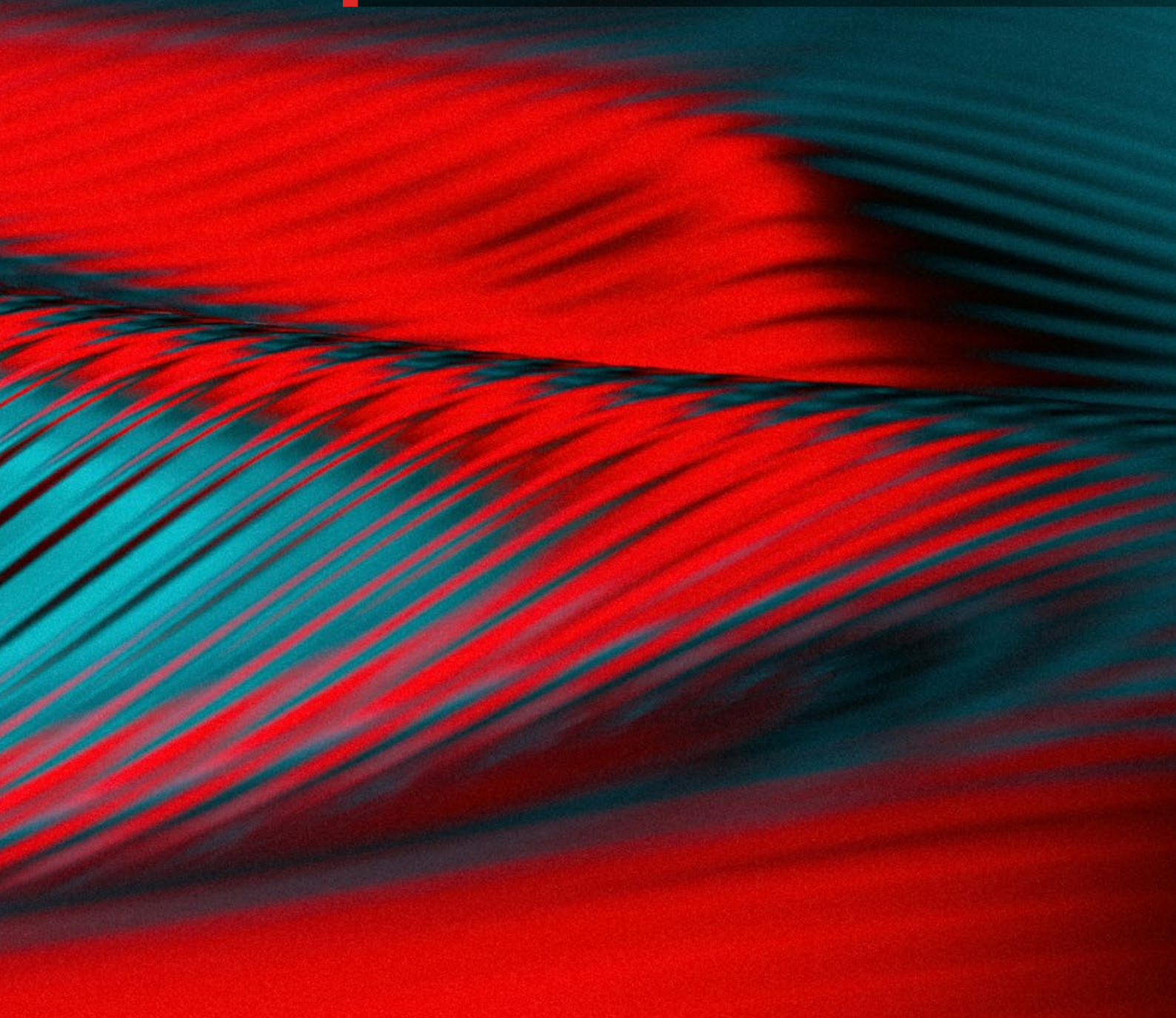
THE GENEVA ASSOCIATION

INSURANCE FOR A BETTER WORLD

LIQUIDITY RISK IN INSURANCE:
A topical perspective

July 2024



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LIQUIDITY RISK IN INSURANCE:
A topical perspective

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The Geneva Association

The Geneva Association was created in 1973 and is the only global association of insurance companies; our members are insurance and reinsurance Chief Executive Officers (CEOs). Based on rigorous research conducted in collaboration with our members, academic institutions and multilateral organisations, our mission is to identify and investigate key trends that are likely to shape or impact the insurance industry in the future, highlighting what is at stake for the industry; develop recommendations for the industry and for policymakers; provide a platform to our members and other stakeholders to discuss these trends and recommendations; and reach out to global opinion leaders and influential organisations to highlight the positive contributions of insurance to better understanding risks and to building resilient and prosperous economies and societies, and thus a more sustainable world.

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Executive summary

The insurance sector has shown strong resilience to rapidly rising interest rates and associated liquidity risk.

Pivotal developments in the economic and financial landscape, like the unexpected return of inflation and the fastest increase in interest rates in decades, as well as factors such as the U.S. regional banking crisis, new bank capital regulation and the rise of alternative investments as an asset class, have reignited concerns over financial stability and liquidity risk, including in the insurance sector.

The International Association of Insurance Supervisors (IAIS) in their 2022 and 2023 Global Insurance Market Reports, and the European Insurance and Occupational Pensions Authority (EIOPA) in their December 2023 financial stability report, highlight the insurance sector's overall stability, despite a minor decline in liquidity ratios. At the same time, regulatory bodies worldwide are intensifying their focus on liquidity risk management in insurance, especially life insurance, which warrants an updated perspective on liquidity risk within the sector.

This issue brief highlights the distinct liquidity characteristics of insurance products, such as their pre-paid nature and the limited liquidity of their liabilities. It also emphasises the sector's liability-driven investment approach which, where applied, typically shields against liquidity risk.

The specific features of insurance products play an important role in determining their actual liquidity risk. Such features include whether the products are designed to primarily accumulate capital (with or without guarantees), offer pure protection, or both. Specific additional product characteristics, such as surrender penalties, significantly influence the likelihood of behavioural risks like policy surrenders, thereby affecting liquidity risk at the product level.

The insurance sector has shown strong resilience to the most recent real-life stress test of rapidly rising interest rates and associated liquidity risk, thanks to a blend of product design, product diversification, effective regulatory frameworks, and strong asset liability and liquidity risk management practices. Against this backdrop, we caution against a blanket approach to liquidity risk in insurance and recommend a proportionate approach in those specific areas where liquidity risk may emerge.

1 Introduction

Introduction

Liquidity risk differs between insurance and banking due to the distinct nature of liabilities in the two sectors.

