

Corporate Pension Funds' Investment Strategies and Financial Stability: Lessons from the Turmoil in the UK Gilt Market

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In September 2022, interest rates in the UK gilt market rose sharply. The steep rise in interest rates caused UK corporate pension funds to face additional margin calls that exceeded their cash reserves, resulting in a temporary liquidity crunch. The reason was that UK corporate pension funds, due in part to a search for yield to resolve funding shortfalls, had increased their reliance on leveraged transactions using derivatives, etc., but lacked sufficient cash reserves and measures to deal with the drying up of liquidity. This episode suggests that even institutional investors who make long-term investments can pose a threat to financial stability. In Japan, however, there has been no excessive search for yield among corporate pension funds. Moreover, the use of leveraged transactions is limited, and corporate pension funds' assets under management are composed of assets that are relatively easy to convert into cash. On the other hand, among life insurers, which, similar to corporate pension plans, have long-term liabilities, the use of leverage transactions has increased somewhat amid the scheduled introduction of new regulations that require the economic value-based valuation of liabilities. However, life insurers' financial soundness and profits have been improving, and their liquidity is fairly robust.

Introduction

In late September 2022, the UK gilt market saw a sharp rise in long-term interest rates following the announcement of the Truss administration's fiscal package, which included major tax cuts (Chart 1). Funds that had been managing the assets of UK defined benefit (DB) corporate pension schemes using leveraged transactions faced a large amount of additional margin calls and were forced to liquidate some of their assets. The sale of assets led to a further rise in interest rates. In response to the turmoil in

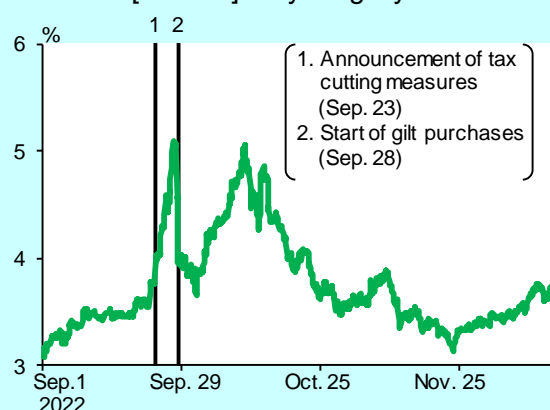
financial markets, the Bank of England announced a temporary program of government bond purchases.

The culprit of the turmoil in the UK gilt market was a temporary liquidity crunch originating from leveraged transactions rather than capital-related problems such as investment losses or a deterioration in corporate pension funds' finances.¹ In the UK, corporate pension funds had an incentive to pursue higher investment yields to eliminate funding shortfalls in the face of increasing benefit payments due to growing lifespans and other factors. With no option to reduce benefits, they had little alternative but to raise investment yields by increasing leverage. Under these circumstances, an investment strategy called liability-driven investment (LDI)² had been widely adopted in the UK, as it was seen as an effective investment approach to eliminate funding shortfalls.

The recent episode suggests that even institutional investors who make long-term investments can – depending on their investment strategies and risk characteristics – pose a threat to financial stability. Therefore, in assessing the vulnerability of pension funds and other institutional investors, it is necessary to take into account differences in their investment strategies and risk characteristics depending on their countries' institutional and historical background.

Given these considerations, this paper compares the

[Chart 1] 30-year gilt yields



Source: Refinitiv Eikon.

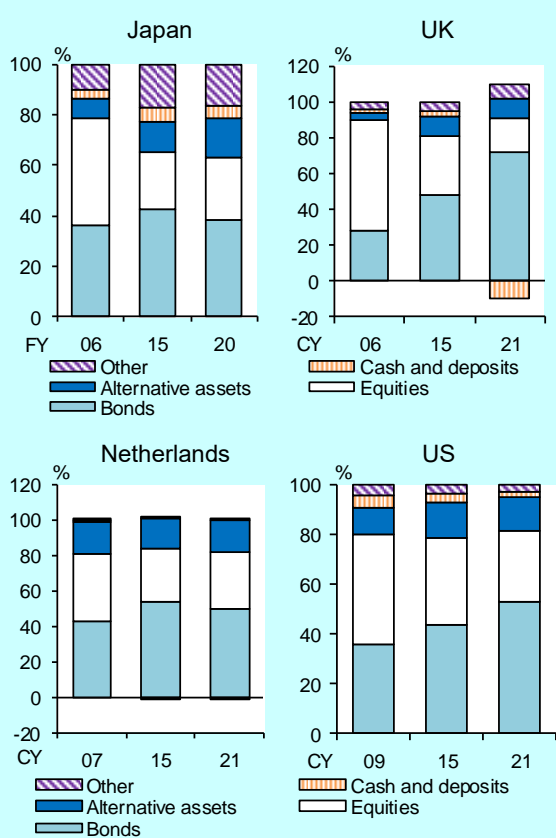
Note: Latest data as of December 16, 2022.

investment strategies and background of corporate pension funds in Japan with those in the UK, the Netherlands, and the United States, countries that account for large shares in global pension assets.³ It then discusses the implications for financial stability in Japan.

