accounting can lead to more procyclical investment behaviour of insurance companies.

Mark-to-market accounting is an accounting practice which relies on adjusting the value of the asset to reflect its 'fair' value based on the current market price. Insurance companies that have to price their investment portfolios in market prices are thus exposed to market volatility. The latter leads to volatility of portfolio values and consequently solvency levels if not addressed in the solvency requirements. This means that under mark-to-market accounting, short-term changes in the market are a concern for insurance companies pushing them to invest less in equity ([World Economic Forum & Oliver Wyman, 2011](#)).

Under IFRS 17 which is set to kick in in 2023, potential volatility arising from fair value accounting is expected to be mitigated to a large extent ([Deloitte & CEPS, 2019](#)).

2.3.2.2.3 *Tax treatment*

The tax treatment of equity holdings, transactions, capital gains and dividends can also impact the asset allocation of insurance companies as it has a varying impact on asset returns. The impact largely depends on the features and provisions of the taxation regime in the respective country⁸ ([Brentani, 2004](#)).

Tax treatment of capital gains and dividend appear to be the main drivers behind insurance companies' equity investment as they lower the net investment returns. Tax on dividends has a negative impact on the equity investment of insurance companies as they invest predominately for the long term and rely on regular dividends for reinvestment and pay-outs. Similarly, higher tax on capital gains also provides a disincentive for insurance companies to invest in equity as it lowers their net return ([König & Wosnitza, 2000](#)). Additionally the existence of tax exemptions on the capital losses and gains of insurance companies might be related to higher investments in equity ([Deloitte & CEPS, 2019](#)).

⁸ Taxation is a national competence in the EU.

3 CURRENT LEVEL OF EQUITY INVESTMENTS

KEY FINDINGS

- Considering both direct and indirect equity investments, EU insurance companies invest approximately EUR 1.4 trillion in equity (end-2021), representing about 16 % of EU insurance investments;
- Life, non-life and re-insurance / composite have comparably low levels of investments in equity (between 7 and 8%), while unit and index-linked insurance show much higher levels of equity investments (approximately 45 %);
- The equity investments are mostly indirect through collective investment funds and asset managers, but a substantial part is directly invested in equity by insurance undertakings (between 25 and 57 % across types of insurance);
- The large majority of the equity investments are in listed equity. Unit and index linked insurance are almost exclusively invested in listed equity (98 %), while a substantial minority of life, non-life and re/composite insurance related investments are unlisted equity (between 21 and 27 %); and
- The large majority of the equity investments of life, non-life and re /composite insurance are invested in domestic companies, while the majority of unit and index linked insurance is either invested in other EU Member States or in third countries.

This chapter will look at the evolution of equity investments by large insurance companies in the EU. Moreover, it shows the different levels of equity investments across types of insurance, countries, channels, type of equity, and location.

The analysis in this chapter is based on a data analysis explained in the next paragraph.

3.1 Data and methodology

To understand the evolution and composition of equity investment of the EU insurance companies this study relies on analysis of the balance sheets of (re)insurance companies based in 17 EU Member States⁹.

The data used for the analysis feature quarterly observations from 2017 until 2021¹⁰ obtained from the latest issue of the European Insurance and Occupational Pensions Authority (EIOPA) Insurance Statistics. The main source used is the EIOPA balance sheet items database. The most granular data was sometimes missing and has been approximated through applying relative weights sourced from the EIOPA asset exposures database ([EIOPA, 2022](#)). The data for insurance companies was obtained at solo (unconsolidated) level. Using solo level data allows for a more granular look at the asset exposure by country and by type of asset¹¹.

⁹ EU Member States covered: AT, BE, CY, DE, DK, ES, FR, HU, IE, IT, LU, MT, NL, PL, PT, RO, SE. Insurance companies from the remaining 10 EU Member States were excluded because of lack of information on the type of insurance undertaking.

¹⁰ All available years.

¹¹ Asset-by-asset breakdown of insurance companies' exposures is only available at solo level.

The analysis of equity investment of EU insurance companies looks at insurance companies' assets generated from 4 main types of insurance activities:

- Life insurance (excl. unit-linked or index-linked), covering all traditional life insurance activities, where insurance contracts do not accrue cash value;
- Non-life insurance, covering all non-life insurance activities;
- Reinsurance and composite covers activities of reinsurance undertakings and composite undertakings i.e. those offering both life and non-life insurance products; and
- Unit-linked or index-linked covers all activities where insurance contracts accrue cash value and premiums are reinvested on behalf of the policyholder. This category was separated to reflect the fact that ultimately asset composition and risk stemming from it depend on the policyholder and not the insurance company.

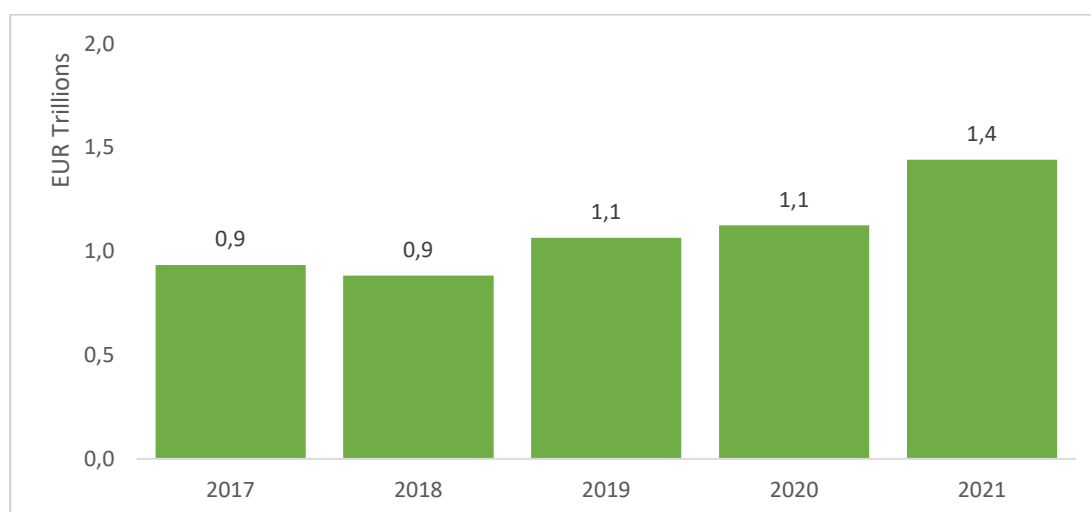
Furthermore, equity investment covers investment in listed and unlisted shares and investment in equity or private equity through collective investment undertakings. Indeed, investment in related undertakings are excluded. A large share of these investments concern investments in other insurance companies, real estate entities and other investments which are not recognised as investments in the real economy, which is the main objective of the promotion of equity investments in the CMU Action Plan ([EC, 2020](#)). Second, investment in related undertakings might cause double counting due to cross-holdings or cross-ownerships ([EIOPA, 2021](#)).

3.2 Equity investments by EU insurance companies

The insurance sector is the largest institutional investor in the EU. In total, EU insurance companies manage more than EUR 10 trillion in assets invested in the economy ([Insurance Europe, 2022](#)), of which part is invested in equity.

The equity investment value of insurance companies has been growing steadily over the past 5 years (see Figure 3.1). At the end of 2021, the total value of insurance companies' assets invested in equity stood at EUR 1.4 trillion or about 16 % of total investments. This is 50 % more than the EUR 0.9 trillion in equity investments in 2017. The increase largely reflects nominal changes and indicates overall economic growth rather than the growing interest of insurance companies in equity investment.

Figure 3.1 Equity investments by the EU insurance sector (EUR trillion, 2017-2021)

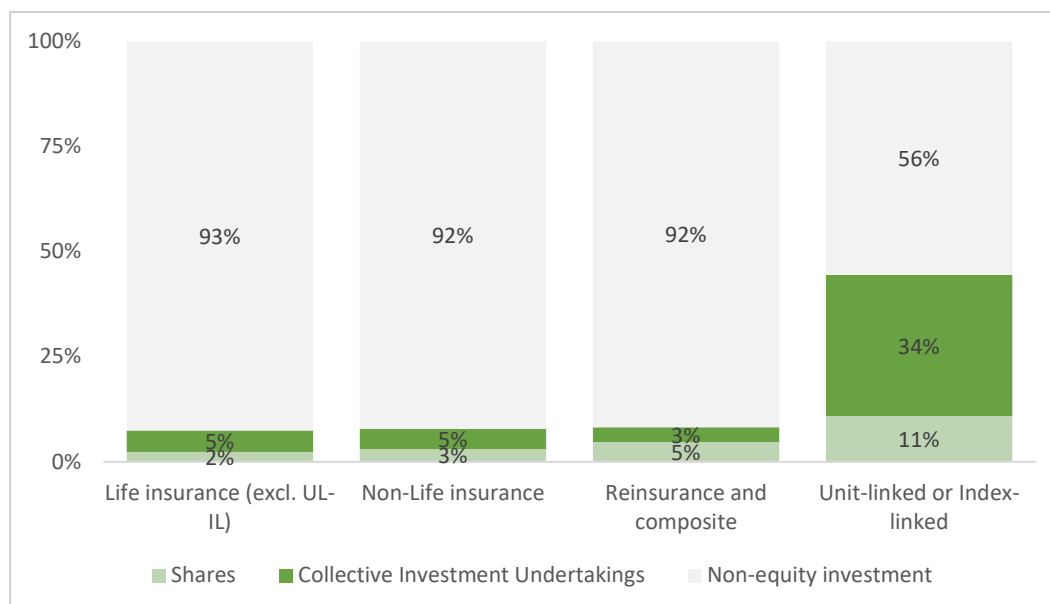


Note: Equity investment is measured as investment in listed and unlisted shares as well as equity and private equity funds. Investment in related undertakings is excluded from the equity investments.

Source: EIOPA Insurance Statistics ([2022](#)).

Equity investment varies substantially across types of insurance activities (see Figure 3.2). Hence, only a small minority of all assets related to life, non-life and composite (re)insurance activities are invested in equity (7-8 %). This signals an overall reluctance of insurance companies to invest in equity. In turn, almost half of assets (45 %) related to unit-linked or index-linked insurance ultimately go to equity (collective investment undertakings [34 %] and shares [11 %]).

Figure 3.2: Equity investment by the EU insurance sector by type of insurance (% of total investment, end-2021)



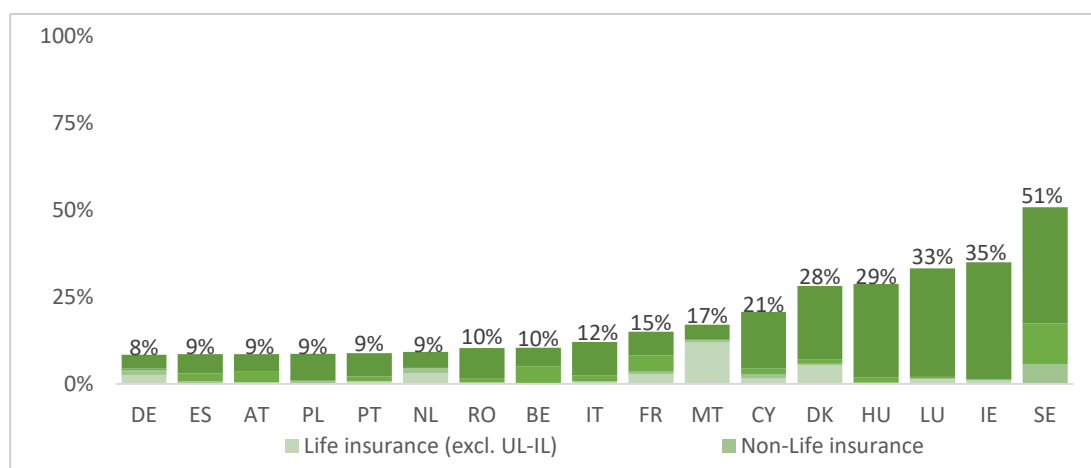
Note: Equity investment is measured as investment in listed and unlisted shares as well as equity and private equity funds. Investment in related undertakings is excluded.

Source: EIOPA Insurance Statistics (2022).

Turning to the distribution across countries (see Figure 3.3), in most of the analysed countries most of the equity investment also stems from unit-linked or index-linked insurance activities. Only in Belgium and Malta is the share of equity investment stemming from traditional life and non-life (re)insurance activities equal or larger than the share equity investment from unit-linked or index-linked insurance activities.

Overall, Swedish insurance companies appear to invest most in equity, slightly more than half (51 %) of their total investments. One additional reason for this might be the limited issuance of long-term bonds (Glenmar, 2015). Insurance companies in Ireland and Luxembourg invest about one-third (35 % and 31 % in equity) of their total assets under management in equity. The share of equity investment in Denmark and Hungary is slightly less than one third (28 % and 29 % respectively). Insurance companies in other countries invest a minority of their total assets under management in equity (ranging between 8 % and 21 %).