The existential challenges faced by several U.S. regional banks in March 2023 and the near collapse and government-led takeover of Credit Suisse by UBS have reignited concerns about financial stability and liquidity risk.[1]

Concurrently, significant interest rate hikes have sparked fears among regulators about increased surrender requests from insurance customers and potentially adverse consequences for life insurers.[2] Concerns have also been raised about the implications of private equity (PE) ownership of re/insurers, such as potentially riskier, non-asset-liability-management (ALM)-driven investment strategies deployed by PE-owned life insurers.[3]

The 2023 Global Insurance Market Report (GIMAR), published by the International Association of Insurance Supervisors (IAIS), found that the average insurance liquidity ratio (ILR)[4] decreased only modestly in 2022, primarily due to lower asset valuations. The ILR remained well above 100% as 'on aggregate, insurers hold large amounts of highly liquid assets to be prepared for potential liquidity needs'.[5]

Despite the small amount of evidence for heightened liquidity risk in insurance, regulatory bodies such as the U.K.'s Prudential Regulation Authority (PRA) and the Bermuda Monetary Authority (BMA) are intensifying their focus on insurers' liquidity risk frameworks. In the European Union, the European Insurance and Occupational Pensions Authority (EIOPA) has reported stable liquidity levels across European insurers,[6] but cautioned against potential increases in lapse rates due to potential economic downturns or interest rate rises. It is important to note, however, that there is a natural hedge between these two risks: in the event of an economic downturn, central banks are likely to lower interest rates, potentially mitigating some of the liquidity risk pressure on insurers.

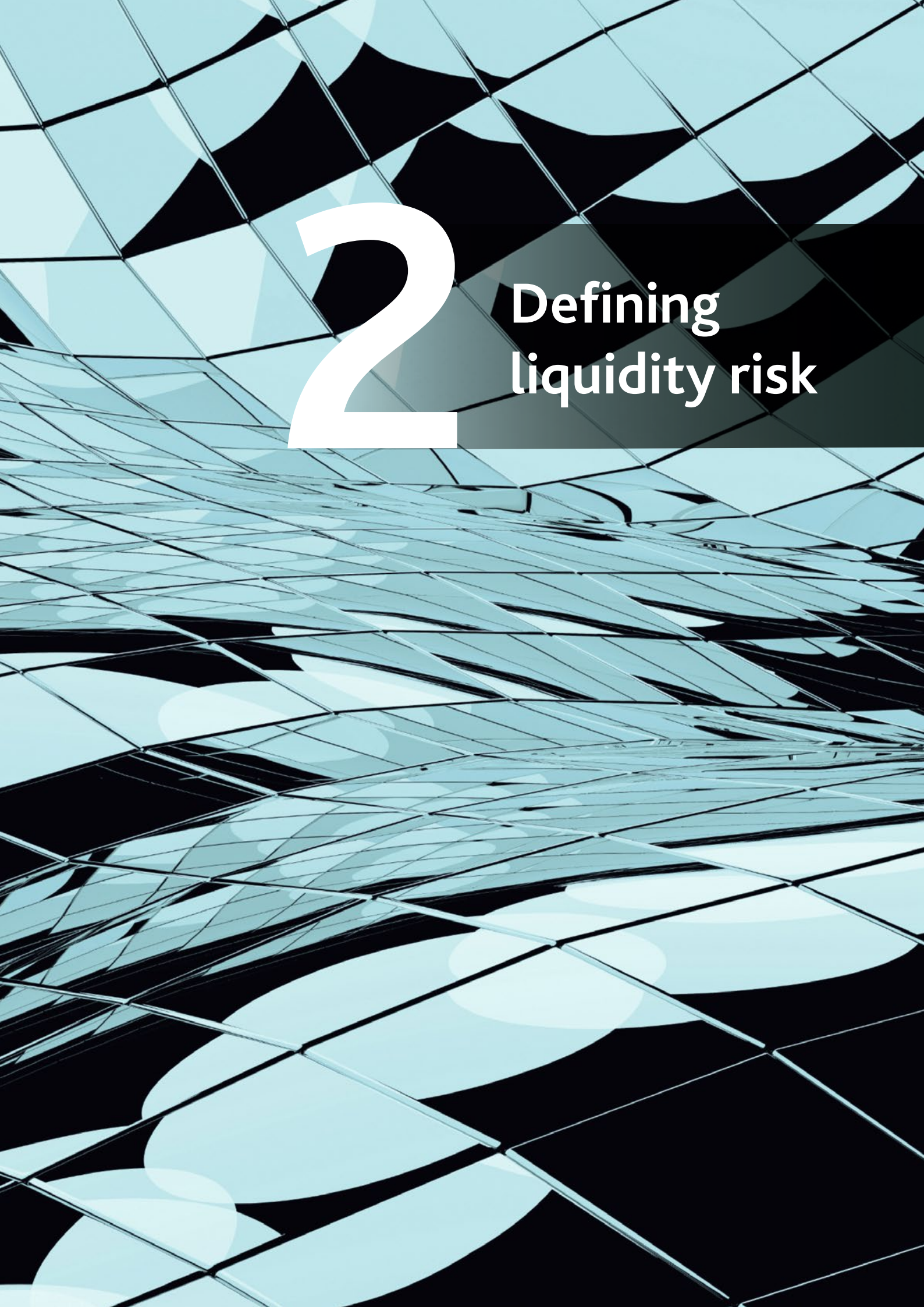
In light of these recent regulatory and market developments, understanding the fundamentals of liquidity risk in insurance is crucial. Increased regulatory scrutiny is not necessarily indicative of higher liquidity risk in the sector but rather an acknowledgment of the need for robust risk management practices in a changing economic landscape.

Against this backdrop, this issue brief aims to delve deeper into the nature of liquidity risk in the insurance industry, its origins and its management. It pays special attention to liquidity risk in life insurance, where surrenders are considered key sources of liquidity risk.[7, 8]

Liquidity risk in insurance are fundamentally different from those in the banking sector. While banks are directly exposed to short-term liquidity demands due to the nature of their deposit-based funding, insurance companies typically engage in liability-driven investment strategies, i.e. buying bonds to align with the maturity of their liabilities.[9] The issue brief also highlights that product features generally disincentivise policyholders to surrender their policies, because doing so would mean incurring an economic loss or forfeiting the long-term financial protection these policies provide.[10]

Finally, the issue brief will also explore how insurers manage liquidity risk, focusing on aspects such as liquidity stress testing, governance and the use of liquidity contingency plans. It emphasises the importance of a diversified product offering within insurance companies, which can help balance liquidity needs across different product lines, especially those with more intense liquidity requirements.

1 The Economist 2023.
2 EIOPA 2023.
3 IAIS 2021.
4 Defined as the ratio of an insurer's liquidity sources and needs over a selected time horizon of an assumed liquidity stress. See IAIS 2022a.
5 IAIS 2023.
6 Ibid.
7 Other sources of liquidity risk in insurance could include liquidity needs related to margin calls linked to derivatives, as well as capital calls on private assets. While relevant, these are not further explored as the paper zooms in on liquidity aspects of insurance that have made headlines recently.
8 IAIS 2023.
9 The Geneva Association 2012.
10 NAIC 2022a.