Investment strategies of corporate pension funds

Corporate pension schemes have the unique function of fulfilling long-term pension benefit contracts and have in common in all countries that their liabilities are long term. However, the institutional and historical background of corporate pension schemes – the form of pension benefits (lifetime/fixed term, defined benefit/defined contribution⁴), accounting system, funding status, duration mismatch, investment environment, market system, etc. – all differ. These differences lead to differences in assets under management and investment approaches such as the use of leverage.

[Chart 2] Asset allocations of occupational pension funds



Source: De Nederlandsche Bank; Pension Fund Association; Pension Protection Fund; WTW, "2021 Asset Allocations in Fortune 1000 Pension Plans."

Note: Repo transactions are regarded as negative "Cash and deposits."

In fact, the composition of assets under management of corporate pension schemes (most of which are of the defined benefit type) varies from country to country (Chart 2). Recent data indicate that in the UK, the Netherlands, and the United States, bonds account for a high percentage of assets under management. Moreover, in the UK and the Netherlands, the use of leverage is widespread, and the ratio of cash and deposits to total assets is low. In Japan, on the other hand, the share of bonds is low, while the ratio of cash and deposits to total assets is relatively high.

Characteristics of UK corporate pensions

In the UK, the level of public pension benefits is relatively low and reliance on private pensions is high. This reflects the policy objective of compensating for the decline in public pensions through private pensions. The majority of private pensions consist of corporate pensions, most of which are of the defined benefit type and pay pension benefits in the form of lifetime annuities.

[Chart 3] Situation surrounding occupational pension schemes in the UK

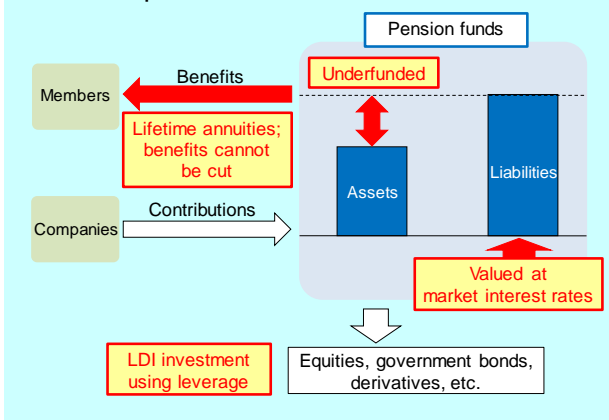
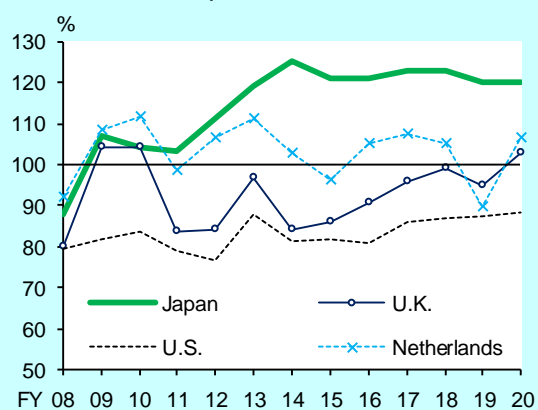


Chart 3 provides an overview of the situation surrounding corporate pensions in the UK and their management. First, regarding the accounting system, the Pensions Act 2004 and the Financial Reporting Standard 17, which took effect in 2005, introduced market value-based valuation using market interest rates in both corporate accounting (i.e., the accounting of retirement benefits) and in the funding standards for corporate pension schemes to verify their financial soundness. The introduction was motivated by the deterioration of pension scheme funding due to the collapse of the IT bubble in the early 2000s. At that time, there was a series of cases in which defined benefit corporate pension schemes suffered a deterioration in their funding, resulting in the appraisal value of liabilities greatly exceeding the appraisal value of

assets. As a result, there were growing calls to ensure that changes in the market value of pension liabilities were recognized at all times.

Next, regarding the funding ratio, the large decline in market interest rates following the global financial crisis and the subsequent continuation of the low interest rate environment led to an increase in the market value of liabilities, resulting in an increase in the number of corporate pension funds with funding shortfalls (Chart 4). Moreover, in the UK, lifetime annuities are the norm, and not only is the duration of liabilities, with about 20 years,⁵ quite long, the system also makes benefit reductions difficult. In addition, the rise in longevity has increased the amount of benefits paid, which has further exacerbated funding deficits.