Figure 3.3: Equity investment by the EU insurance sector by country (% of total investment, end-2021)

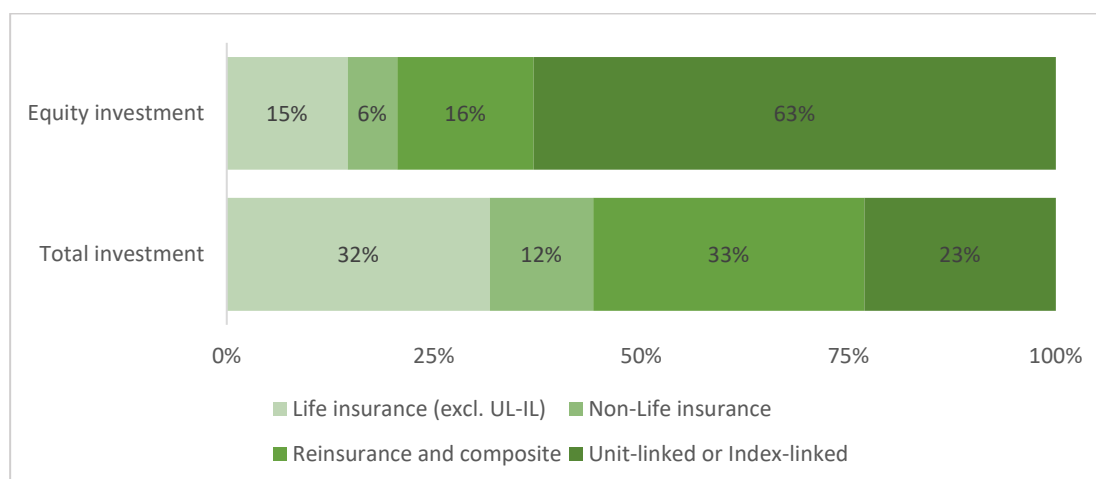


Note: Equity investment is measured as investment in listed and unlisted shares as well as equity and private equity funds. Investment in related undertakings is excluded.

Source: EIOPA Insurance Statistics (2022).

Although about two thirds of investments by insurance companies is made by life (32 %) reinsurance and composite (33%) undertakings, their combined share in equity investment is less than one-third (see Figure 3.4). A similar pattern is observed for investment by non-life insurance undertakings. Non-life insurers make about 16 % of total investment and only 6 % of total equity investment. In turn, unit-linked or index-linked insurance activities represent less than a quarter (23 %) of total investments, but contribute about two thirds (63 %) of the total equity investment of the EU insurance sector.

Figure 3.4: EU insurance sector investment by type of insurance (% of total equity investment, end-2021)



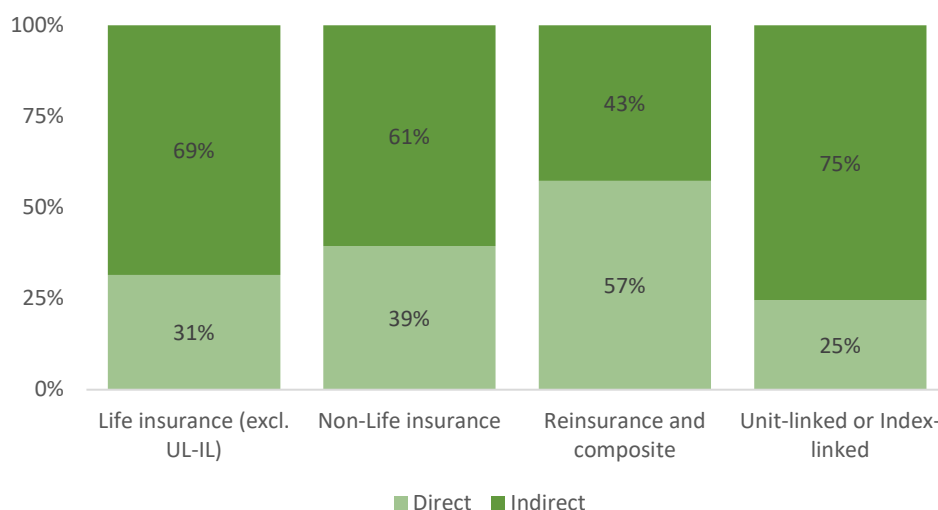
Note: Equity investment is measured as investment in listed and unlisted shares as well as equity and private equity funds. Investment in related undertakings is excluded.

Source: EIOPA Insurance Statistics (2022).

Looking at the distribution of equity investment by channel it appears that most of equity investment of EU insurance companies is indirect (i.e. through funds and other intermediaries) (see Figure 3.5). Indeed, three quarters (75 %) of equity investment generated by unit-linked and index-linked insurance activities are invested indirectly through funds and other intermediaries. The remaining quarter (25 %) is invested directly in shares.

Across other insurance undertakings the share of indirect equity investment is somewhat lower but remains substantial. About two-thirds of equity investment stemming from life (69 %) and non-life (61 %) insurance activities are invested indirectly in equity. A slightly different pattern can be observed for reinsurance and composite activities. Less than half (43 %) of equity investments of reinsurance and composite undertakings is invested indirectly and the remainder (57 %) is invested directly in equity.

Figure 3.5: Equity investment in the EU insurance sector at end 2021 by channel (% of total equity investment)

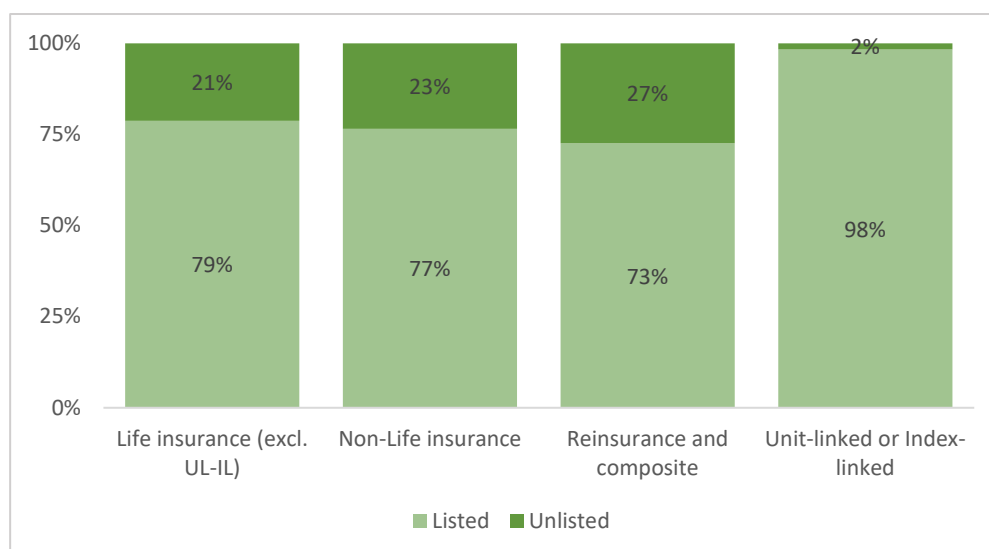


Note: Equity investment is measured as investment in listed and unlisted shares as well as equity and private equity funds. investment in related undertakings is excluded.

Source: EIOPA Insurance Statistics (2022)

Looking at the equity investments by type of market, most equity investments are in listed equity rather than unlisted equity (see Figure 3.6). This tendency is observed across all types of insurance activities but is most pronounced for equity investments from unit-linked or index-linked insurance. Among unit-linked and index-linked insurance activities, nearly all equity investment (98 %) is in listed equity. Among other types of insurance activities, about a quarter of equity investment is in unlisted equity. This figure is lower for equity investment for life (21 %) and non-life (23 %) insurance activities than for reinsurance and composite (27 %) insurance activities.

Figure 3.6: Equity investment in the EU insurance sector at end 2021 by market (% of total equity investment)

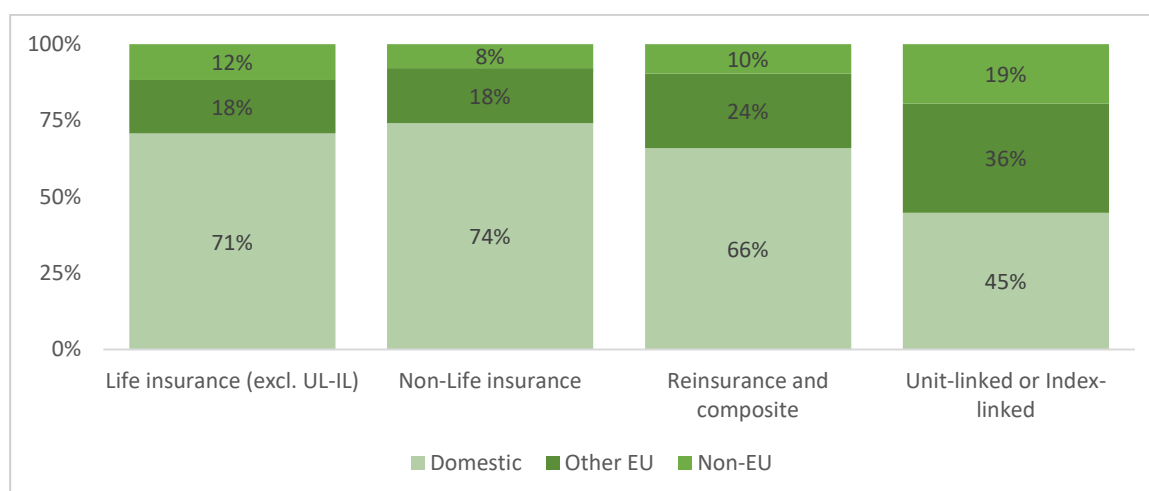


Note: Equity investment is measured as investment in listed and unlisted shares as well as equity and private equity funds. Investment in related undertakings is excluded.

Source: EIOPA Insurance Statistics (2022).

Looking at the destination of the equity investments, the insurance companies seem to have a strong home bias (see Figure 3.7). More than two-thirds of equity investment for life (71 %), non-life (74 %), reinsurance and composite activities (66 %) are invested in domestic companies. Additionally, about one-fifth of equity investments for life (18 %), non-life (18 %), reinsurance and composite activities (24 %) is invested in companies in other EU Member States. The home bias in the equity investment for unit-linked and index-linked insurance activities is less pertinent. In fact, less than half (45 %) of the equity investment for unit-linked and index-linked activities are in domestic companies and another one-third (36 %) targets other EU countries. The remainder (19 %) is held in equities of non-EU companies.

Figure 3.7: Equity investment in the EU insurance sector at end 2021 by destination (% of total equity investment)



Note: Equity investment is measured as investment in listed and unlisted shares as well as equity and private equity funds. Investment in related undertakings is excluded.

Source: EIOPA Insurance Statistics (2022).

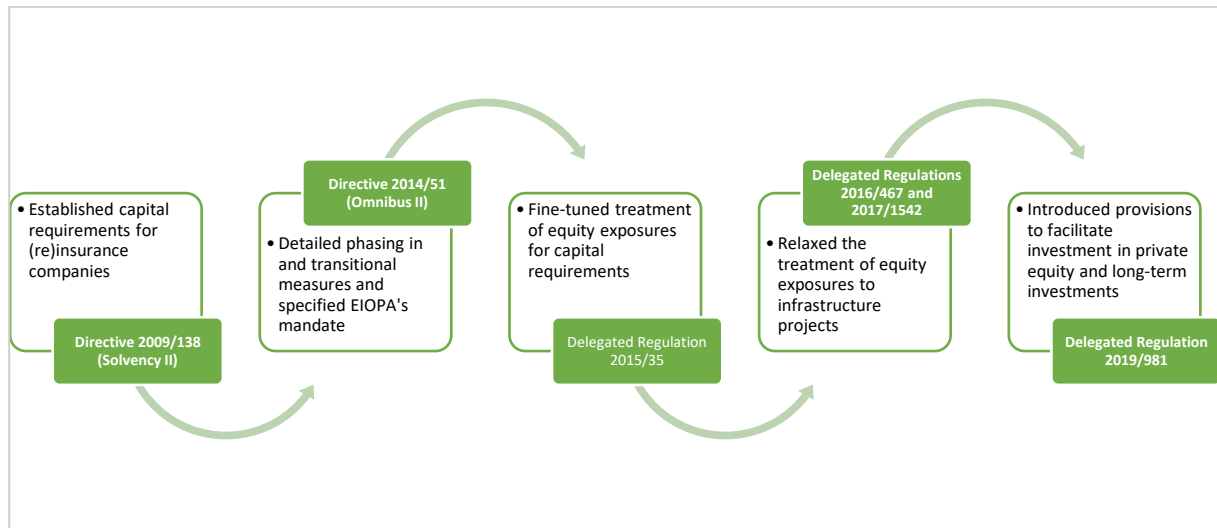
4 TREATMENT OF EQUITY INVESTMENTS IN EU PRUDENTIAL LEGISLATION

KEY FINDINGS

- The legal framework for insurance companies in the EU has evolved over the years following changes in the needs and priorities of the EU. Originally, the Solvency II framework aimed to harmonise prudential regulation for (re)insurance companies in order to protect policyholders and beneficiaries, as well as to preserve financial stability;
- The SII framework was amended to align prudential requirements with the broader EU policy objective to strengthen funding to the real economy. The amendments primarily aimed to enhance private and long-term equity investment of insurance companies;
- The European Commission conducted a broad review of the EU prudential framework for (re)insurance companies in 2020. The review found EU prudential rules to be effective in protecting policyholders and ensuring financial stability. However, it also found EU prudential rules to be constraining for the equity investment of insurance companies; and
- To address the issues identified during the SII review, the Commission has put forward two proposals: i) to amend the SII, and ii) to establish a harmonised recovery and resolution rule for (re)insurance companies.