2 Defining liquidity risk

Defining liquidity risk

Liquidity risk refers to the inability of an entity to meet its short-term financial obligations due to a lack of readily available funds.

While liquidity risk exists both in banking and insurance, it manifests differently in the two sectors due to the distinct business models. In the banking sector, liquidity risk often arises from the mismatch between short-term liabilities (mainly deposits) and long-term assets.[11] In contrast, for insurance companies, liquidity risk is more closely tied to the predictability and timing of claim payments, and the ability to generate sufficient free funds by liquidating assets to cover payments related to unexpected events. Within an insurance group with multiple entities across jurisdictions, it is important that liquidity is fungible, meaning that liquidity can be moved to the entity where it is needed.[12]

2.1 Liquidity risk in Insurance

The insurance business model determines its liquidity risk and approach to managing it. Risks are amalgamated and spread across a large pool of policyholders,[13] who pay in advance for protection against future potential losses. This model significantly reduces the likelihood of an insurance run.[14] Even in the rare case of insolvency, insurers can remain liquid due to the pre-paid nature of their services and the continuing inflow of premiums.[15] Insurers accumulate and invest premiums to match long-term liabilities.[16] The continuous inflow of premiums allows insurers to act as significant investors, including during economic downturns or market dislocation. These investment activities add to financial stability.

Distinct features of the insurance business model limit the scope for liquidity issues in the sector.

Insurance liabilities, predominantly stemming from future policyholder claims, are callable only on occurrence of the insured event. This 'illiquid nature' of insurance liabilities, coupled with mechanisms that limit early policy surrenders, minimises exposure to liquidity risk common in other parts of the financial sector.[17] The predictable nature of liabilities, often stretching over decades, and the continuous inflow of premiums – even during market turbulence[18] – allow insurers to invest in diverse, appropriately long-term assets.

In addition, the industry's diversification across a wide spectrum of products limits the impact of large, unexpected claims and, therefore, the scope for liquidity issues. Furthermore, insurers' limited interconnection minimises contagion risks in the event of a single insurer's failure.[19]

Comparison with banking

Table 1 provides a high-level comparison of banks, savings-oriented life insurance products and protection-oriented insurance, focusing on business model, liquidity risk and systemic risk. Banks are involved in maturity transformation, i.e. the conversion of short-term liabilities such as deposits into longer-term assets. Liquidity risk can occur due to duration mismatches between assets and liabilities. Savings-oriented life insurance products that are

11 Bai et al. 2014.
12 IAIS 2022a.
13 Global Federation of Insurance Associations 2024.
14 Bobtcheff et al. 2016.
15 Ibid.
16 Global Federation of Insurance Associations 2024.
17 The Geneva Association 2012.
18 Insurance Europe 2014.
19 IAIS 2011.

using liability-driven investment (LDI) strategies face only moderate liquidity risk due to abrupt potential policyholder behaviour changes, for example in volatile interest rate environments. Pure protection (life) insurance products, on the other hand, have minimal liquidity risk thanks to the illiquid nature of the liabilities. The different types of liquidity risk faced by insurers can be classified into liability-side and asset-side risks. Both will be addressed in the subsequent sections.

Since there are notable differences between liquidity risk in insurance and banking,[20] any comparison should be carried out with care. Recent challenges in the banking sector, such as the 2023 regional banking crisis in the U.S., stemmed from a mix of factors including interest rate risk,[21] business model risk and changes in regulatory oversight for a specific cohorts of banks.[22] In contrast, the insurance industry's exposure to liquidity risk is more product-specific and much less structural (i.e. driven by business models).

Compared to banking, the insurance industry's exposure to liquidity risk is more product-specific and less structural.

TABLE 1: DIFFERENCES IN BUSINESS MODELS OF BANKS[23] AND INSURERS (BY PRODUCT CATEGORY)

	Banks	Savings-oriented life insurance products	Protection-oriented insurance products
Business model	Maturity transformation: Convert short-term liabilities into longer-term assets.	Liability-driven investment (LDI) strategies align assets with liabilities, including reliance on short-term funding if products have optionality embedded within them.	LDI strategies align assets with liabilities.
Liquidity risk	Potential mismatch in assets and liability liquidity can lead to liquidity stress.	Moderate risk due to potential for surrenders, especially in savings-oriented products with embedded optionality.	Minimal exposure due to the long-term nature of liabilities and low likelihood or irrelevance of mass withdrawals. Potential for capital outflow resulting from catastrophic events.
Systemic risk	Can occur when many depositors demand their money simultaneously.	Lower than banks but higher than classical insurance due to potential for rapid changes in policyholder behaviour, e.g. rapidly rising interest rates and more attractive alternatives.	Typically not an issue as insurers have long-term liabilities, diversified assets and liabilities, and limited interconnections with the rest of the financial system.
Liabilities	Reliance on short-term funding; customers can withdraw deposits at any time.	Based on premiums collected upfront or throughout the life cycle of an insurance policy; some products may allow more flexible withdrawals, akin to bank deposits, while other products include surrender charges.	Based on premiums collected upfront or throughout the life cycle of an insurance policy; policies are not easily callable, i.e. liabilities are illiquid.

Source: The Geneva Association

20 Kupiec & Nickerson 2005.
21 Cookson et al. 2023.
22 Wolf 2023.
23 The comparison made here is with banks, as the issue brief was initially developed in response to the U.S. regional banking crisis. Other valid comparisons could be with open-ended mutual funds, which are liquid, subject to a run risk, and not as tightly regulated as banks or insurers.

3 Liability-side liquidity risk

Liability-side liquidity risk

Liability-side liquidity risks in insurance are influenced by factors including product design and market conditions, and differ for P&C and life lines of business.

Liability-side liquidity risk in insurance primarily arise through unexpected claim payments and surrenders, potentially driven by interest rate volatility.[24] If interest rates rise sharply, policyholders might decide to surrender their policies and place their funds in higher-yielding assets, which could put a liquidity strain on insurers. Therefore, insurers hold sufficient liquid assets such as government bonds and equity.

Liability-side liquidity risk in the insurance industry is multi-faceted, influenced by internal factors such as product design as well as external factors such as market conditions. The channels through which liquidity risk could emerge differs for property & casualty (P&C) and life insurance. Drivers of liability-side liquidity risk for insurers include:

- **Catastrophic loss events:** Significant events such as natural disasters or pandemics can lead to large-scale claims, meaning insurers need to liquidate an appropriate amount of capital immediately.
- **Consumer behaviour:** Surrender options in life insurance contracts can create liquidity risk. Large-scale surrenders, such as during financial turmoil or a dramatic change in interest rates, drive up liquidity needs.

Liquidity risk in the life insurance sector is influenced by product design, external economic factors and policyholder behaviour.