[Chart 4] Funding ratios of occupational pension funds



Source: De Nederlandsche Bank; Milliman; Pension Fund Association; Pension Protection Fund.

Note: The data for Japan are on a funding standard basis (net assets / policy reserves, measured on an ongoing basis).

Under these circumstances, the adoption of LDI, under which assets are managed so that changes in the market value of pension liabilities are offset by changes in the market value of pension assets when market interest rates change, became widespread in the UK. In order to ensure their financial stability, defined benefit corporate pension funds are required to hold long-term assets to meet future pension benefits. Corporate pension funds that adopted LDI reduced the share of stocks while increasing the share of bonds, such as super-long-term bonds, and used interest rate swaps to stabilize pension funding against changes in market interest rates.

Moreover, the persistence of the low interest rate environment and the increase in benefits due to greater longevity created an incentive to pursue higher investment yields to eliminate funding shortfalls. Given that pension schemes in the UK have no option to reduce benefits, they needed to achieve sufficient investment yields by increasing leverage. In this

respect, LDI, which can be combined with leveraged transactions, was an effective investment method for UK corporate pension schemes aiming to eliminate their funding deficits. In fact, the use of leveraged transactions has been increasing in the UK, with 60 percent of corporate pension schemes investing in government bonds through repo financing (Chart 5). As a result of the increase in leveraged transactions through repos, the ratio of cash and deposits to total assets fell to low levels, turning negative (net liabilities) in 2021.

[Chart 5] Leveraged investments by occupational pension schemes in the UK

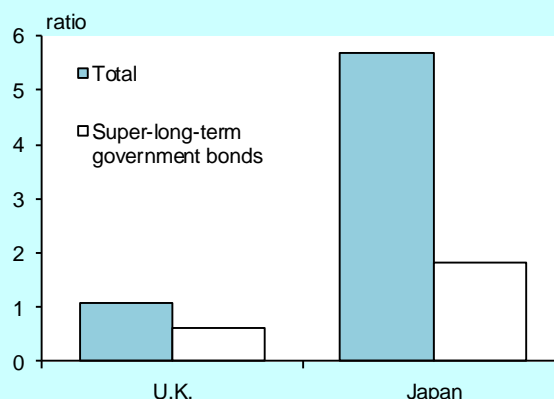
	Maximum level of leverage allowed	Ratio of pension schemes holding each type (%)
Fixed income gilts funded by repo	1.8 – 6.0 [4.3]	63
Interest rate swaps	1.0 – 6.0 [4.7]	62
Index-linked gilts funded by repo	1.8 – 6.0 [4.0]	61
Inflation swaps	1.0 – 6.0 [4.0]	60
Gilt total return swaps	1.0 – 6.0 [4.5]	39

Source: The Pensions Regulator.

Note: Figures in brackets denote the median.

Another reason for the increased use of leverage was limited investment opportunities. The size of the UK government bond market relative to the scale of pension fund assets is limited, and the average maturity of UK gilts is about 15 years, longer than that of government bonds in other countries such as Japan, where it is about 9 years, France, where it is about 8 years, Germany, where it is about 7 years, and the United States, where it is about 6 years (Chart 6). Therefore, leveraged transactions using derivatives and

[Chart 6] Ratio of government bonds outstanding to private pension assets



Source: Ministry of Finance; Office for National Statistics; UK Debt Management Office; BOJ.

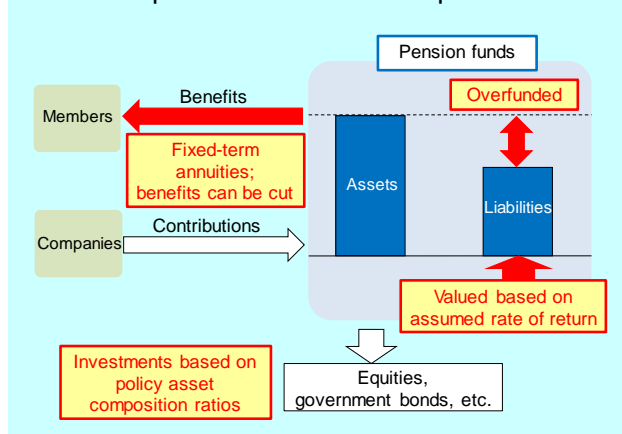
repos were regarded as essential.

In addition, small- and medium-sized pension schemes have been using pooled LDI funds, in which the assets of multiple funds are invested together.⁶ As a result, another characteristic of UK corporate pension schemes is that adjustments such as additional contributions to LDI funds from participating corporate pension schemes take time.