The legislative framework governing prudential treatment of equity investments of EU (re)insurance companies is broad and has evolved over the past two decades to reflect broader market developments and EU policy priorities (see Figure 4.1). The main objective of the EU legal framework for insurance companies is to strike the right balance between the need to safeguard financial stability and allow them to fulfil their contribution to the economy.

Figure 4.1: Timeline: changes to treatment of equity exposures in EU prudential regulation



Source: Authors' elaboration.

4.1 Legislation

4.1.1 Directive 2009/138/EC (Solvency II)

The European Commission introduced the Solvency II (SII) framework in 2009 to replace the pre-SII patchwork of rules for different insurance companies with a harmonised prudential framework. The objective of SII is to promote transparency, comparability and competitiveness in the insurance sector, to protect policyholders and beneficiaries, as well as to preserve financial stability.

To achieve this objective, the SII framework specifies risk-sensitive capital requirements for insurance companies. The requirements prescribe insurers to hold capital in relation to their risk profiles in order to ensure sufficient resources in case of financial difficulties. The higher the risk faced, the more capital it must hold.

Calculation of capital requirements for insurance companies relies on the assessment of five main risks that insurers face and correlation between them. The five risks are calculated separately in different modules:

- Non-life underwriting risk;
- Life underwriting risk;
- Health underwriting risk;
- Market risk; and
- Counterparty default risk.

Equity investments of insurance companies are included in the calculation of the market risk module. This module aims to capture the risk arising from changes in market prices of financial instruments which have an impact on the balance sheet of insurance companies.

Calculation of the market risk module relies on the assessment of six different sub-modules and the correlation between them. The sub-modules aim to measure the sensitivity of balance sheets and financial instruments to changes in the level or volatility of:

- Interest rates;
- Equity market prices;
- Property market prices;
- Credit spreads over the risk-free interest rate term structure;
- Currency exchange rates; and
- Market risk concentrations.

SII does not spell out the exact formula of the equity market prices sub-module but leaves it to the Commission to work it out¹² later in the implementing measures (Delegated Regulation (EU) 2015/35) (see Chapter 4.1.3). Nevertheless, SII does mention that risk-based capital requirements might lead to pro-cyclicality investment behaviour by insurance companies. Namely, market volatility can push insurance companies to raise additional capital in good times or sell their investments in bad times. To correct for this, SII envisaged an 'equity market prices' sub-module depending on a standard formula and including a symmetric adjustment mechanism with respect to changes in the level of equity prices. The symmetric adjustment aims to limit the potential pro-cyclicality arising from market prices changes: it increases the equity capital charge in bullish markets and lowers it in bearish markets.

¹² Article 111 of the Solvency II. Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009L0138>.

The adjustment made to the standard equity capital charge is calibrated using a Value at Risk measure¹³. To calculate the adjustment, the current level of an appropriate equity index is compared to the weighted average of that index. To prevent wide swings in solvency levels the SII puts a 10-percentage point upper and lower bound on symmetric adjustment (range between -10 % and +10 %).

For life insurance companies providing occupational pension or retirement benefits (i.e. annuities) Member States may authorise a different calculation of the equity risk sub-module. In this case, the sub-module can be calculated over a time period consistent with the typical holding period of equity investments for the insurance company concerned. This calibration can be performed only in respect of its ring-fenced assets and liabilities that are non-transferable and organised separately from other activities of the insurance company. This provision helps Member States to ensure that the insurer is able to hold the equity investment during the period required.

4.1.2 Directive 2014/51/EU (Omnibus II Directive)

The [Omnibus II Directive](#) was adopted in the aftermath of the Global Financial Crisis of 2008-2009 and aimed to:

- ensure a high, effective and consistent level of prudential regulation and supervision;
- protect policyholders and beneficiaries;
- ensure efficiency and orderly functioning of financial markets;
- maintain the stability of the financial system; and
- strengthen international supervisory coordination.

Because SII provisions would not have been fully implemented before the Omnibus II Directive was set to kick in, the Directive contained phasing-in and specific transitional measures in order to ensure smooth transition to a new regime. Moreover, the Omnibus II Directive also sought to formalise the role of the EIOPA within the supervisory framework of the insurance company. The Omnibus II mandated EIOPA to carry out annual assessments of insurance companies' solvency levels.

Furthermore, the Omnibus II Directive tasked the European Commission to review the functioning of key elements of the prudential rules based on EIOPA's annual assessments within 5 years of the application of SII. The aspects to review included long-term guarantees, the calculation of capital requirements, and capital management. The Commission was also mandated to assess the case for further alignment of insurance rules on crisis management and insurance guarantee schemes. The review was to be published in 2021 accompanied by an amendment proposal.

Additionally, the Commission was mandated to develop a detailed approach for insurance companies to calculate the solvency capital requirement to account for strategic equity investment. Strategic investment is supposed to be less volatile compared to non-strategic investment due to the influence the insurance company would have on the invested undertaking. The Commission was also mandated to develop a set of detailed criteria for the equity index used in symmetric adjustment of the equity sub-risk module. This was to be supplemented by the Regulatory Technical Standards developed by the EIOPA.

¹³ With a 99.55 confidence level over a one-year period.

4.1.3 Delegated Regulation (EU) 2015/35

Further to SII, the Commission has implemented [Delegated Regulation \(EU\) 2015/35](#). As this Delegated Regulation only aimed to supplement and amend non-essential elements of legislation (e.g. spell out the exact formulas necessary for calculation of solvency capital requirements), it did not introduce major changes.

The Delegated Regulation (EU) 2015/35 aimed to complement SII in spelling out the methodology behind the calculation of capital requirements for insurance companies while ensuring it accounts for the nature, scale and complexity of risks inherent to insurance business and ensuring that the burden imposed on insurance companies is proportionate to their risk profile.

With regard to the exact methodology behind the calculation of the equity market prices risk sub-module the Regulation distinguished two sub-modules based on the type of insurance undertaking:

- Duration-based equity risk module; for insurance undertakings providing occupational retirement or pension products (i.e. annuities) where these products result in long-term liabilities (i.e. more than 12 years) and where all assets and liabilities corresponding to this business are ring-fenced and managed separately; and
- Standard equity risk module; for all other insurance undertakings.

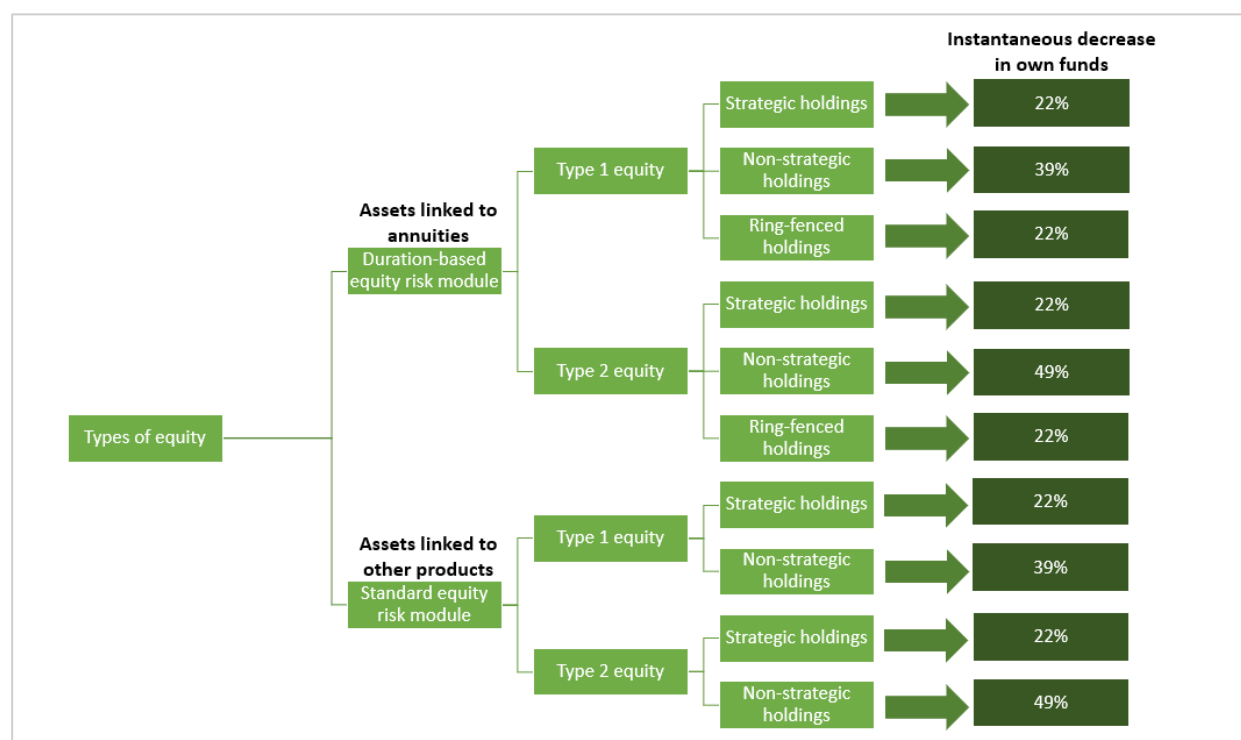
According to the Delegated Regulation, calculation of both equity risk sub-modules (see Figure 4.2) should be based on a combination of capital requirements for two types of equity:

- Type 1 (less risky): equities listed on regulated markets (EEA or OECD) as well as qualifying social entrepreneurship funds, venture capital funds and alternative investment funds (AIFs); and
- Type 2 (more risky): equities listed on non-EEA and non-OECD markets, non-listed equities, commodities and other alternative instruments. These also include all other assets not included in other risk sub-modules.

The capital requirements for each type of equity are defined as loss of own funds due to an instantaneous decrease of a certain percentage in value of the equity holdings. Furthermore, the exact percentage of instantaneous decrease depends on the type of holding: strategic, non-strategic, and ring-fenced. The distinction between strategic and non-strategic investment reflects the likely reduction of the volatility of strategic holdings due to their strategic nature and the influence insurance companies have on them. The ring-fenced assets are only considered in the duration-based equity risk sub-module and are treated similarly to strategic as they are essentially separated from the rest in order to protect policyholders from financial instability.

For the strategic and ring-fenced holdings which are deemed less risky and volatile the required instantaneous decrease is lower (22 % for type 1 equity and 39 % for type 2 equity) than for the more risky and volatile non-strategic holdings (39 % for type 1 equity and 49 % for type 2 equity).

Figure 4.2: Capital requirements for types of equity holdings included in the calculation of solvency capital requirement (Delegated Regulation (EU) 2015/35)



Source: Authors' elaboration based on [Delegated Regulation \(EU\) 2015/35](#).

Additionally, in line with the SII text, symmetric adjustment is applied to the equity capital charges. The symmetric adjustment is calculated and published by the EIOPA. For this, the daily market value of a composite equity portfolio (representative for a typical insurance company) is compared first to its weighted average and then standard Basel capital requirement of 8 %. The comparison is done over the medium-term (36 months) in order to avoid the effects of pro-cyclicality.