3.1 Life insurance

Liquidity risk in the life insurance sector is influenced by several factors, including product design, external economic factors and policyholder behaviour. Similar to P&C insurers, life insurance companies could face catastrophic scenarios, such as unexpected large-scale claims triggered by mortality shocks (e.g. as a result of a pandemic). Unexpected changes in policyholder behaviour, particularly lapses and surrenders, can also give rise to liquidity risk, even though contractual safeguards often mitigate the immediate impact of mass surrenders. It is important to note that the life insurance industry has demonstrated its resilience to massive shocks such as COVID-19 and the recent, fastest interest rate increases in decades.

3.1.1 Life insurance product characteristics and liquidity risk implications

The spectrum of life insurance products ranges from simple term policies to complex investment-linked plans. Each product has a unique liquidity risk profile.[25]

To enhance understanding of the liquidity characteristics of life insurance products, we examine their features along with the liquidity aspects of their liabilities. This is adapted from an approach put forward by EIOPA. It categorises life insurance products and assesses their associated liquidity risks for stress testing purposes, grouping them by features that influence their susceptibility to lapse or surrender risks.[26]

24 European Central Bank 2009.
25 NAIC 2023.
26 EIOPA 2021.

TABLE 2: TYPES OF (LIFE) INSURANCE AND THEIR SUSCEPTIBILITY TO LIQUIDITY RISK

Type of product	Examples	Features	Cash value component	Susceptibility to (liability-side) liquidity risk
Annuities *(in deferral phase)*	• Fixed annuities • Variable annuities	Accumulation of capital coupled with safeguarding against the risk of outliving financial resources.	Yes	Moderate for fixed annuities (early cash-outs possible) Low for variable annuities (guarantees linked to investments).
Annuities *(in payout phase)*	• Fixed annuities • Variable annuities	The process of deaccumulating savings. At this stage, these products mainly serve to offer longevity protection.	Yes	Minimal if a lapse during the payout phase is feasible; otherwise, zero.
Unit-linked *(without financial guarantees)*		Accumulation of capital with returns directly tied to the performance of a capital market product, like an index. This can be combined with safeguards against risks related to mortality or living longer than expected.	Yes	Limited,[27] under the assumption of correlation with movements in the capital market.
Unit-linked *(with financial guarantees)*		Accumulation of capital with returns linked to the performance of a capital market instrument. With additional guarantees from the insurer.	Yes	Moderate: Can be cashed out (before first periodic payout).
Traditional savings products (e.g. endowments)	Savings policy (with surrender option)	Build-up of capital in combination with return guarantees and protection against mortality risk.	Yes	Moderate: Full amount can be cashed out at short notice.
Protection products	• Health insurance • Term life insurance • Disability insurance	Primary objective is safeguarding against biometric risks (without capital accumulation).	No	Limited (e.g. in case of large-scale event, such as a pandemic).

Source: The Geneva Association, adapted from Swiss Re Institute[28] and EIOPA[29]

As shown in Table 2, liquidity risk associated with life insurance products varies significantly based on the specific design. Products that include a cash accumulation component and offer significant surrender values make it more likely for policyholders to withdraw. In some jurisdictions, however, certain life insurance products with savings elements, like annuities in the U.K. or 'Basis-Rente'[30] in Germany, legally exclude the surrender option (except during a 30-day cooling off period).[31] This eliminates surrender risk altogether. In the absence of such legislation, life insurance policies often come with surrender penalties, which can deter policyholders from surrendering.

27 In principle, the policyholder bears the risk. But there might be situations in which the insurer runs a liquidity risk, e.g. when contract terms provide for a specified time to payment, the insurer may need to provide liquidity when a fund's liquidity is depleted. Bank of England 2019.
28 Swiss Re Institute 2023.
29 EIOPA 2021.
30 Die Versicherer 2023.
31 FCA 2024.

Policyholder behaviour is crucial in assessing the liquidity risk of life insurance policies with surrender values. Decisions to surrender are influenced by the policyholder's personal financial situation,[32] policy value perceptions and economic conditions. For example, policyholders may be more likely to surrender during economic downturns or high market volatility for immediate financial relief. Surrender rates for savings products are particularly sensitive to market changes,[33] as alternative investment options (like bank savings accounts) might become more appealing relative to insurance products with savings elements if interest rates rise.

Responsibility for bearing investment risk is another determinant of liquidity risk. If the policyholder bears the investment risk (such as with variable annuities[34] and unit-linked products), the insurer's primary concern is managing asset sales to meet surrender requests. These assets are generally liquid, except in cases where benefits are linked to illiquid assets like real estate. To manage this, some policies include clauses allowing insurers to defer encashment for a set period after a surrender request, or to transfer the illiquid asset.[35] As opposed to savings products and hybrid products (with savings and protection components), pure protection products, which typically have no technical surrender value, do not present surrender risk. This is because policyholders do not gain any immediate financial benefit from withdrawing these policies.[36] Overall, liquidity risk to insurers is minimal to moderate, depending on the product characteristics.

3.1.2 Recent developments in surrenders in key life insurance markets

Although U.S. life insurers experienced a rise in surrender rates of fixed-rate deferred annuities (11.1% during Q1 2023, compared to 8.1% in Q1 2022),[37] this increase remained below historical peaks and was easily managed.[38] Despite the record-fast rise in interest rates in 2022 and 2023, surrender rates have remained in line with assumptions,[39] not least due to the fact that many U.S. life policies have built-in surrender charges and market-value adjustments, making early withdrawals unattractive.

The low lapse level in 2022 of 2.6% in the European Union underlines the market's stability.[40, 41] Surrender risk was higher in France and Italy, due to appealing alternative investment opportunities and little or no surrender penalties.[42]

France's primary life insurance product – the 'fonds Euro' – which makes up around 60% of life insurance products sold in the country, is potentially exposed to surrender risk. The product is an individual savings instrument, which includes a capital guarantee and the ability to surrender anytime, without penalty. Despite the ease with which it can be surrendered, the risk of large-scale surrenders is limited, thanks to tax incentives and profit-sharing mechanisms which offer a compelling long-term product value. Surrender rates in 2022 were between 4% and 5%.

Italy's equivalent to the 'fonds Euro' is the 'Gestione Separate', a segregated fund providing a fluctuating minimum guaranteed return following market rates. Almost 80% of new life premiums in Italy go into products with traditional savings features. During the first half of 2023, Italy experienced a 10% decline in inflows and a 47% rise in outflows, reflecting an increase in surrenders due to more attractive interest rates elsewhere (see Eurovita case study).

In other European markets, surrender risks are negligible, mainly because of product characteristics and surrender disincentives. Withdrawal barriers exist in Belgium, Germany and the Netherlands, for example, while products sold in the U.K. are predominantly unit linked and thus less lapse prone. In the presence of tax benefits for life insurance policyholders, lapsing policies face tax disadvantages. Besides that, customers might also forego beneficial policy features, such as bonuses.[43]

3.1.3 Eurovita case study

The recent supervisory intervention at Eurovita, an Italian life insurance company, provides a compelling case for why, in rare cases, liquidity issues in insurance do emerge, particularly when insurance products bear similarities to traditional bank savings products. This case underscores the importance of understanding liquidity risk through the lens of specific product characteristics rather than the industry as a whole. In March 2023, IVASS, the Italian insurance supervisor, advised the Minister of 'Enterprise and Made in Italy' to initiate 'extraordinary administration', resulting in a temporary suspension of early redemption payments to Eurovita customers.