Characteristics of Japan's corporate pensions

Japan's pension system is a three-tiered system consisting of the National Pension System (providing a Basic Pension for all citizens), the Employees' Pension Insurance system providing pensions for employees, and corporate pension schemes operated by firms. Chart 7 provides an overview of the situation surrounding corporate pensions and their management. In Japan, more than 80 percent of corporate pensions are defined benefit schemes, and terminable annuities are the norm.⁷

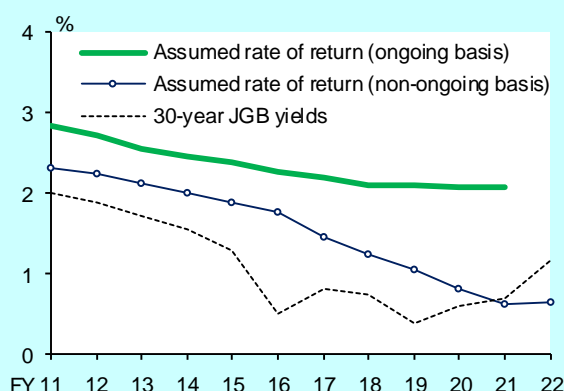
[Chart 7] Situation surrounding occupational pension schemes in Japan



First, looking at the accounting system, based on the funding standards that form the basis of pension funds' investment strategies, the present value of liabilities is discounted by the assumed future rate of return. Specifically, in the funding standards from the perspective of an "ongoing basis," which assumes that a corporate pension scheme will continue in the future, the long-term expected investment yield is used as the discount rate for liabilities. On the other hand, in the funding standards from the perspective of a "non-ongoing basis," which assumes that the corporate pension scheme will be dissolved or terminated, the discount rate is the rate determined by referring to the historical five-year moving average of market interest rates.⁸ Thus, the linkage between both discount rates and market interest rates is limited (Chart 8).⁹

Next, the financial situation of pension funds is

[Chart 8] Assumed rate of return of DB plans (Japan)



Source: Ministry of Finance; Pension Fund Association; Trust Business Planning Division, Resona Bank, Limited.

examined. Under the funding standards that use the assumed rate of return as the discount rate, net assets in recent years have exceeded policy reserves when measured on an ongoing basis (Chart 4).^{10,11} Overall, the funding situation has been improving, due in part to improved stock market conditions since the beginning of the 2010s and additional premium contributions.¹² Moreover, in the event of a serious funding deficit, benefits to scheme members and pensioners can be reduced based on an agreement between labor and management.

Under these circumstances, the use of leveraged transactions has been limited among Japanese corporate pension funds (Chart 2). The assumed interest rates used as investment benchmarks are set at levels that can be achieved through holdings of super-long-term bonds, overseas securities, and equities, and there is little incentive to search for yield by increasing leverage. In fact, corporate pension funds mainly invest long-only, in line with their policy asset composition ratios. In addition, their ratio of cash and deposits to total assets is relatively high.

On the other hand, the share of bond holdings is low. Japan has not adopted market value-based valuation of liabilities in its funding standards, and incentives to eliminate the duration mismatch between assets and liabilities have not been as strong as in the UK. As a result, the share of bond holdings is relatively low, while the share of equity holdings is relatively high.

However, the share of investments in overseas securities, especially overseas bonds, is increasing, as is the share of investments in alternative assets (such as private equity, real estate, and hedge funds). Under the prolonged low interest rate environment in Japan, the share of investments in assets that are expected to generate higher returns has been gradually increasing.

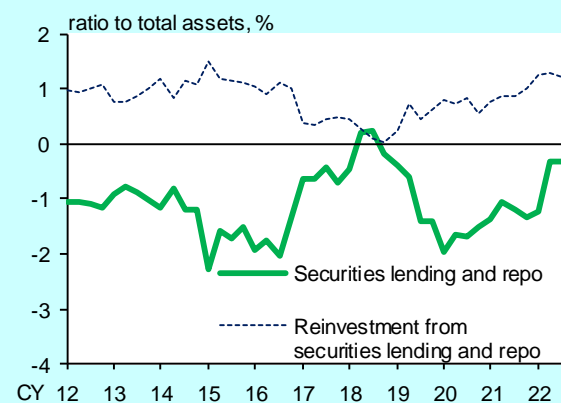
Characteristics of Dutch corporate pensions

In the Netherlands, pension assets are quite large relative to the size of the economy, exceeding 200 percent of GDP.¹³ Moreover, defined benefit corporate pension plans account for a large share, making up 90 percent of total assets. In addition, there is no obligation to join a corporate pension plan (workplace pension plan), but more than 90 percent of employees are covered by such plans based on labor-management consultations.