4.1.4 Delegated Regulation (EU) 2016/467 and 2017/1542

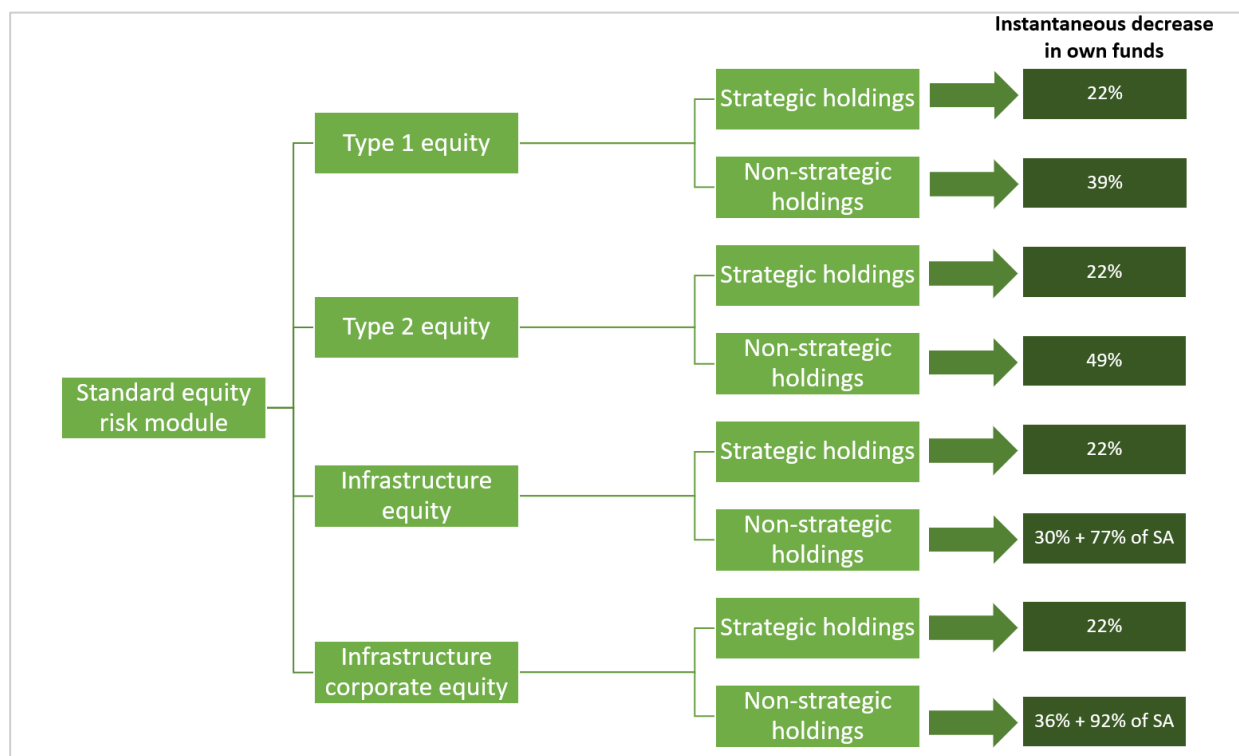
The Delegated Regulation (EU) 2015/35 was further amended in 2016 and 2017 to promote investment in infrastructure projects and align prudential capital requirements with the broader EU investment goals. The amendments followed EIOPA's technical advice and complementary evidence which proved that qualifying infrastructure investments can be safer than non-infrastructure investments.

The [Delegated Regulation \(EU\) 2016/467](#) defined the scope of the qualifying infrastructure investment and [Delegated Regulation \(EU\) 2017/1542](#) defined the scope of the qualifying infrastructure corporate investment. The changes resulted in the modified calculation of the standard equity risk sub-module¹⁴ accounting for two new types of equity (see Figure 4.3):

- infrastructure equities cover structured project finance situations involving individual entities; and
- infrastructure corporate equities cover structured project finance situations involving multiple legal entities of a corporate group.

¹⁴ Same changes were introduced for the duration-based risk module.

Figure 4.3: Capital requirements for types of equity holdings included in the calculation of the solvency capital requirement (Delegated Regulations (EU) 2016/467 and 2017/1542)



Source: Authors' elaboration based on Delegated Regulations (EU) [2016/467](#) and [2017/1542](#).

Furthermore, the Regulation also specified the capital requirements for the two new types of equity. Capital requirements for strategic infrastructure equity holdings and infrastructure corporate equity holdings were aligned with other strategic holdings and constitute a loss in own funds equal to an instantaneous decrease of 22 % of the value of holdings. Capital requirements for non-strategic holdings were specified as a loss in own funds due to an instantaneous decrease equal to the sum of 30 % and 77 % of the symmetric adjustment in value of the infrastructure equity holding and the sum of 36 % and 92 % of the symmetric adjustment in value of the infrastructure corporate equity holding.

4.1.5 Delegated Regulation (EU) 2019/981

The [Delegated Regulation \(EU\) 2019/981](#) aligned the EU insurers' legal framework with the broader EU investment goals. Prior to the implementation of the Delegated Regulation (EU) 2019/981, the SII framework did not provide for specific rules for investments in private equity and long-term investments in equity. Instead, it might, according to the European Commission, have created 'unjustified' barriers to investments in EU SMEs' equity¹⁵.

The Delegated Regulation (EU) 2019/981 further amended the prudential rules to i) remove barriers for insurers to invest in private equity, and ii) facilitate long-term equity investments.

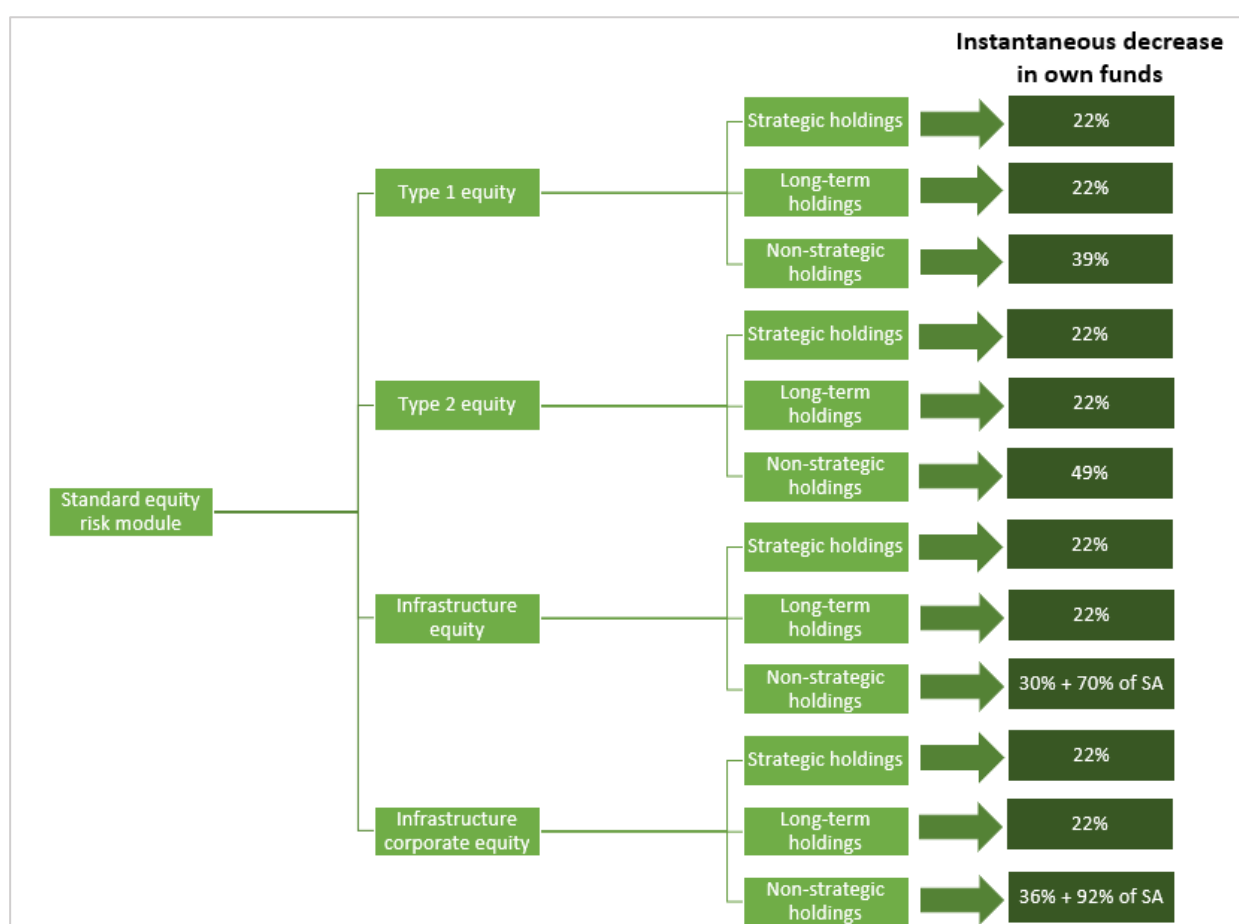
First, the Delegated Regulation (EU) 2019/981 was introduced to encourage insurance companies to invest directly in unlisted equity in order to contribute to the European Union's objective of long-term sustainable growth (see Figure 4.4). Therefore, Delegated Regulation (EU) 2019/981 defined the scope of qualifying private equity investments and brought it under type 1 equity.

¹⁵ Recital 2 of Delegated Regulation (EU) 2019/981. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0981>.

Qualifying private equity includes companies headquartered in EEA and OECD countries that generate more than half of their profits and employ more than half their staff in EEA and OECD countries. The legislation also specifies an additional requirements on turnover, concentration and the 'beta' parameter reflecting other important financial indicators.

Second, to promote long-term investments by insurance companies Delegated Regulation (EU) 2019/981 also defined a new type of holding – long-term equity investments. The conditions to qualify for long-term equity investment include, among others i) average holding period of more than 5 years; ii) no forced sales for 10 or more years; and iii) separation from other activities of the undertaking. Similar to strategic holdings, these holdings face lower capital requirements (i.e. 22 %). The symmetric adjustment does not apply to long-term equity investments.

Figure 4.4: Capital requirements for types of equity holdings included in the calculation of the solvency capital requirement (Delegated Regulation (EU) 2019/981)



Source: Authors' elaboration based on [Delegated Regulation \(EU\) 2019/981](#).

4.2 Solvency II Review

In line with Directive 2014/51 EU (Omnibus II Directive), the European Commission has undertaken a review of the functioning of the key aspects of Solvency II. The Review was published as a [Communication on the review of the EU prudential framework for insurers and reinsurers in the context of the EU's post pandemic recovery](#) accompanied by a [Staff Working Document](#).

In addition to assessments required by the Omnibus II Directive, the Review has also assessed the potential contribution of the insurance sector to the EU political priorities, including the finalisation of the CMU as well as climate and environmental targets under the EU Green Deal.

The main objectives of the Commission were to assess the extent to which EU prudential rules:

- provide incentives for insurers to contribute to the long-term sustainable financing of the economy;
- improve risk-sensitivity;
- mitigate excessive short-term volatility in the solvency positions of insurance companies;
- improve proportionality;
- enhance quality, consistency and coordination of insurance supervision across the EU, and improve the protection of policyholders and beneficiaries, including when their insurance company fails;
- address the potential build-up of systemic risk in the insurance sector; and
- improve preparedness for extreme scenarios that may make recovery or the resolution of a failing (re)insurance company necessary.

Overall, the Commission has found that prudential rules under Solvency II have been effective in protecting policyholders and beneficiaries and limiting the possibility of failures of (re)insurance companies. The insurance industry also remained robust: on average capital resources of insurance companies were twice as high as required by the legislation. Nevertheless, some challenges hampering equity investments by insurance companies remained.

Four important challenges have been identified:

- First, because asset exposures within the capital requirements are calibrated over a short one-year time horizon, the rules failed to take into account the instrumental role insurance companies have in financing long-term sustainable growth. This is particularly relevant in light of the slower than expected post-COVID economic recovery. The Commission concluded that this treatment of equity exposures under the SII framework could provide disincentives for insurance companies to invest in equity because it requires them to hold larger buffers to compensate for the volatility of equity prices. Moreover, current rules do not appropriately capture the (lower) risk of long-term environmentally sustainable investment;
- Second, reliance on market values in the calculation of capital requirements effectively means that valuations follow the market developments. This can increase the volatility of the solvency position of insurance companies. Furthermore it can ultimately lead to pro-cyclicality in their underwriting and investment activities, thus further undermining the long-term investment of insurance companies. According to the Commission, this can also disincentivise insurers from providing (life) insurance products with guarantees, which are still popular among EU citizens, particularly for pensions;
- Third, adequate protection against failing insurance companies is lacking due to deficiencies in the supervision of insurance companies, including in relation to cross-border activities. The Commission has found cross-border coordination of insurance companies' supervision to be inconsistent and insufficient especially in light of the recent cross-border failures¹⁶. These insurance companies mainly operate outside of the countries where they initially obtained their license and the effective supervision was hindered by a lack of data sharing between the national authorities. Furthermore, the Commission has also found that national authorities might not always have sufficient instruments to intervene in financial distress. In addition, not all EU Member States operate an Insurance Guarantee Scheme (IGS), and these are also not currently harmonised.

¹⁶ Chapter 2.2 in the [Staff Working Document](#) does not explicitly name the failing companies but details the examples.

This means that policyholders in the various EU Member States are not equally protected and losses stemming from the failure of insurance companies can still be passed onto EU taxpayers; and

- Fourth, current prudential rules under SII, including capital requirements, do not take into account the rising interconnectedness of insurance companies with other market participants. Supervision and calculation of the capital buffers is carried out on an individual basis, without considering the interconnections of insurance companies with other market participants and common risky (herding) behaviours. In addition, the current set of rules does not appropriately address issues of search-for-yield behaviours, high concentration of investment portfolios in certain assets and sectors, potential liquidity strains and insufficient coordination of macro-prudential measures. This might contribute to the build-up of systemic risk within the insurance sector.