32 The Geneva Association 2012.
33 Bermuda Monetary Authority 2023.
34 A fixed annuity is an insurance agreement offering the policyholder a guaranteed interest rate on their contribution. This contrasts with a variable annuity, which does not guarantee a fixed return but rather provides a return that varies based on the performance of the underlying investment portfolio.
35 FCA 2024.
36 The Geneva Association 2012.
37 Swiss Re Institute 2023.
38 Ibid.
39 Fitch Ratings 2023a.
40 Fitch Ratings 2023b.
41 2023 data not available at time of writing.
42 Fitch Ratings 2023b.
43 Ibid.

The rise in interest rates meant that European life insurers had to increase their capital under Solvency II (SII) regulations to account for 'mass lapse' risk. This requirement significantly stretched Eurovita, leading to a capital deficit that caused its SII ratio – which, at 134%, was already below its goal of 150% before rate hikes – to drop even lower and prompted authorities to intervene. Other Italian life insurers had a considerably healthier average SII ratio (230% across the market).

While increasing interest rates benefits insurers through higher yields on their investments, a shock-like sharp interest rate increase can cause a surge in surrenders when customers, especially those whose policies are similar to bank savings products, opt to redeem their policies and reinvest in higher-yielding opportunities.

Eurovita's situation was further complicated by its reliance on the bank assurance distribution channel. Banks that had initially sold Eurovita-issued life insurance policies encouraged customers to surrender them and place their money into higher-yielding savings accounts, which added to the liquidity stress. The lack of surrender penalties made it economically interesting for customers to cash out their life insurance policies.

Furthermore, Eurovita's product portfolio, unlike other Italian insurers, heavily leaned towards traditional savings products, making them very similar to typical bank products such as savings accounts. The lack of (protection) insurance characteristics in these products made it less compelling for customers to hold to maturity at a time when rising interest rates made other products more attractive.

A consortium of insurers and banks eventually rescued Eurovita. Several observations can be drawn from this case study. Firstly, life insurance products should be distinctly different from bank products by offering protection alongside a savings component. Secondly, the introduction of a surrender or tax penalty, a delay in cash-out payments or other behavioural disincentives can deter early surrendering and allow insurers to better manage liquidity needs.

Life savings products that allow early withdrawal without penalty are more susceptible to liquidity risks than term life or other protection products.

In summary, life insurance products mostly bear limited liquidity risk. Life savings products which can be withdrawn early are more susceptible to liquidity risks than term life or other protection products.[44] Recent data on surrender rates across key insurance markets suggests that, despite high interest rates, surrenders are manageable.[45] In most markets, product features such as tax disincentives for early withdrawal, profit-sharing mechanisms and surrender penalties have generally limited the frequency of policy surrenders.

3.2 P&C insurance

The production cycle of the traditional insurance model is quite unique: customers pay upfront while claims are paid only if a certain event happens. In P&C insurance specifically, liabilities are relatively illiquid because the circumstances that trigger claims are predetermined events that are beyond the policyholder's control. As a result, the concept of an 'insurance run' – akin to a bank run – is not applicable.[46] Liquidity needs in non-life are more linked to claims volatility arising from natural disasters, large-scale accidents or sudden legal changes.[47] These events are inherently unpredictable and lead to liquidity outflows if a large volume of claims needs to be paid out in a short period.[48] These cashflows are produced through liquidating capital. Insurers use predictive models and historical data to precisely estimate the frequency and potential magnitude of insured events, as well as liquidity needs to ensure claims can be paid.

Liquidity needs in non-life insurance are linked to claims volatility arising from natural disasters, large-scale accidents or sudden legal changes, which are unpredictable.

Reinsurance plays an important role in (liquidity) risk management by allowing insurers to spread their risk. Should a large catastrophe occur, a primary insurer can fall back on a reinsurer for the part of the risk that was ceded. This not only enhances individual insurers' liquidity resilience but also strengthens the industry's collective ability to withstand large-scale claims events.[49]

P&C insurance companies typically maintain high liquidity levels as part of their normal operations. A significant part of their investment portfolios is made up of liquid assets, such as government and corporate bonds, which can be easily converted into cash.

44 Sheehan 2023.
45 Swiss Re Institute 2023.
46 The Geneva Association 2012.
47 Bobtcheff et al. 2016.
48 European Central Bank 2009.
49 Reinsurance Advisory Board 2023.

3.3 Reinsurance

Reinsurance is a crucial risk management tool for insurers, helping them to spread risk and manage capital. It allows primary insurers to offer protection to a larger group of customers than would otherwise be possible. The global nature of many reinsurance companies allows them to assume a broad array of extreme local risks (including from events such as hurricanes and earthquakes) and diversify them, making them manageable and ensuring financial stability.[50] In terms of liquidity, claims payments, collateral requirements and cross-border retrocessions have been in the spotlight.

3.3.1 Claims payments to ceding insurers

Reinsurers face liabilities that may arise from future events, such as catastrophic losses or large-scale claims events. However, liquidity risk in reinsurance is relatively low due to the global and diversified nature of the industry. Reinsurers spread risks across different regions and categories, mitigating the impact of individual liabilities.[51] They also employ sophisticated risk modelling for accurate assessment and risk-based pricing. Additionally, investment strategies of conventional reinsurers focus on strict ALM and holding capital in liquid, low-risk assets, ensuring quick access to funds.

3.3.2 Collateral requirements

Collateral in reinsurance contracts is an expensive way of managing counterparty risk. Several forms of collateral exist, including letters of credit (LoCs), funds withheld and trust arrangements. Trust accounts require the reinsurer to pledge assets, and hence reduce their liquidity. This increases the production cost of reinsurance. Collateral arrangements must follow a range of regulatory requirements, as outlined by frameworks like SII. These rules stipulate that insurers need to be able to access collateral assets quickly should a default occur. In addition, the collateral must be of high credit quality and maintain a stable value, ensuring it effectively protects the ceding insurer.[52] If the market value of the assets put up as collateral drops below a predefined threshold, the reinsurer could be expected to add more assets to the account.[53] Moreover, schemes such as SII equivalence determinations, the U.S. National Association of Insurance Commissioners (NAIC) Reciprocal Jurisdiction process, and the Covered Agreements allow for the establishment of confidence between jurisdictions, rendering expensive collateral unnecessary. These frameworks facilitate equivalence and reliance in regulatory capital systems, significantly reducing or eliminating collateral requirements, thus making reinsurance markets more efficient.