Regarding the accounting system, a new financial assessment framework, the FTK (for "Financieel Toezichtkader" in Dutch), was introduced in 2007 to strengthen funding standards, following the EU's decision to introduce International Accounting Standards in 2002. Accordingly, market value-based valuation was introduced for both corporate accounting standards and funding standards. Looking at the funding ratio of Dutch corporate pension funds, it does not appear that they are seriously underfunded like those in the UK were in the past (Chart 4). However, the FTK requires that pension funds (1) maintain a funding ratio of 105 percent and (2) hold sufficient buffer assets to ensure that the probability of the funding ratio falling below 105 percent within one year is 2.5 percent (which is equivalent to maintaining a funding ratio of 120–130 percent).¹⁴ These are considered to be the strictest funding requirements in the world.

Under these circumstances, the share of bond holdings, although limited compared to the UK, has been increasing as a trend (Chart 2). This suggests that LDI has become more prevalent with the introduction of the market value-based valuation of liabilities. Another feature is the low ratio of cash and deposits to total assets and the use of leverage, such as the purchase of bonds through repo funding (Chart 9). This is likely

[Chart 9] Securities investment using repo funding



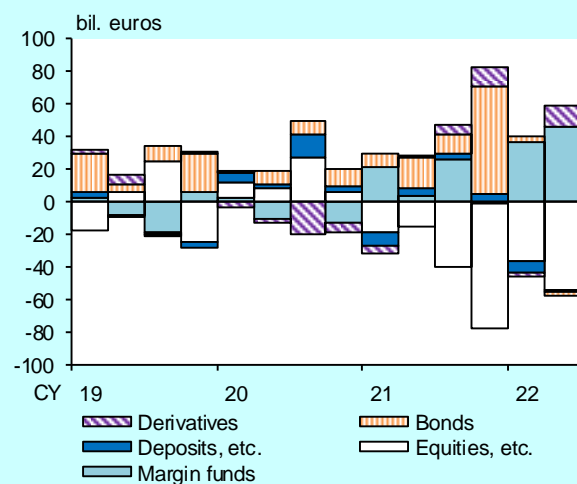
Source: De Nederlandsche Bank.

due to a strong incentive to search for yield while hedging interest rate risk on liabilities, as in the UK, due to the high level of reserve requirements.

However, for Dutch pension funds, there is also ample depth in the European market in which to invest. Most bond investment of pension funds consists of bonds with high credit ratings, and liquidity buffers are high. Therefore, the robustness against liquidity stress can be regarded as fairly high.

Meanwhile, Dutch pension funds also use derivatives such as interest rate swaps. When European interest rates rose after the start of 2022, margin calls were made on derivative positions, and equities were sold to generate the funds (Chart 10).

[Chart 10] Transactions by type of assets



Source: De Nederlandsche Bank.

Characteristics of U.S. corporate pensions

In the United States, funding standards have been revised in order to strengthen pension funds' financial soundness in the wake of the deterioration of their funding following the collapse of the IT bubble. In addition, the 2001 Enron scandal and other accounting fraud cases triggered a review of corporate accounting standards. Specifically, the Financial Accounting Standards (SFAS No. 158) and the Pension Protection Act (PPA) of 2006 introduced market value-based accounting in both corporate accounting and funding standards.¹⁵

LDI is also widely used in the United States, with the share of bond holdings increasing and the share of equity holdings decreasing (Chart 2). However, the use of leverage through derivatives and other instruments has been limited. This is partly because the duration of liabilities is about 12 years,¹⁶ shorter than that in the UK, and interest rate risk is generally hedged through the use of long-term corporate bonds and stripped bonds. Moreover, in the United States, where the shift

to defined contribution plans is making headway,¹⁷ the market for super-long-term bonds is sufficiently large relative to the size of defined benefit plan assets. This is another reason why the use of leveraged transactions has not been prevalent. In fact, the ratio of cash and deposits to total assets is higher than that in the UK.

Implications for financial stability

Liquidity risk associated with leveraged transactions

As mentioned, the direct cause of the turmoil in the UK gilt market in September 2022 was not a deterioration in the finances of corporate pension funds but rather a temporary liquidity crunch caused by leveraged transactions using derivatives and other instruments.