4.3 Legislative proposals

Following the conclusion of the Solvency II Review, the European Commission has put forward two legislative proposals (i) [amending Directive 2009/138/EC](#) and (ii) [creating the framework for the recovery and resolution of insurers and reinsurers, in order](#) to address the identified problems.

4.3.1 Proposal for a Directive amending Directive 2009/138/EC

The proposal aims to amend the SII framework to improve the regulatory fitness and simplify the framework. To do that the Commission has set out to:

- exclude more small insurance companies from Solvency II;
- extend the scope of the more proportional rules that are available automatically to low-risk profile undertakings to other insurance companies after supervisory approval;
- simplify the quantification of immaterial risks; and
- ensure that required disclosure is adequate.

Concerning the equity exposures of insurance companies, the proposal includes three main amendments.

First, the Commission proposes to allow symmetric adjustment of the equity risk sub-module to increase / decrease capital charges from 10 to 17 percentage points. This increase of the maximum standard equity capital charge should mitigate the impact of sharp increases / decreases on the stock market of the insurance companies' capital requirements.

Second, the Commission proposes to redefine the scope of equity investments that are considered long term. Currently equity investment can be classified as long term if it is not subject to forced sales for 10 or more years including specific criteria that vary for life and non-life insurance companies. Instead the Commission proposed to define the scope of long-term equity investments, as i) equity investments that are linked to illiquid liabilities with duration of more than 10 years for life insurers, and ii) high quality liquid assets that are equal or more than liabilities' net reinsurance for non-life insurance companies.

Third, the Commission proposes to abandon the duration-based equity risk sub-module. It is barely used in the European Union, especially in light of the introduction of lighter requirements for long-term investment in equity by the Commission Delegated Regulation (EU) 2019/981. Only insurance companies which are currently applying the duration-based equity risk sub-module would be able to keep the provision under the grandfathering provision.

The reason for this is to avoid a situation where such amendments lead to adverse effects on insurance companies currently using the duration-based equity risk sub-module.

Fourth, the Commission proposes to task EIOPA to explore by 2023 a dedicated prudential treatment of exposures to assets or activities that pursue environmental and/or social objectives. This would open the way to introduce lighter prudential treatment for green equity investment that would contribute to the goals of the EU Green Deal.

Both the ECB and EIOPA have assessed and provided feedback on the Commission proposal.

The ECB is in favour of the proposed widening of the symmetric adjustment as it would make the tool entity-specific and help mitigate the cliff-edge effect where there is substantial volatility in spreads at country level. The ECB outlines that the current design of the symmetric adjustment does not sufficiently contribute to ensuring ex ante resilience of the EU insurance sector as it allows to release capital in bad times, but does not provide enough incentives to build up the capital in good times. The proposed amendment would rectify this anomaly ([ECB, 2022](#)).

EIOPA particularly welcomes the Commission proposal to be given mandates for further action on sustainable finance, but warns against abandoning the duration-based equity risk sub-module arguing that this would not be prudent. According to EIOPA, the proposed adjustment along with overall relaxation of the calibration of equity capital charge could pose potential risks to liabilities arising from long-term products (i.e. annuities) thus putting policyholders at risk ([EIOPA, 2021](#)).

4.3.2 Proposal establishing a framework for the recovery and resolution of insurance and reinsurance undertakings

This Commission proposal establishing a framework for the recovery and resolution of insurance and reinsurance undertakings aims to establish a harmonised EU-wide regime with a credible set of resolution tools to intervene sufficiently early and fast. To date there is no harmonised EU-level procedure to resolve insurers. Out of 27 EU Member States, 16 countries have some resolution rules for insurers in place. Among these countries the laws, regulations and administrative provisions that govern the failure of insurance companies' procedures differ substantially. Therefore, this proposal would ensure a better outcome for policyholders and minimise the impact on the economy, financial system and taxpayers should one or more insurance companies be declared to be failing or likely to fail.

The proposal does not include any explicit provisions concerning the equity exposures of insurance companies. Nevertheless, this proposal is fully aligned to the SII framework and it complements its intervention ladder for insurance companies in the event of deteriorating financial conditions as well as recovery measures which are already available for breaches of capital requirements.

Therefore, if adopted, this proposal would establish minimum harmonised requirements in the EU under which non-compliance with SII capital requirements could trigger resolution or recovery procedures.

EIOPA particularly welcomes the proposal to develop an Insurance Recovery and Resolution Directive outlining that its adoption would be timely and warranted. The only concern regarding the proposal is the lack of considering minimum harmonisation of IGS at EU level. According to EIOPA, the SII Review followed by the two proposals would offer a perfect window of opportunity to address the persistent fragmentation in the field of IGS. Currently, the fragmentation results in EU policyholders having an unequal level of protection if an insurance company fails. EIOPA is worried that this issue might undermine functioning and trust in the European Single Market ([EIOPA, 2021](#)).

5 IMPACT OF SOLVENCY REGULATION ON EQUITY INVESTMENTS

KEY FINDINGS

- Delegated Regulation (EU) 2015/35, which came into force in January 2015, detailed the formulas required to calculate capital requirements that were omitted in the original SII text. As such the Delegated Regulation had no impact on the investments in equity;
- Delegated Regulation (EU) 2019/981, which came into force in July 2019, seems to have had no or only a limited impact on investments in equity. This was primarily due to the difficulty to meet the criteria for the lowest capital charge, high capital charge in the short-run, and limited relieve in capital charge. Similarly, the amendments did not have a detrimental impact on financial stability and policyholder protection, as the insurance companies continue to have sufficient capital buffers;
- The proposal to widen the upper and lower bounds of the symmetric adjustment is likely to have only limited impact on the capital requirements, as it will only affect the capital requirements in extreme market conditions. The impact on equity investments is therefore also expected to be limited;
- Clarifying and expanding the criteria for long-term equity investment would increase the scope of equity investment that is considered long term. The changes are likely to increase the equity investments through an effective reduction of the capital charges.
- The changes concerning the duration-based equity module are expected to have no significant impact on the equity investments as there are similar options available and the module is not used much; and
- Looking at measures that might have a larger impact on equity investments, one possibility would be to change the discount rate for long-term commitments from risk-free interest rate to market rate.

The Solvency II framework has been amended a number of times in order to promote insurance companies' investments in equity. Following the Solvency II Review, two proposals affecting the attractiveness of investments in equity are also currently being discussed (see Chapter 4.3). In this chapter, the assessment of the impact of the proposals is based on basic simulations.

5.1 Current regulation in force

5.1.1 Theoretical underpinnings

In theory, regulatory capital requirements influence the equity investments of insurance companies. Several empirical studies found that there is positive correlation between solvency ratios and investment in (listed) equity in the EU. This means that insurance companies with higher solvency ratios invest more in (listed) equity ([Deloitte & CEPS, 2019](#); [Jakubik & Turturescu, 2018](#)). For example, insurance companies with solvency ratios of between 200 and 250 % invest about one fifth of their assets in equity, while insurance companies with solvency ratios of between 100 and 150 % invest only about one-tenth of their assets in equity ([EIOPA, 2017](#)).

Depending on the calibration methodology, Solvency II capital requirements can encourage or discourage investments in equity. In particular, most sources point to two main aspects of calibration methodology:

First, use of **market valuation within capital requirements** exposes the balance sheets of insurance companies to short-term market volatility, limiting the attractiveness of investing in equity ([Deloitte & CEPS, 2019](#)). The short-term volatility of own funds due to the market valuation pushes insurance companies to dispose of their equity and increases long-term investment costs ([Persaud, 2015](#)). Numerous studies have confirmed that relying on market value in assessing the size of available capital could exaggerate the actual exposure to short-term volatility thus discouraging insurance companies from investing in equity, due to the illiquid, long-term and risky nature of the latter ([BlackRock, 2012](#); [Severinson and Yermo, 2012](#); [Focarelli, 2017](#)); and

Second, the **symmetric adjustment of the equity capital charge** is calibrated using the value at risk (VaR) measure with 99.5 % confidence level over a 1-year period (i.e. a 1-in-200 years event). This is problematic because of the over-pessimistic results due to the short period over which the VaR is calibrated ([Schlütter, 2017](#)). This might lead to significant distortions in the risk measurement limiting investments in equity.

5.1.2 Impact of Solvency II and amendments on equity investments

Overall, average equity investments of EU insurance companies have slightly increased over the past 5 years¹⁷. However, the increase seems to be mostly explained by the broader market developments rather than regulatory changes.

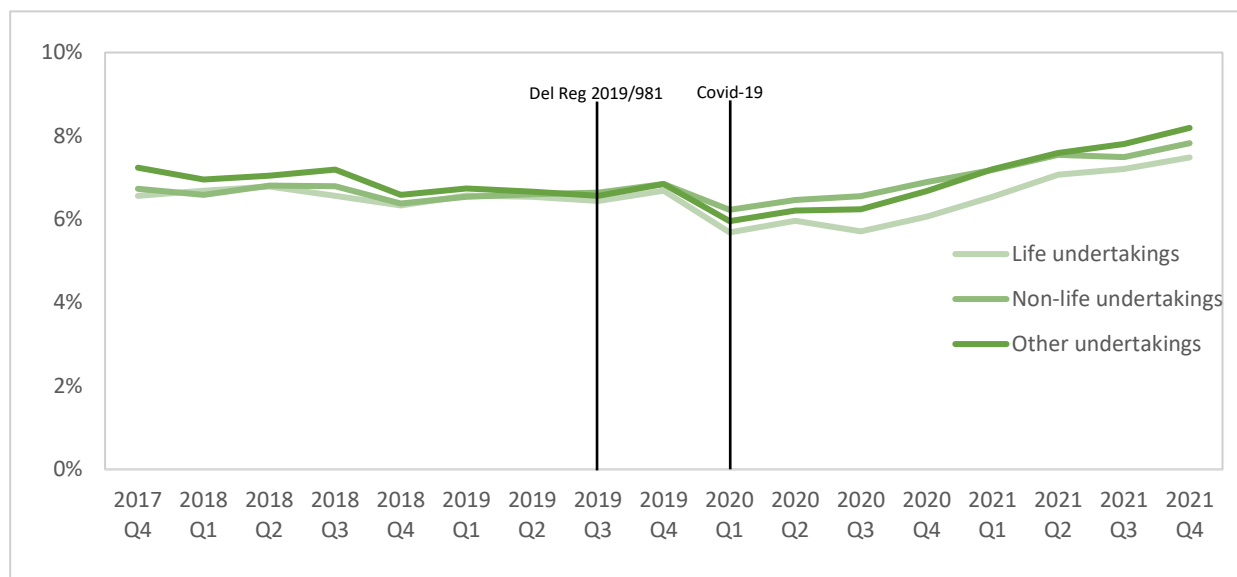
More specifically, the share of investments in equity decreased slightly in the first year after [Delegated Regulation \(EU\) 2017/1542](#) came into force in September 2017, but subsequently picked up throughout the second and third quarters of 2018 (see Figure 5.1). This increase was short-lived as the equity investments subsequently declined by the end 2018. This was largely due to a financial slump registered in 2018, i.e. rising spread levels resulted in falling equity prices in all EU markets in 2018 reducing the value of equity exposures and incentivising the disposal of equity ([European Insurance, 2018](#)).

The equity investment of insurance companies subsequently picked up slightly during 2019, as the latest Solvency II amendment ([Delegated Regulation \(EU\) 2019/981](#)) came into force. Nevertheless, European and global equity markets collapsed shortly after due to the COVID-19 crisis in early 2020. As a result, insurers' equity investment decreased from around 7 % of total investment by almost 1 percentage point.

Since then insurance companies have increased their equity investment by about 1.5-2 percentage points until the end 2021. This reflects primarily post-COVID-19 economic recovery and potentially inflation rise expectations. Interestingly, non-life and other undertakings have accelerated their equity investment faster compared to life undertakings. This could indicate the generally more conservative position of life insurers when it comes to investment.

¹⁷ September 2017 is the earliest data point for which harmonised data on asset exposures and balance sheets of insurance companies was made available by EIOPA. It was thus not possible to analyse the impact of Delegated Regulation 2016/467 based on this data. Delegated Regulation 2015/35, as discussed earlier, had no impact on the equity investments of insurance companies.