3.3.3 Asset-intensive cross-border reinsurance

Asset-intensive reinsurance is a special form of reinsurance and can involve transferring significant life insurance liabilities and associated assets to reinsurance entities,[54] as well as high investment leverage (defined as the ratio of investments to capital requirements). This practice is different from the strategic use of cross-border reinsurance to facilitate risk diversification across geographies. Critics argue that asset-intensive reinsurance can introduce risks, complicate regulatory oversight and potentially lead to regulatory arbitrage, where firms do not practice ALM or invest heavily in illiquid assets.[55] Concerns have also been raised around the transparency and stability of such arrangements, especially in times of financial stress. On the other hand, proponents assert that asset-intensive cross-border reinsurance allows life insurers to manage risks, efficiently finance statutory reserves, improve capital efficiency and optimise taxes. This, in turn, can enable insurers to fill more protection gaps and provide more competitive insurance products for consumers.[56] Such entities also often base themselves in jurisdictions that are attractive to third-party investors, which can in turn provide capital that enables insurers to write societally needed coverage.

In response to the emergence of asset-intensive cross-border reinsurance, various regulatory bodies are enhancing their oversight. This includes the BMA which has adjusted capital charges to better account for the risk of policy lapses,[57] the NAIC examination of various methodologies to further assess the soundness of reinsurance transactions, and the U.K. PRA's proposal to implement a reinsurance stress testing framework.

50 GFIA 2024.
51 Swiss Re 2013.
52 Milliman 2020.
53 Ibid.
54 Flood 2023.
55 The Economist 2024.
56 BMA 2023.
57 Ibid.

4 Asset-side liquidity risks: A focus on alternative assets

Asset-side liquidity risks: A focus on alternative assets

There has been a shift in insurance towards investments in alternative assets. Though these are generally less liquid, liquidity risk remains manageable when they are used to match with long-duration liabilities.

Liquidity risk can materialise on the asset side of an insurer's balance sheet for several reasons, including:

- **Disruptions in financial markets,** following which certain asset classes may become less liquid, potentially leading to haircuts corresponding to mark-to-market losses. There may be a lack of buyers for certain types of securities, leading to liquidity problems for insurers holding these assets.

- **Credit events and a deteriorating quality of assets** (e.g. government or corporate bonds) held by insurers and a reduced ability to liquidate these assets at their full value.

- **Investment maturity mismatches,** especially with long maturity or illiquid investments which may be difficult to convert into cash in a timely manner if needed urgently, particularly if capital is invested in illiquid assets.[58]

To mitigate liquidity risk, insurers typically employ rigorous ALM strategies designed to match the duration of assets with that of liabilities.[59] Despite concerns around investment maturity mismatches, there is no evidence to suggest that insurers are engaging in maturity transformation similar to banks.

4.1 The rise of alternative assets

This section will examine the increasing role of alternative assets (e.g. real estate, private equity, infrastructure and private debt) in insurance and its potential implications for liquidity risk.

In the aftermath of the Global Financial Crisis (GFC), low interest rates and yields on government bonds have limited the ability of life insurers to offer products with guarantees. This constraint has partly driven the shift towards investments in alternative assets, notably private equity (PE), in addition to the growing need for long-term financing. Due to tightening Basel III risk weights, banks have become less inclined to originate or invest in alternative assets,[60] such as infrastructure projects.[61] Consequently, PE firms and investment managers have stepped in as their assets are well suited for effective ALM for long-dated life and retirement liabilities and can provide attractive risk-adjusted returns that support guaranteed products[62] and long-term financing needs.

58 IMF 2023.
59 PwC 2023.
60 Ibid.
61 Burton & Lefko 2023.
62 Bermuda Monetary Authority 2023.

PE involvement in the insurance sector occurs in three ways:

1. Insurers invest in assets or funds originated by PE firms, where the PE firm serves as the alternative asset manager for the insurer.

2. PE firms acquire insurance companies, primarily in the life insurance sector.

3. Insurers sell blocks of business to PE-sponsored or -owned insurance companies, such as books of fixed annuities.

Some stakeholders have raised concerns over the illiquidity of these assets,[63] which can be mitigated by a well-designed risk framework that ensures such investments are appropriately managed.

While the average exposure of the insurance sector to alternative assets has been growing, it remains limited.[64] One of the challenges in assessing exposure is that there is no uniform definition of this asset class. What counts as 'alternative' may vary by jurisdiction. The IAIS has set out several criteria for identifying alternative assets, which are less liquid due to the lack of a secondary market, valuation difficulties[65] and their greater complexity and opacity compared to traditional asset classes, such as equities and public bonds.

Without a precise definition it is difficult to quantify the magnitude of allocation to alternative assets. 'Level 3 assets' are a potential proxy for alternative assets. These are assets that are hard to value due to a lack of market data. The share of Level 3 assets in insurers' portfolios doubled from 3% in 2011 to 6% in 2021, with some companies reporting an 8–18% allocation in 2021.[66] IAIS data for the same type of assets indicates an average rise from 3.4% in 2020 to 4.5% in 2022.[67] Alternative asset allocations vary by region, with some U.S. insurers having invested up to 27% of their asset base in alternative assets.[68]

Alternative asset allocations should be considered in light of the relative illiquidity of insurers' liabilities – insurers do have capacity to invest in illiquid assets, provided that adjustments in potential revaluation do not necessitate the liquidation of illiquid assets.

4.2 Risks of alternative assets

While alternative assets offer higher yields compared to other assets along with diversification benefits,[69] they also come with additional risks. The main one is that they are not traded on conventional financial markets, which makes them not only hard to value but also less liquid. It might thus be challenging to sell such assets when unexpected liquidity needs emerge.

The insurance business model hinges generally on solid ALM, i.e. the idea that, to the highest degree possible, liabilities are matched with assets of equal duration. Life insurers, for example, match long-term liabilities (that may lie 50 or more years in the future) with a variety of assets, such as government bonds and equity. In principle, the long-term nature of life insurers' liabilities lends itself well to long-term and less liquid investments such as alternative assets,[70] and effective ALM can mitigate the associated liquidity risks.

Even when assets and liabilities are perfectly matched, liquidity risk may still emerge if contracts include options that allow consumers to surrender their policies early. This optionality can unexpectedly turn supposedly illiquid liabilities into liquid ones, especially when interest rates are rising. In a low interest environment, insurers' alternative investments benefited policyholders as insurers were able to keep up financial guarantees that support retirement planning. With rising interest rates, however, this value proposition weakens.[71] Optionality embedded in policies could prompt policyholders to surrender their policies in search for better yields. This poses a risk, particularly if illiquid assets need to be liquidated at short notice to honour payouts.

63 NAIC 2023.
64 International Monetary Fund 2023.
65 Ibid.
66 Ibid.
67 IAIS 2023.
68 Flood 2023.
69 NAIC 2023.
70 Ibid.
71 Ibid.