In the event of extreme fluctuations in interest rates, leveraged transactions can quickly give rise to margin calls in excess of what would be expected under normal risk management, and liquidity can dry up. While margin requirements are important from the perspective of controlling counterparty risk, they also increase the liquidity risk of leveraged financial institutions.¹⁸ Moreover, the fact that the UK has not introduced a static circuit breaker, which curtails excessive price fluctuations based on the previous day's closing price, as is the case with bond futures trading in Japan, likely contributed to the sharp market fluctuations and large margin requirements.¹⁹ In addition, the fact that these leveraged transactions were conducted in the form of pooled funds exacerbated the problem. It has been pointed out that the difficulty in receiving additional capital quickly from the pension schemes led to a vicious cycle in which the LDI funds were forced to sell their bond holdings in order to resolve their liquidity shortfalls, which in turn led to further increases in interest rates.²⁰

Based on the experience of the UK, potentially important issues for the stability of the financial system are the degree to which – and based on what incentive mechanisms – investment entities employ leverage, as well as the degree to which they are resilient to liquidity shocks. In Japan, as mentioned earlier, corporate pension funds' investment strategies are predominantly in line with their policy asset composition ratios, and the use of leverage is limited. Moreover, in terms of liquidity, although the proportion of assets with low liquidity such as alternative assets has been increasing, overall, the assets under management consist of assets that are relatively easy to convert to cash.

Life insurance companies with long-term liabilities

Similar to corporate pension funds, life insurance companies with long-term liabilities are subject to the same incentive mechanisms as pension funds in the UK, which in turn can lead to similar liquidity problems.

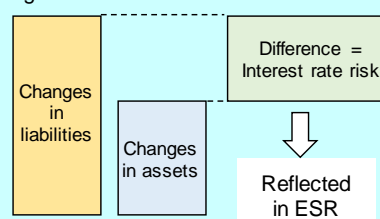
In the case of UK pension funds, the introduction of the market value-based valuation of liabilities contributed to an increase in leverage and a temporary liquidity shortage. Similarly, in the life insurance industry, the market value-based valuation of liabilities has been gradually introduced. Japan, too, is scheduled to introduce economic value-based regulations using market values. Specifically, the International Organization of Insurance Supervisors plans to fully apply the Insurance Capital Standard – economic value-based regulations – to internationally active insurance groups in 2025. Moreover, studies are underway for the introduction of an economic value-based solvency margin ratio (ESR²¹) in 2025.²² While this series of institutional changes will contribute to better risk management, it may also create incentives similar to those for UK corporate pension funds to eliminate duration mismatches.

In fact, Japanese life insurers have been striving to eliminate the duration mismatch between liabilities and assets in anticipation of the introduction of the new regulations. Looking at the interest rate sensitivity of ESRs, the average ESR (212 percent) of insurers as of March 2021 would deteriorate by 19 percentage points²³ if domestic interest rates were to decline by 50 basis points (Chart 11). To resolve this mismatch, insurers are accumulating super-long-term bonds and increasing the use of leveraged transactions such as interest rate swaps and repos, albeit on a limited scale

[Chart 11] Interest rate sensitivity of life insurance companies' ESR

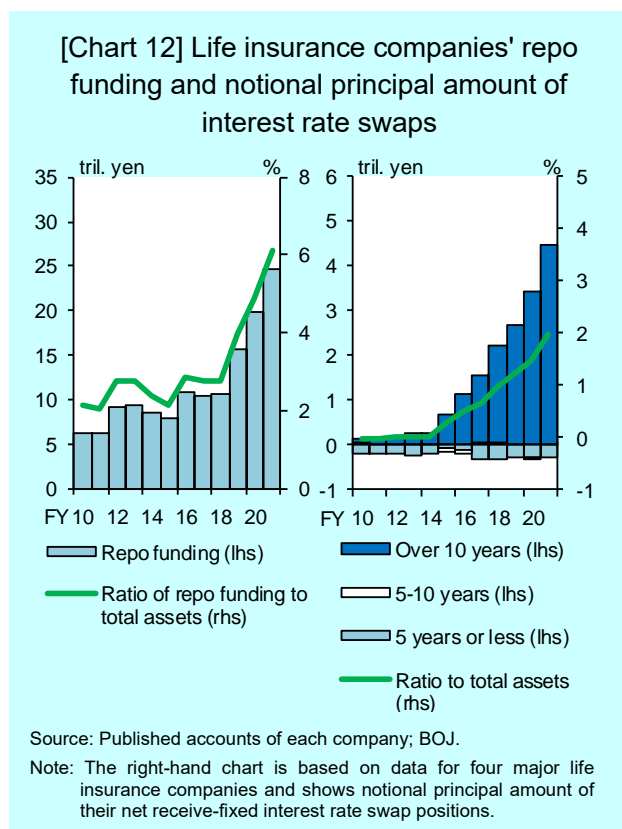
	ESR
End-March, 2021	212%
50bps rise of yen interest rate	+ 11pt
50bps fall of yen interest rate	▲ 19pt

【Changes in market values when interest rate changes】



Source: Financial Services Agency.