Figure 5: Equity investment in the EU insurance sector over 2017-2021 (% of total investment)



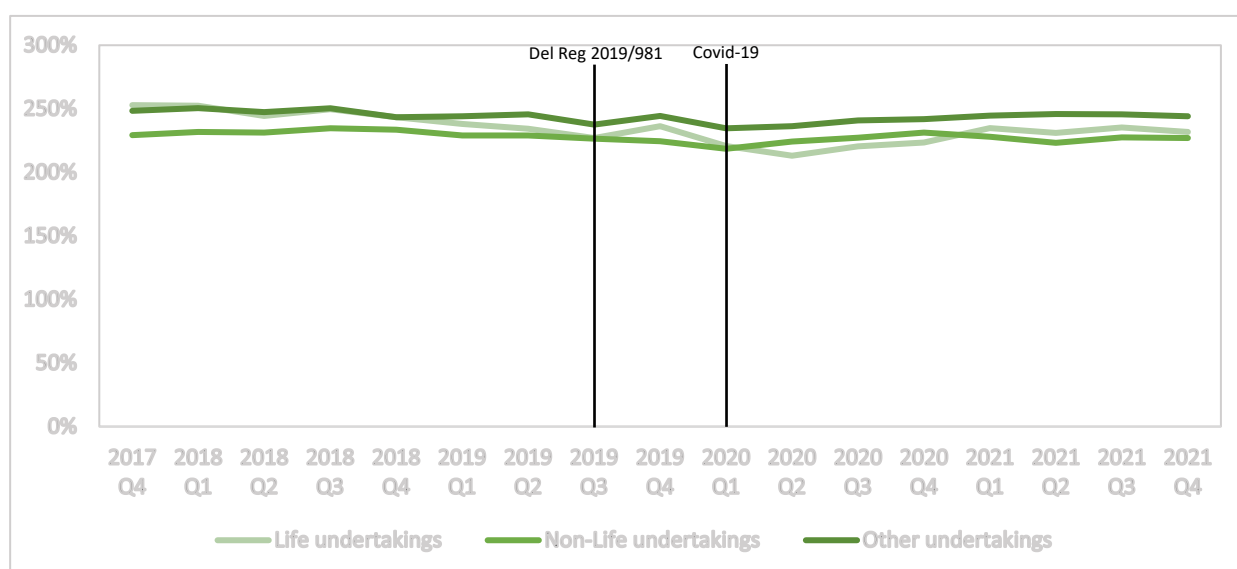
Note: Equity investment is measured as investment in listed and unlisted shares as well as equity and private equity funds. Investment in related undertakings is excluded.

Source: EIOPA Insurance Statistics (2022).

Looking at the evolution of solvency ratios over the same time period, the latest regulatory amendments seem to have driven the investment behaviour of insurance companies (see Figure 5.2). Overall, insurance companies had relatively stable solvency ratios in the past 5 years. The ratios have slightly increased for life and other undertakings following the coming into force of Delegated Regulation (EU) 2019/981 in 2019. Furthermore, the increase in equity investment in the same quarter (see Figure 5.1) could indicate that the reduction in capital requirements appeared to motivate insurance companies to invest the freed-up funds in equity to some extent. Nevertheless, the increase in equity investment throughout 2020 and 2021 is largely unrelated to the regulatory framework as the ratios remained relatively stable during those years.

Interestingly, the adopted amendments appear to have had little to no impact on non-life undertakings as their solvency ratios remained stable over time. Nevertheless, non-life undertakings appeared to be accelerating their equity investment post-COVID-19 much faster than life and other undertakings.

Figure 5.1: Average ratio of eligible own funds to Solvency II ratios (%)



Source: EIOPA Insurance Statistics (2022).

In addition to the various non-legislative drivers discussed in Chapter 2.3, the modest impact of regulatory amendments on investments in equity can be explained by a number of factors related to the identification and treatment of long-term equity investments.

First, the scope of investment that qualifies for the lower capital charges remains limited, as the criteria for the lowest capital charge of 22 % are difficult to meet (EIOPA, 2021).

Second, the equity investments are calibrated based on a one-year time horizon. Long-term equity investments usually include holdings of over 12 years, which means that changes are overestimated in the short run (EIOPA, 2021).

Third, diversification of capital charges can only promote investments in equity to a certain extent. Hence, investing EUR 100 in equity on average has an instantaneous impact of between EUR 14 and EUR 30 on the capital charge. Thus, switching from one type of equity to another could decrease a capital charge by a maximum 50 % (Deloitte & CEPS, 2019).

5.1.3 Impact of Solvency II on financial stability and policyholder protection

Solvency II and the amendments have not had a detrimental impact on financial stability and policyholder protection to date. The EU insurance sector has remained resilient and well-capitalised throughout the last 5 years.

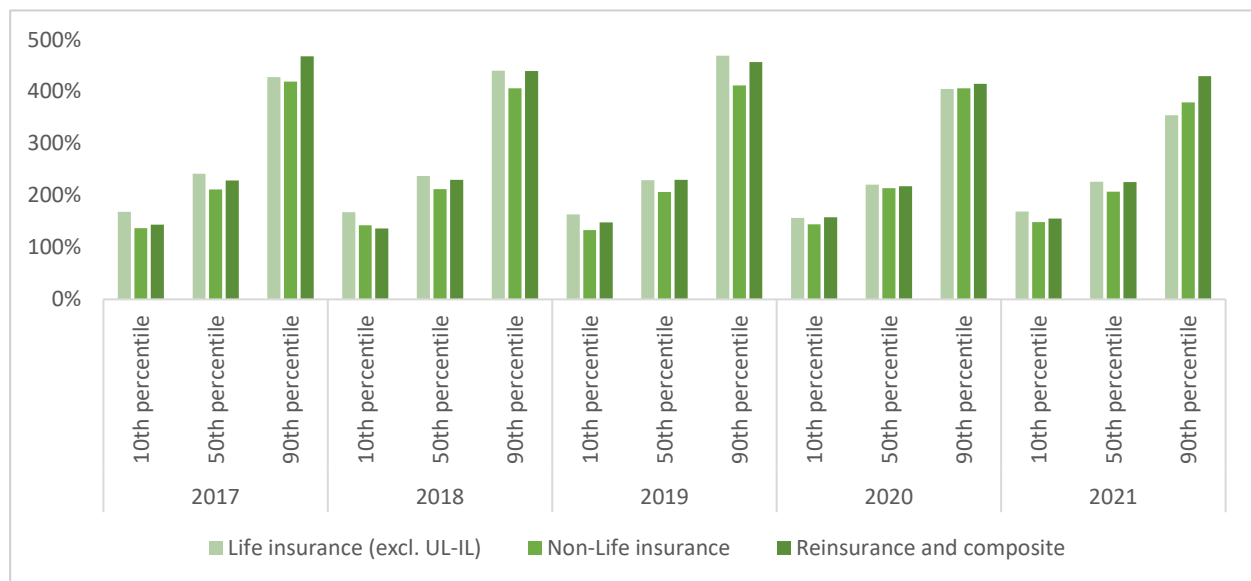
Regardless of the type of undertaking, a large majority of the analysed EU insurance undertakings¹⁸ had sufficient funds to shield policyholders from external shock (see Figure 5.3). In fact, 90 % of analysed insurance undertakings have recorded solvency ratios of above 150 % over the 2017-2021 period. Additionally, half of analysed insurance undertakings had solvency ratios of over 200 %.

The minimum solvency ratios in the 10th and 50th percentile mostly remained stable between 2017 and 2021. However, minimum solvency ratio in the 90th decreased in 2020 and 2021.

¹⁸ Insurance companies based in AT, BE, CY, DE, DK, ES, FR, HU, IE, IT, LU, MT, NL, PL, PT, RO, SE. Insurance companies from remaining 10 Member States were excluded due to lack of information on the type of insurance undertaking.

Predominantly this was noticeable for life insurance undertakings. Nevertheless, these companies remain well-capitalised with solvency ratios above 350 %.

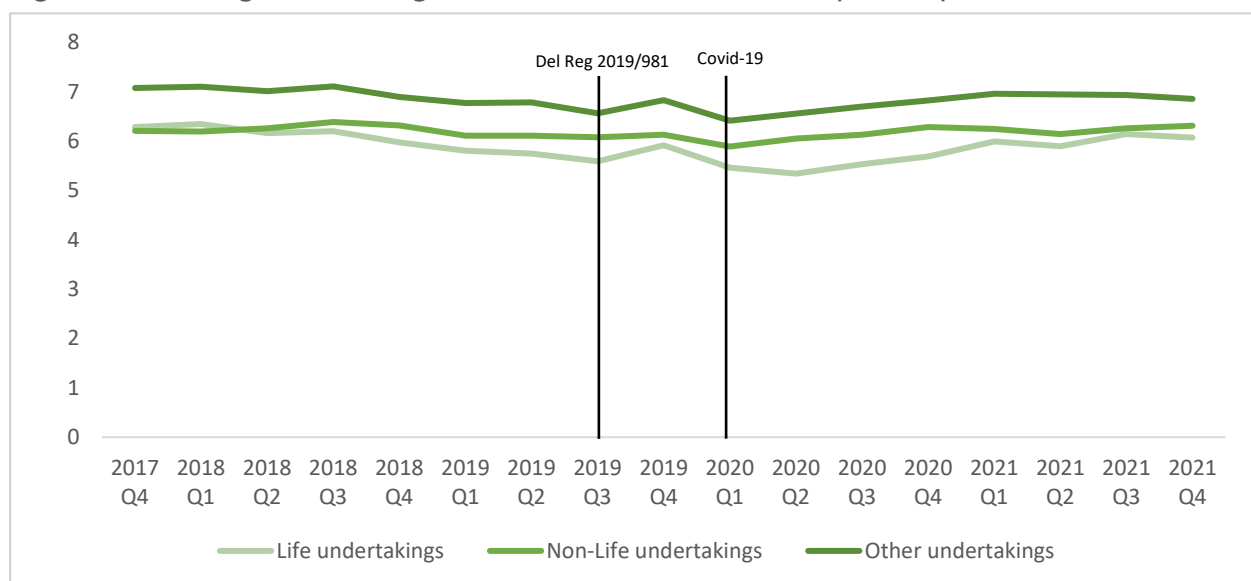
Figure 5.2: Eligible own funds to SCR ratios by percentile over 2017-2021



Source: EIOPA Insurance Statistics (2022).

Despite the COVID-19 pandemic, the insurance sector remained resilient and maintained solid capital buffers between 2017 and 2021 (EIOPA, 2021). On average, eligible own funds have consistently been between 5 and 7 times the required minimum (see Figure 5.4). Although the minimum capital ratios decreased at the onset of the COVID-19 crisis, they have rebounded strongly. Minimum capital ratios of EU insurance companies returned to their pre pandemic levels in a year and remained stable till end-2021.

Figure 5.3: Average ratio of eligible own funds to minimum capital requirement



Source: EIOPA Insurance Statistics (2022).

5.2 Legislative proposals

Overall, the proposed amendments to the Delegated Regulation, announced by the Commission in its Solvency II Review is expected to be conducive to enhancing equity investment of insurance companies. In particular the widening of the symmetric adjustment would encourage equity investment. Notwithstanding, that the impact of prudential capital requirements seems to drive equity investments by insurance companies to only a limited extent.

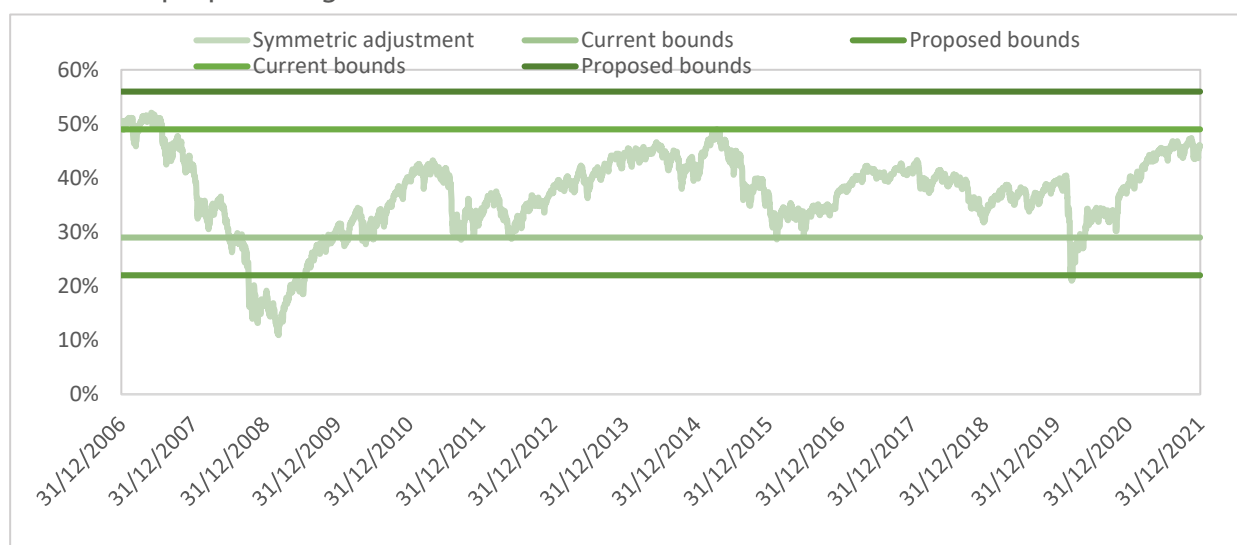
Against this background, further amendments to the Commission proposal that may be introduced by the co-legislators (Parliament and Council) during the legislative process would not lead to a large additional allocation to equity.