By adhering to strict ALM standards, insurers can mitigate liquidity risks from illiquid alternative assets. This can be done by 1) making prudent assumptions regarding the market liquidity of the assets; 2) performing stress tests on relevant risk factors over various time horizons; 3) developing contingency plans that can be deployed under severe stress; and 4) implementing surrender charges and/or tax penalties to discourage lapses. Recent data from AM Best shows that insurers that invest more in alternative assets frequently deploy surrender charges[72] to shield against liquidity outflows driven by consumer behaviour.[73] Market value adjustment provisions allowing the surrender value of policies to be aligned with market conditions are another way of limiting liquidity risk in case of surrender.[74]

Increasing investment in alternative assets has triggered heightened supervisory attention. The latest Global Insurance Market Report by the IAIS shows that the bulk of insurers' portfolios worldwide remains invested in fixed-income assets. These include corporate debt (27% of assets); sovereign debt (22% of assets); and loans and mortgages (6% of assets). Altogether, fixed-income investments across insurers globally constitute 55% of invested assets. Equity follows, representing 11% of the portfolio.[75]

Insurers can mitigate liquidity risks from illiquid alternative assets by adhering to strict asset-liability management standards.

72 The use of surrender charges is a commonly used mechanism to incentivise specific policyholder behaviour and is not specific to companies investing in alternative assets.
73 AM Best 2023.
74 BMA 2023.
75 IAIS 2023.

5 Liquidity risk management and regulation

Liquidity risk management and regulation

Stress testing, strong governance processes and liquidity contingency plans help insurers manage liquidity risk.

5.1 How insurers are managing liquidity risk

Insurers use a variety of tools and methodologies to manage liquidity risk, such as stress testing, which is typically based on pre-defined deterministic scenarios that map out multiple situations and considers both insurance and non-insurance stress events.[76]

Insurers continually measure and monitor liquidity risk through detailed cash flow projections of liquidity needs and resources. These projections form the basis for liquidity stress testing, in which liquidity needs and sources are measured for a forward-looking period of up to one year. These measurements are conducted at both the group and entity levels. Also, asset sale haircuts are factored into liquidity frameworks to account for potential losses incurred during forced asset sales in times of stress.[77]

As part of stress testing and liquidity monitoring, insurers identify relevant outflows, such as policyholder cash flows, payments linked to derivatives, dividend payments to shareholders and other financial obligations. This approach distinguishes between liquidity needs during normal times and times of stress. Liquidity metrics are used to quantify liquidity risk, with the liquidity ratio (liquidity resources divided by liquidity needs) being the most commonly used. Insurers also have a well-developed liquidity toolkit which includes the establishment of cash buffers as well as the maintenance of an active list of possible management actions that can be triggered as needed. Management actions can include the use of debt tools to cover short-term needs, the use of liquidity facilities, delaying investments or reinvestments, and the sale of assets.

Strong governance processes are another important part of liquidity risk management. This includes processes for risk identification, measurement, and detection of potential liquidity stress events in the early stages. Part of the governance process involves defining a liquidity risk appetite within the risk management framework and ensuring that liquidity risk is taken into account in all business activities and decisions.

In addition, insurers create Liquidity Stress Management Plans (LSMP) which act as a practical starting point for liquidity crisis management. Should a liquidity crisis occur, liquidity contingency plans, with defined contingency liquidity sources, are activated.[78]

While not a liquidity risk management tool in the narrow sense, diversifying product offerings is a key mitigation strategy. Products with relatively stable and predictable cash flows can effectively support those lines with more volatile liquidity demands, such as variable annuity business and other guaranteed products that use derivatives in their ALM. The same applies to insurers asset portfolios, which should be balanced to avoid over-dependence on a particular asset class.

5.2 Regulatory developments since the Global Financial Crisis

The 2008 GFC triggered a wave of new regulation across the financial sector. While insurers did not play nearly as important a role in the crisis as banks did, the insurance industry's links to the broader financial system and its major economic significance brought it into the regulatory spotlight as well.

76 CRO Forum 2019.
77 Ibid.
78 Ibid.

5.2.1 Global insurance regulatory initiatives

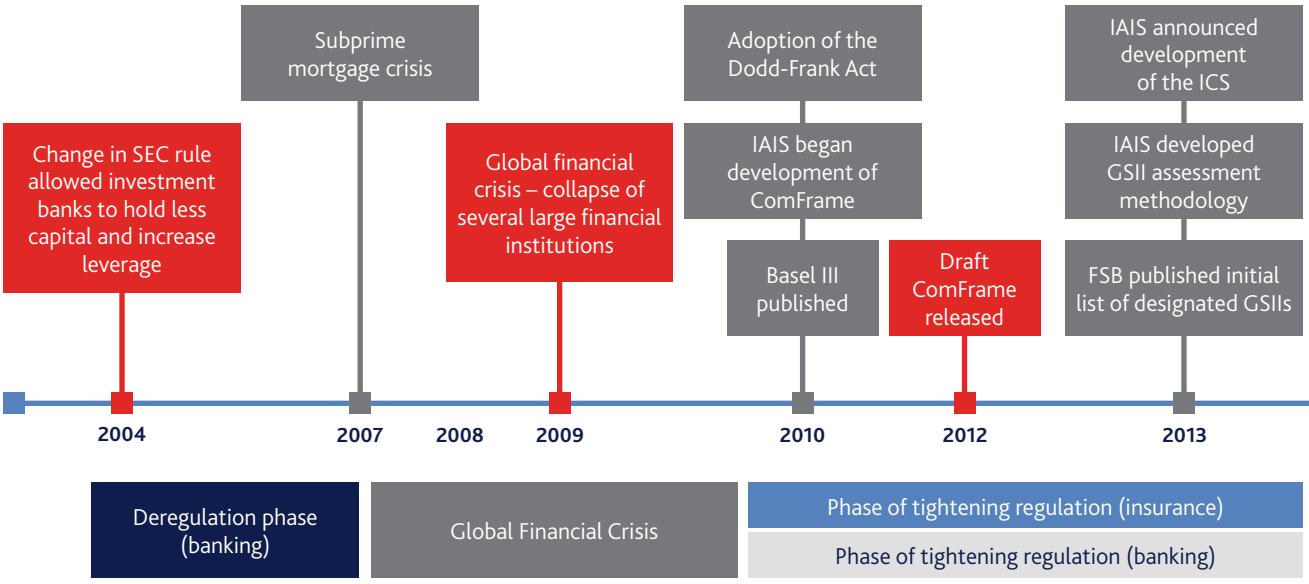
The IAIS is central to most insurance-specific regulation and supervision. As the global association for insurance supervisors, the IAIS represents over 200 jurisdictions. The organisation crafts standards and guidance for insurance supervision. With the mission of promoting a stable and resilient insurance sector, the IAIS launched several standard-setting initiatives with relevance for liquidity management, notably the Common Framework (ComFrame) for Internationally Active Insurance Groups (IAIGs) and the Holistic Framework for Systemic Risk in the Insurance Sector.