(Chart 12).



That said, insurers' financial soundness and profits have been improving as a trend and insurers are not under excessive risk-taking pressure. Insurers' average ESR estimated as of March 2021 remains close to 200 percent even when a 50 basis point decline in interest rates is assumed. Moreover, in terms of profitability, insurers have managed to secure a certain level of investment yields (Chart 13).

Life insurers also have built up a certain level of liquidity reserves and therefore are reasonably robust to liquidity stress.²⁴ However, the fact that their investment strategies have changed in anticipation of the scheduled introduction of the market value-based valuation of liabilities is reminiscent of the spread of LDI among corporate pension funds in the UK and

* Currently at the Okayama Branch.

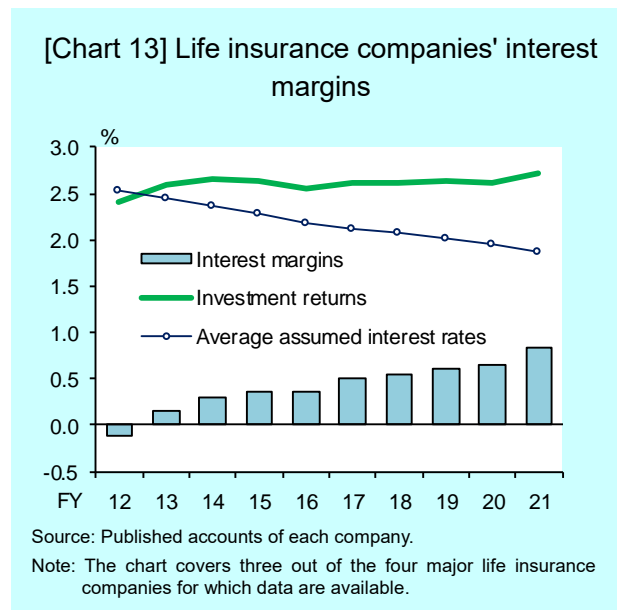
¹ See the Bank of England's *Financial Stability Report* (2022).

² LDI is a form of asset and liability management (ALM) for the comprehensive management of assets and liabilities. It aims to balance assets and liabilities in response to changes in their market values. Using a combination of leveraged transactions, LDI makes it possible to hedge the interest rate risk of liabilities while investing in assets promising higher income such as equities.

³ Countries' shares in OECD member country pension assets are as follows: United States (66 percent), UK (7 percent), Canada (6 percent), Netherlands (4 percent), Australia (3 percent), and Japan (3 percent).

⁴ Corporate pension plans can be divided into defined benefit (DB) and defined contribution (DC) plans. DB plans are characterized by the fact that the company is responsible for

elsewhere. Going forward, the potential systemic impact of life insurers will need to be closely monitored.



Concluding Remarks

Although corporate pension schemes in all countries have in common that they have long-term liabilities, the situation surrounding them, such as the accounting system and how well they are funded, differs greatly from country to country. In the UK, leveraged transactions expanded due to funding deficits and investment constraints. In assessing risks to the financial system, it is necessary to bear in mind that the existence of such incentive mechanisms can lead to excessive risk-taking.

Similar mechanism could work for other entities with long-term liabilities like pension schemes, such as life insurers. From the perspective of financial stability, it is important to draw lessons from the experience of the UK and, taking incentive mechanisms into account, check for risks that could lead to similar vulnerabilities.

investing the funds to fulfill the long-term pension benefit contract.

⁵ See The Pensions Regulator, "DB Pension Scheme Leverage and Liquidity Survey," December 2019.

⁶ According to the Bank of England, pooled funds account for about 10–15 percent of the LDI market.

⁷ According to the National Personnel Authority, among DB corporate pension schemes, the share providing lifetime annuities is 9.4 percent in the case of contract-type schemes and 33.7 percent in the case of fund-type schemes.

⁸ The assumed interest rate on a non-ongoing basis is set annually by the Minister of Health, Labour and Welfare based on the five-year average of the yield on 30-year government bonds, and firms cannot determine it independently. However, the assumed interest rate may be set by agreement between labor and management by adding or subtracting a certain percentage

within a ± 0.5 percentage point range of that interest rate.

⁹ Meanwhile, there are also corporate accounting standards (for the accounting of retirement benefits) that use market interest rate discounting to value corporate pension assets and liabilities. In principle, these standards refer to government bonds or high-quality corporate bonds for the discount rate and are used to calculate the value of the company, including the parent company.