5.2.1 Symmetric adjustment

Widening the upper and lower bounds of the symmetric adjustment would introduce a higher degree of fluctuation in the insurer's capital requirements. This could potentially improve the effectiveness of this countercyclical measure. This would allow a corridor of between 22 % and 56 % for Type 1 non-strategic equity and a corridor of between 32 % and 66 % for Type 2 non-strategic equity¹⁹. This would essentially mean that in distressed market conditions insurance companies would have to hold less capital than they do now and in booming market conditions insurance companies would have to hold more capital than now.

The proposed amendment to the symmetric adjustment would substantially mitigate the procyclicality of equity capital charge but only during extremely distressed or booming markets. Looking at the historic movements of symmetric adjustment (see Figure 5.5) it is clear that current bounds are only reached during extreme market conditions (Great Financial Crisis in 2008, COVID-19 crisis in 2020, etc.), which are quite rare. Under the proposed amendments, insurance companies would have to hold less capital during periods with these extreme market conditions.

Figure 5.4: Fluctuation of the symmetric adjustment for Type 1 equity under current and proposed legislation over 2006-2021 (%)

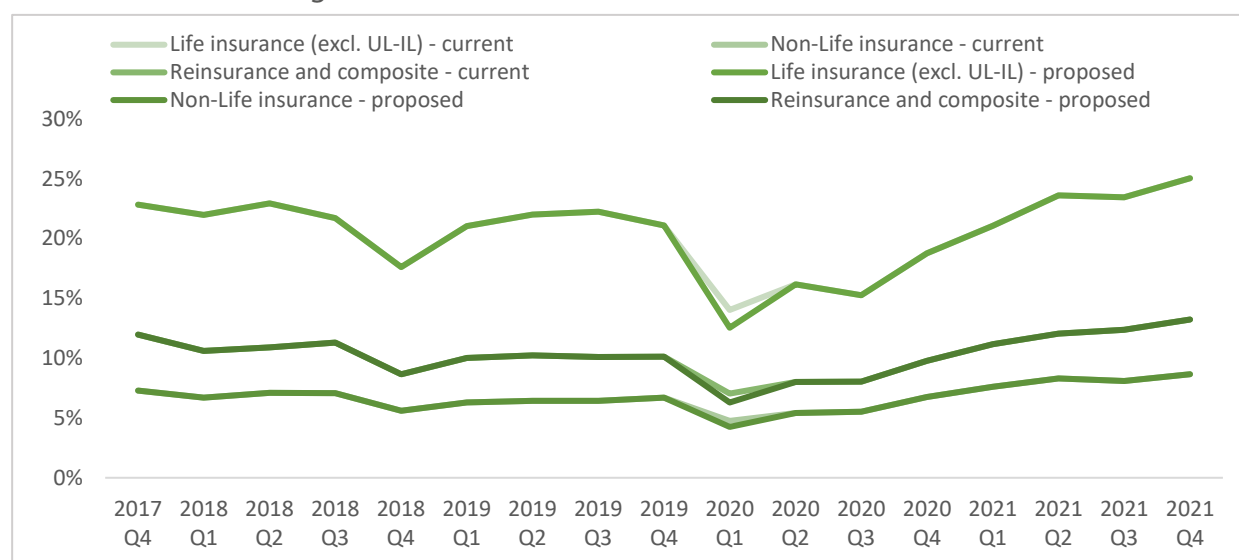


Source: Authors' elaboration based on EIOPA Insurance Statistics (2022).

¹⁹ Non-strategic equity represents most of the investment in real economy, which is the aim of the CMU.

In practice, even in the wake of the COVID-19 crisis this amendment would have only a modest impact on investments in equity by insurance companies (see Figure 5.6). Translating the proposed symmetric adjustment for Type 1 equity²⁰ into equity capital charge over 2017-2021, life undertakings would see the largest impact. In early 2020, life insurance undertakings would have to hold about 1.5 % of own funds less capital under the proposed symmetric adjustment. Reinsurance and composite undertakings would have to hold about 0.7 % of own funds less capital, and for non-life undertakings the capital charge would reduce to 0.5 % of own funds.

Figure 5.5: Equity capital charge for Type 1 non-strategic equity by type of insurance undertaking (% of own funds)



Note: Equity capital charge for Type 1 non-strategic equity was simulated based on aggregated total investment in listed and unlisted equity located in EU/OECD countries, end-of-quarter symmetric adjustment divided by total available own funds to meet the SCR.

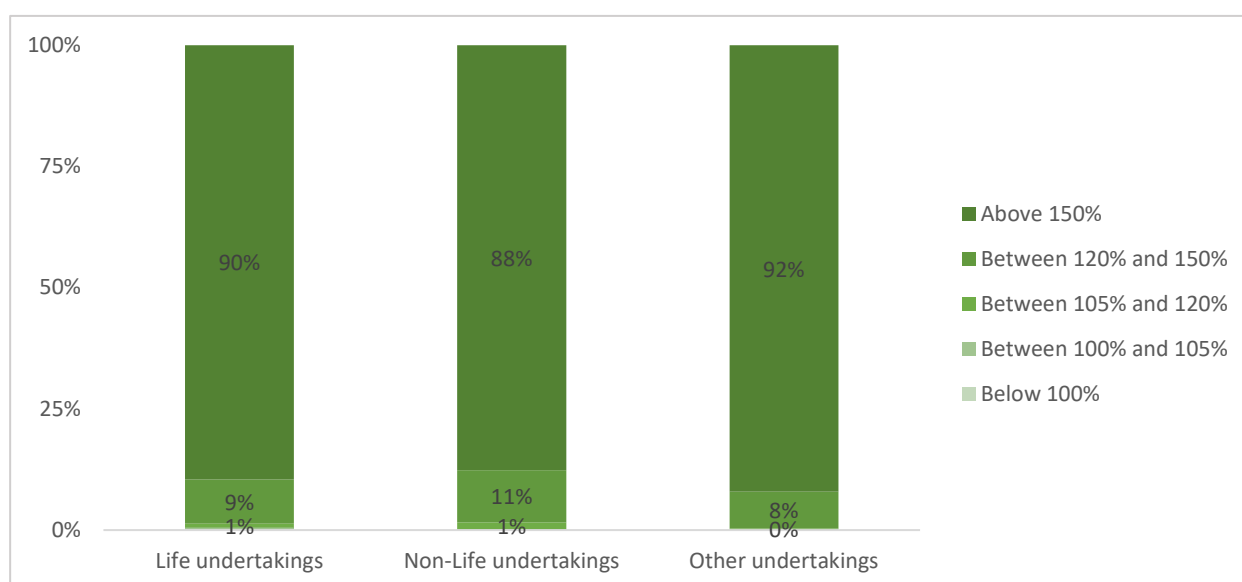
Source: Authors' elaboration based on EIOPA Insurance Statistics (2022).

The upper bound or cap seems not strictly necessary. Hence, between 2006 and 2021 symmetric adjustment was capped for only a short time in 2006. For the rest of the surveyed period the symmetric adjustment was below or at the upper bound level. Moreover, keeping the upper cap at its current level would ensure that insurers have sufficient capital while also allowing them to invest more in equity.

This goes against the advice of the ECB, which makes the point about ensuring ex ante resilience of the EU insurance sector by making sure insurers build up their capital at times of booming market conditions. However, as previously discussed, for most EU insurance companies the solvency requirements are not constraining as they are well-capitalised (see Figure 5.7). Across all types of undertakings, most (88-92 %) have solvency ratios of above 150 % in 2021. Only about one-tenth of EU insurance undertakings have solvency ratios between 120 % and 150 % and a negligible share of EU insurance undertakings have solvency ratios below 120 %.

²⁰ Type 1 equity (investment in companies located in EU and OECD countries) accounts for nearly all of the insurers' equity (excl. unit-linked or index-linked) investment (EIOPA, 2022).

Figure 5.6: Share of insurance undertakings by intervals of SCR ratios as of Q4 2021



Source: EIOPA Insurance Statistics (2022).

5.2.2 Long-term equity investments

Clarifying and expanding the criteria for long-term equity investment would increase the scope of equity investment that is considered long term. This amendment could promote the long-term equity investment of insurance companies but is unlikely to have a major impact on investment in the real economy.

The current criteria for long-term equity investment are difficult to meet. The criteria are often interpreted as necessarily requiring ring-fencing of associated assets. Additionally, insurance companies may find it difficult to keep the assignment of long-term equity investment to the lifetime of the corresponding insurance obligations and they may need to restructure their insurance liabilities. Finally, it is very difficult for insurance companies to define and test equity investment under the 'no forced sale' requirement (EIOPA, 2020).

The Commission proposal would be helpful in addressing most of these challenges. Replacing the 'no forced sale' requirement by a set of specific criteria and linking the qualifying equity investment to long-term illiquid liabilities would substantially widen the scope of qualifying long-term equity investment. According to estimations from French asset manager Amundi, the scope of long-term equity investment could be sixfold (Amundi, 2021).

This would allow insurance companies to contribute more to the capital enhancement of EU companies. The increased scope of the long-term equity investment would mean more investment would benefit from a lower capital requirement (22 % and no symmetric adjustment) thus enhancing insurers' solvency ratios. Using a simplified model based on conservative asset allocation, US investment manager Neurberger Berman finds that a typical EU life insurance company could see their solvency ratios increase by 21 percentage points, while for a typical non-life insurer this figure would be 51 percentage points (Neurberger Berman, 2021). This might ultimately contribute to an increase in their equity investment as higher solvency ratios are typically correlated with a larger share of equity investment in the insurers' portfolio (see Chapter 5.1.1).

5.2.3 Duration-based equity module

The proposed amendment concerning the duration-based equity module are expected to have *de facto* no impact on the equity investment of insurance companies. Indeed, the duration-based equity module is currently rarely used by insurance companies in the EU. According to EIOPA only one insurance company located in France was applying the duration-based equity module as of 31 December 2019 ([EIOPA, 2020](#)). This is because most insurers do not meet the conditions to qualify for its application ([Deloitte & CEPS, 2019](#)). Only insurance companies that provide pension products may apply the module. Additionally, only ring-fenced assets linked to long-term liabilities arising from pension products can benefit from less stringent capital requirements.

Moreover, the assets that qualify for the duration-based equity module would be able to benefit from the lighter requirements for long-term investment in equity anyway. The new definition of long-term investment in equity introduced under Delegated Regulation (EU) 2019/981 and in the Proposal for a Directive amending Directive 2009/138/EC covers the assets that qualify for the duration-based equity module. This makes the module redundant.

Abandoning this module would have no impact on financial stability as the one insurance company currently using it would be able to keep doing so under the grandfathering provision. This provision could be kept, even though the insurance company would still meet the solvency requirements (solvency ratio would reduce from 156 % to 132 %) ([EIOPA, 2020](#)).

5.3 Other potential regulatory changes

There are also other potential regulatory changes that could be conducive to increasing the equity investments of insurance companies, apart from those presented in the Proposal for a Directive amending Directive 2009/138/EC. Using an interest rate that reflects real investment returns to discount liabilities instead of the currently used risk-free rate, would reduce the provisioning of long-term guarantees with equity rather than fixed income-based investments. Discounting is particularly relevant for life insurers as they typically provide long-term products.

The choice of discount rates can have a substantial impact on the current value of long-term commitments. Currently, under Solvency II, the liabilities of insurance companies are discounted using the risk-free rate provided by the EIOPA based on 6-month Euribor swap rates. This effectively means that the cost of providing an insurance contract is equal to the return on investing the amount of liabilities in Euribor swap.