ComFrame aims to enhance the groupwide supervision of IAIGs. It sets out both quantitative and qualitative expectations, in an effort to assess groupwide activities and risks, identify supervisory gaps and coordinate supervisory activities between groupwide and other supervisors. ComFrame stresses the importance of robust governance structures and enterprise risk management, including specific requirements in the area of liquidity risk management, such as liquidity stress testing processes and the inclusion of liquidity management in insurers' ERM frameworks.[79]

Besides that, insurers are required to develop contingency funding plans to address liquidity shortfalls in unforeseen stress situations.

The Holistic Framework was developed as a successor to the Global Systemically Important Insurers (G-SII) methodology. Rather than merely tagging a few insurers considered systemically important due to their size, it takes a macroprudential view, focusing on identifying activities with potential systemic implications. It includes measures supervisors could adopt to prevent insurance-sector vulnerabilities from developing into systemic risks; for example, requiring regular liquidity stress testing, maintaining adequate levels of liquid assets as well as contingency planning.[80] Specific to the Holistic Framework are liquidity metrics, which provide several approaches for measuring liquidity risk over various time horizons. These metrics capture different aspects of liquidity risk, such as insurance-specific risks (liquidity risk arising from claims, withdrawals, surrenders and lapses), investing activities and financing activities. The metrics are integrated in the IAIS Global Monitoring Exercise (GME), and thus form an integral part of the annual systemic risk assessment exercise.[81]

FIGURE 1: THE EVOLUTION OF BANKING AND INSURANCE REGULATION (2004–2023)



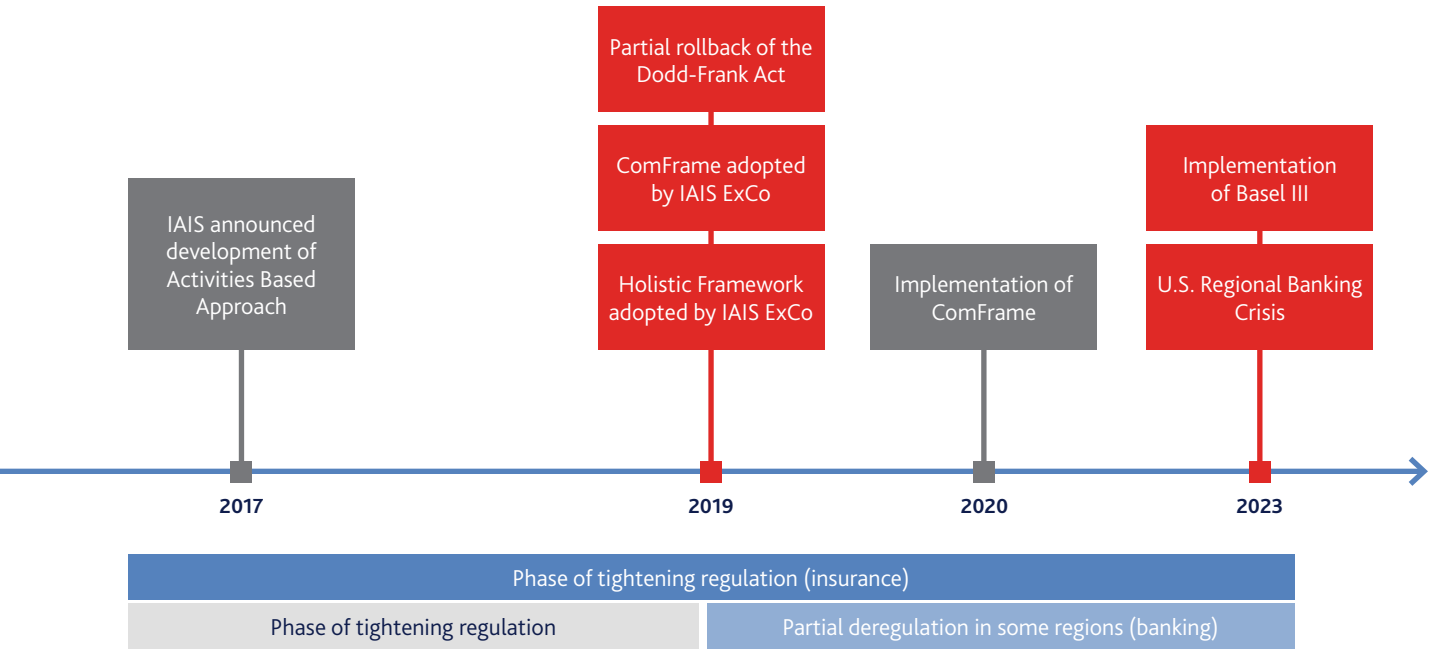
Source: The Geneva Association

79 IAIS 2019a.
80 Ibid.
81 IAIS 2022b.

5.2.2 European Union

The Solvency II framework is currently being reviewed, with the aim of addressing flaws. In the context of liquidity risk management, several amendments are being made.[82] The new Article 144a contains provisions pertaining to liquidity management planning, including mandatory liquidity risk management plans and the development of liquidity risk indicators to identify potential liquidity stress. Article 144b outlines the power of supervisors with regards to liquidity risk, including requiring insurers to strengthen their liquidity position. It also includes the provision for supervisors to temporarily suspend redemption rights on life insurance policies and the payment of dividends.[83]

Figure 1 illustrates how regulation has evolved, from the 2004 Securities and Exchange Commission (SEC) rule allowing investment banks to reduce capital reserves and boost leverage, through to the 2007–2009 GFC. This crisis spurred a wave of new regulation. In insurance, developments include the global insurance capital standard (ICS) and ComFrame for supervising major insurance groups, alongside initiatives to curb systemic risk, evolving from focusing on single entities to specific activities. While regulation has generally become stricter over time, the 2019 partial rollback of the Dodd-Frank Act eased requirements for certain cohorts of regional banks in the U.S. This development was partly linked to the 2023 regional banking crisis, which put liquidity concerns back in the regulatory spotlight.



82 InsuranceERM 2019.
83 European Commission 2021.

6 Conclusion

Conclusion

Insurers can largely avoid liquidity risk by following asset-liability management principles.

The insurance industry has demonstrated its resilience to a major recent real-life stress test – the fastest rise in interest rates in decades. This shows that insurance products are inherently robust against liquidity risk. By properly following ALM principles, insurance companies can largely avoid liquidity risks, especially where liquidity is fungible and can freely move among entities within the same group. Insurers that encountered higher rates of policy surrenders were, in most cases, able to meet these liquidity demands effectively, which testifies to strong liquidity risk management practices and effective current regulatory frameworks.

The evolving landscape of global insurance regulation, focusing on liquidity stress testing, risk management planning and indicators of liquidity risk, has significantly improved the industry's readiness for potential liquidity challenges. Heightened regulatory focus on the sector's liquidity, especially regarding illiquid alternative assets, is understandable. But this should be considered in the context of the insurance industry's proven and stress-tested resilience to such risks.

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