¹⁰ The "Results of the Survey of Corporate Pensions" (available in Japanese only) by the Pension Fund Association of Japan used for Chart 4 is a sample survey of about 3,000 pension schemes. The Ministry of Health, Labour and Welfare's "Business Status of Defined Benefit Corporate Pension Schemes" (available in Japanese only), which has a broader coverage and focuses on about 12,000 pension schemes, shows a similar result, indicating that in 2020 the funding ratio on an ongoing basis overall was 117 percent.

¹¹ Looking at the "Results of the Survey of Corporate Pensions" (available in Japanese only) by the Pension Fund Association of Japan shows that while the funding ratio (net assets/minimum funding requirement) on a non-ongoing basis for defined benefit corporate pension schemes was below 100 percent at the time of the global financial crisis, it has since surpassed 100 percent (and stood at 128 percent in fiscal 2020).

¹² Note that while the funding standards use the assumed rate of return as the discount rate, corporate accounting standards use market interest rates as the discount rate, so that the asset and liability situation differs under the different standards. In the Flow of Funds Accounts published by the Bank of Japan, retirement benefit calculations are based on corporate accounts (for details, see "Highlights of Enhanced Japan's Flow of Funds Accounts Based on 2008SNA," Financial Statistics Group, Economic Statistics Division, Research and Statistics Department, May 2016).

¹³ According to the OECD, the ratio of Dutch pension assets to GDP is 212.7 percent (compared to 63.1 percent for Japan, 183.3 percent for the United States, and 128.6 percent for the UK).

¹⁴ A new pension agreement was signed in 2019 based on an agreement between government, businesses, and unions. Based on the new agreement, the funding ratio requirements under the FTK have now been relaxed.

¹⁵ The Pension Protection Act consolidates funding requirements on a non-ongoing basis, limits the smoothing period for asset and liability valuations to two years (from previously five years), and uses the two-year average of the yield curve as the discount rate, thus moving closer to market value-based valuation. In addition, the minimum funding requirement has been raised from 90 to 100 percent to strengthen the soundness of pension schemes.

¹⁶ The figure regarding the duration of U.S. corporate pension liabilities is taken from Japan's Ministry of Finance's "Debt Management Report 2019" (page 23), which states that the duration of private sector defined benefit liabilities in the United States is 12 years. (The corresponding figure for Japan is 15 years.)

¹⁷ While the growing pension liability burden in the United States has led to a shift from defined benefit to defined contribution plans, on the benefit side, reductions of over-accrual entitlements are no longer possible for both beneficiaries and participants, which is one reason for the growing burden.

¹⁸ See, for example, Bank of England, "Risks from Leverage:

How Did a Small Corner of the Pensions Industry Threaten Financial Stability?," speech by Sarah Breeden, 2022.

¹⁹ In the Japanese government bond futures market, a circuit breaker system is in place to temporarily halt trading in the event of overheated market conditions, to cool market conditions, and provide investors with an opportunity to make calm decisions. Under this system, when the price exceeds the upper or lower price limit set around the base price (in principle, the previous business day's closing price), trading is in principle suspended for at least 10 minutes, and the price limit is then expanded and trading is resumed. The price limits can be expanded only once in each direction, and trading will be halted if the price limits are exceeded after the expansion. In the UK (ICE Futures Europe), there is a temporary circuit breaker system called Interval Price Limit. Under this system, there is a 5- or 15-second IPL Hold Period during which trading is halted if the IPL Amount is exceeded during a pre-set length of time (IPL Recalculation Period).

²⁰ In addition, there were concerns that if the LDI funds defaulted, the funds' lenders would sell the bonds they had received as collateral in the market, which would cause interest rates to rise even further.

²¹ The ESR is an indicator that measures whether insurers' amount of risk is adequately covered by their capital and is obtained by dividing the economic value-based margin (equivalent to net assets) by the amount of risk taking the stress of changes in mortality rates and in markets such as changes in interest rates into account. An ESR of 100 percent indicates that the amount of capital is equal to the amount of risk.

²² In June 2022, the Financial Services Agency (FSA) published "Tentative Decisions on the Fundamental Elements of the Economic Value-Based Solvency Regulation." The FSA stated that it planned "to continue steady preparations and examinations on the new regulation, aiming at the introduction of the new regime in 2025."

²³ Since the solvency margin ratio (SMR) in the current regulations does not stipulate the market value-based valuation of liabilities, the amount of liabilities remains unchanged when interest rates fall, while the amount of assets increases due to the increase in the value of bond holdings as bond prices rise, resulting in an increase in net assets and an improvement in the SMR.

²⁴ It has been pointed out that, just like pension schemes, UK life insurers were asked to provide additional margin when UK bond interest rates rose in September 2022; however, since they held a certain amount of liquidity reserves, they were able to deal with the situation with their on-hand liquidity.

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