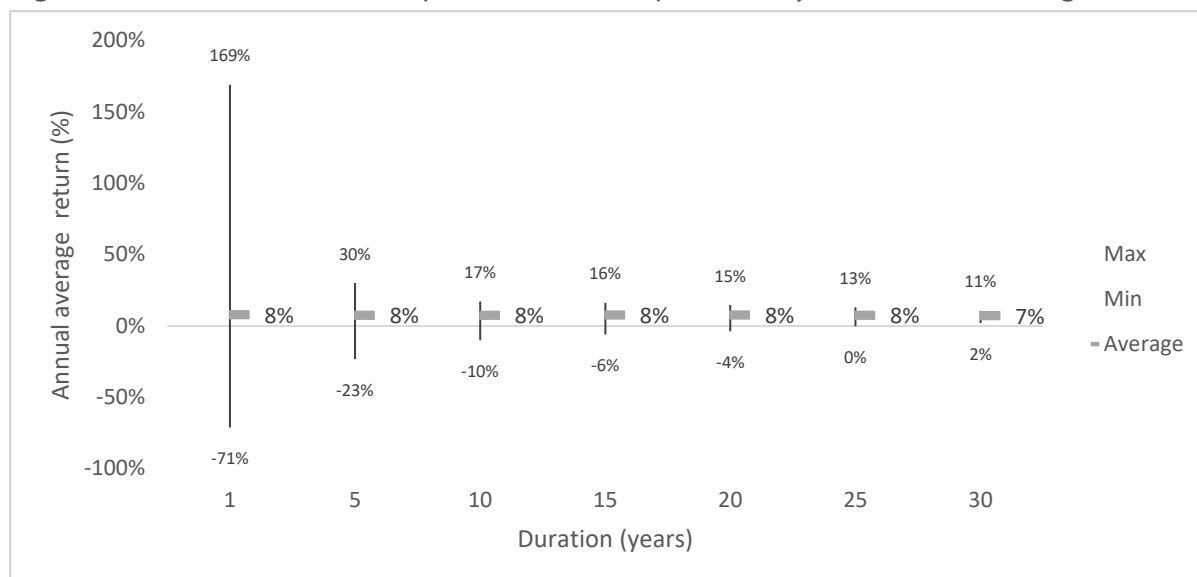
Risk-free rates have been used within Solvency II because insurance companies can be almost certain that they will actually realise this return on their investment through risk-free investments. However, given that risk-free rates in the EU have been consistently low for a long time this substantially overestimates the cost of those liabilities. This, in combination with the higher capital charges for equity, limits the incentives to investment in equity.

In turn, using a rate that reflects real investment returns to discount liabilities could lead to a more accurate estimation of the cost of those liabilities. A higher interest rate reflecting real investment returns might introduce the risk that the insurance company is unable to meet its long-term obligations. However, if chosen conservatively this risk might be very limited.

Looking at the distribution of historic returns on the S&P500 portfolio by duration of holding it is clear that equity investment is primarily risky in the short term (see Figure 5.8). Historic data show that the most extreme returns (minimum and maximum) investors could have obtained on S&P portfolio between 1927 and 2021 would have been for a short-term investment (1-5 years).

Over the long term (over 10 years) these extreme values are significantly reduced. Indeed, the longer the duration of holding the investments, the less risky the investment in equity becomes.

Figure 5.7: Historic returns (price) on S&P500 portfolio by duration of holding (%)

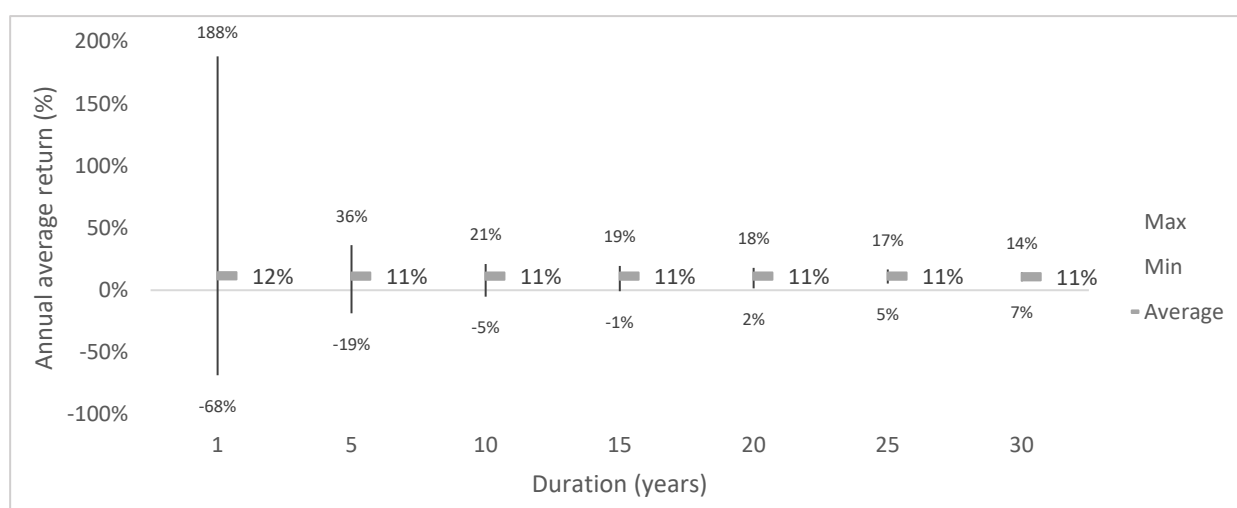


Note: The return was calculated based on moving average historic S&P returns from 1927 until 2021.

Source: S&P500 and authors' elaboration.

Moreover, the market risks for equity investments are further reduced when not only the returns based on the price developments of the shares are considered, but also when the dividends received on listed equity are considered. Looking at the historic returns on the S&P500 portfolio by duration of holding (see Figure 5.9) it is clear that returns on equity investments beyond 20 years are historically not risky. No matter at what point in time the insurance company would have started investing in the S&P500, the return would have been positive. This effectively means that investment in equity can offer insurance companies a nearly guaranteed return if the investment is long-term, well-diversified and dividends are reinvested.

Figure 5.8: Historic returns (price and dividend) S&P500 portfolio by duration of holding (%)

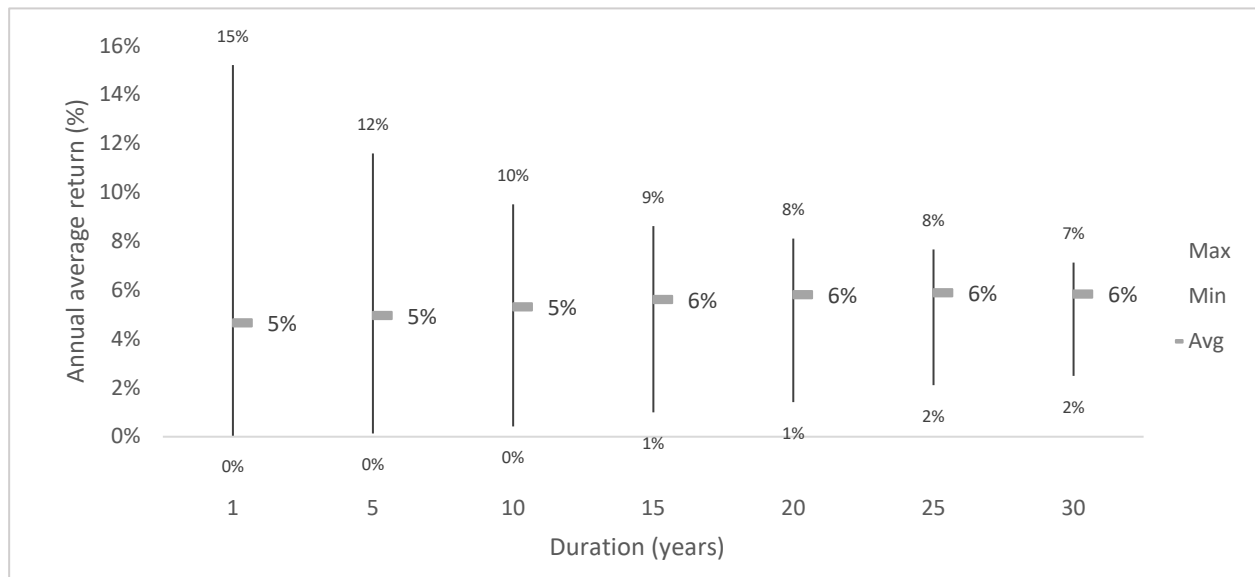


Note: The return was calculated based on moving average historic S&P returns from 1927 until 2021. The returns were adjusted for dividend returns adjusted for dividend tax.

Source: S&P500 and authors' elaboration

In turn, using a risk-free rate to discount liabilities could substantially underestimate the cost of liabilities. Risk-free instruments (often bonds) offer a fixed return to insurance companies, which are often lower than equity. Looking at the distribution of the historic returns on US 1-year Treasury bills, which are widely used to determine the risk-free return²¹, it becomes evident that the returns are low regardless of the holding duration (see Figure 5.10). For example, a 20-year investment in US 1-year T-bills would historically have yielded an annualised average rate of 6 %, while investment in the S&P500 would have resulted in an 11 % return, on average.

Figure 5.9: Annualised historic return US one-year T-bills by duration of holding (%)



Note: The return was calculated based on historic US 1-year T-bill rates from 1959 until 2021. In periods where no 1-year T-bills were issued, the returns were approximated using the 6-month T-bills. These rates were in other periods very similar to the 1-year T-bill rates.

Source: [Federal Reserve Bank of St. Louis](#) and authors' elaboration.

²¹ The rates differ depending on the country. In Europe, Euribor and Euro Short-Term Rate are used as risk-free rates.

6 CONCLUSIONS AND RECOMMENDATIONS

KEY FINDINGS

- Equity investments by insurance companies remain limited despite various revisions of the prudential requirements;
- Both the recently adopted amendments and proposed revisions are likely to have no or a very limited impact on equity investments, and thus on the COVID-19 recovery and Green Deal;
- To increase investments in equity it is recommended to support the development of unit and index linked products, of which almost half of the investments are in equity; and
- Considering the various drivers of equity investments, the adjustment of the interest rate used to value future obligations and longer-term view for the valuation of equity investments in the accounting legislation could have a more meaningful impact on the investments in equity.

Despite various attempts to make equity investments more attractive for insurance companies, these have so far had a limited effect. At the end of 2021, approximately EUR 1.4 trillion or 16 % of total investments of EU insurance companies were directly or indirectly invested in equity. The share of investments in equity has remained fairly similar over the past 5 years for which comparable data are provided.

More specifically, Delegated Regulation (EU) 2015/35 had no impact on investment in equity as it only defined formulas that were missing in the original Solvency II text to calculate solvency capital requirements. Delegated Regulation (EU) 2019/981, which defined the scope of the² qualifying private equity and long-term investments in equity, and which came into force in 2019, seems to have had no or only a limited impact on investments in equity.

Similarly, the proposed widening of the upper and lower bounds of the symmetric adjustment is likely to only have a limited impact. The widening of the bounds will only affect the capital requirements in extreme market conditions, which historically are quite rare. Nevertheless, they might contribute to some increases in equity investments as extreme events such as those are less likely to force the insurance companies to either change their equity exposures or incur changes to their solvency levels.

The proposal to clarify and expand the criteria for long-term equity investment is likely to increase the scope of equity investments that are considered long term. The broader scope is likely – through an effective reduction of the capital charges – to increase equity investments for long-term guarantees somewhat.

The proposal concerning the duration-based equity module is expected to have no significant impact as there are already similar provisions and there seems limited interest in the use of the duration-based equity module.

Furthermore, there is also the possibility that capital relief is paid to shareholders rather than used to invest more in equity. Indeed, the solvency ratio is one of the main indicators that insurance companies use to determine whether they can pay dividends to shareholders or buy back own shares. A higher solvency ratio might thus lead to more distribution of funds to shareholders. This can be addressed by supervisory guidance on dividend distribution ([Glod, J. et al., 2020](#)), which is likely to be more effective for insurance companies with solvency ratios closer to the solvency requirements.

Overall, the measures are unlikely to have much impact on the equity investments by insurance companies in general, and the COVID-19 recovery and Green Deal specifically. This is mostly because prudential requirements are only one of the factors that determine investments in equity; there are also factors in the design of the measures. The criteria to use the preferential capital rates are relatively narrow, considered time horizon relatively short, and benefit in terms of capital relief because of using the different special regimes is limited.

To significantly increase the investments in (listed) equity, it is recommended to also consider the other drivers of investments in equity. Indeed, the prudential requirements basically only have an impact on the asset allocation of insurance companies when the insurance companies have solvency ratios close to the solvency requirements. In practice, most EU insurance companies have relatively large capital cushions.

The most straightforward manner in which equity investments could be increased, would be through the increase of unit and indexed linked insurance products. The investments related to unit and index-linked insurance are almost half invested in equity, while only less than one-tenth of the investments related to life, non-life and composite insurance are invested in equity. However, these products often provide the policy with more certainty about the return or pay-out than unit and index-linked insurance products.

Looking at the possibilities to increase the equity investments for life, non-life and composite insurance, the focus should be on other drivers of investments in equity. Two particular aspects that should be assessed could be changes to the accounting treatment of equity investments and asset and liability management.

There seems to be, based on a simple assessment of the equity returns of the last century, the possibility to use, on a wider scale, conservatively expected actual rather than the current risk-free interest rate, to calculate the value of the liabilities. In order to make the application more accepted, it would be important to also change the accounting methodology to take a longer-term perspective (>1 year). A more comprehensive assessment of the application of the actual returns would be required to determine the potential options for applying actual interest rates on a broader scale.

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Insurance companies are important investors in EU capital markets. Most of their investments are in debt instruments, while equity investments can contribute to higher returns for policyholders and overall EU economic growth. This study analyses the treatment of equity investments by insurance companies in (proposed) EU legislation; it is considered that this legislation will have limited impact on equity investments. To enhance equity investment significantly drivers other than prudential ones would have to be targeted.

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