

Assessing the Impact of Declining Interest Rates on Life Insurers' Solvency Positions

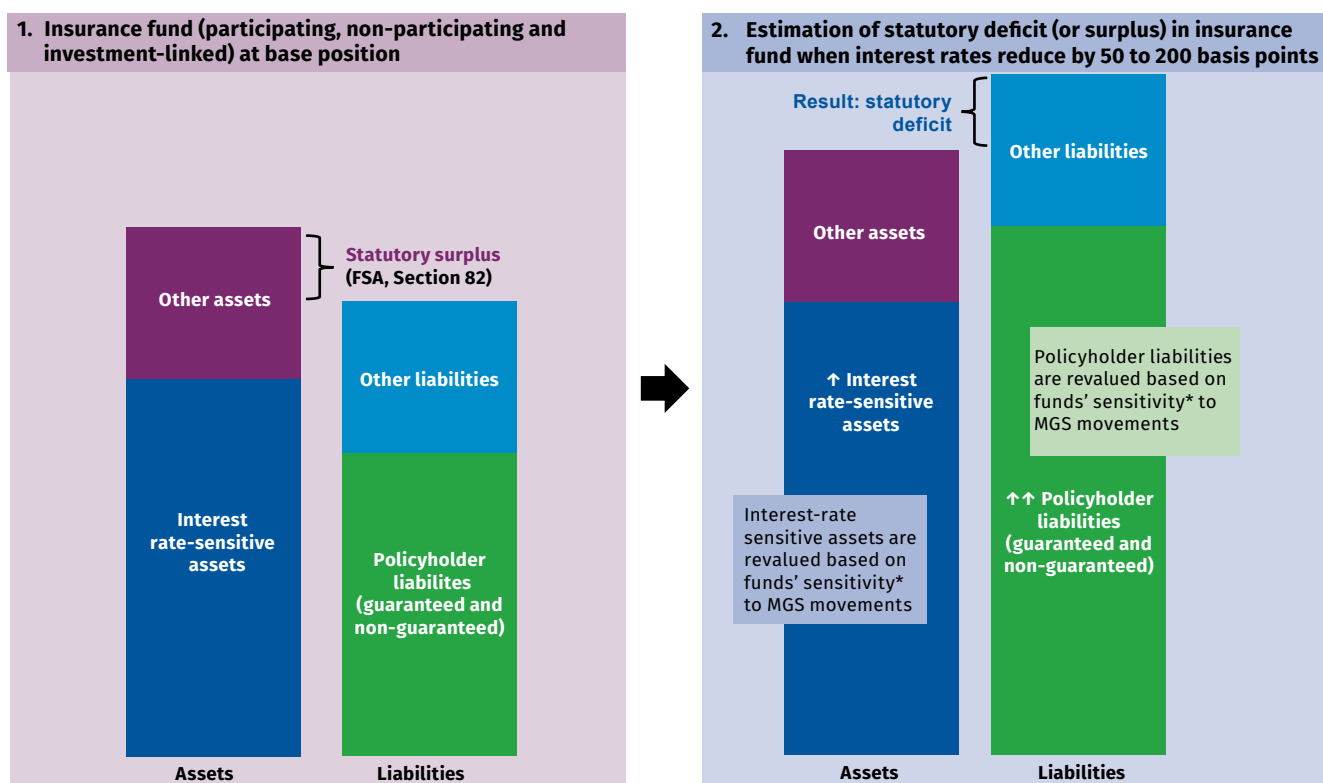
Background

Life insurance companies generally operate with a negative duration gap given the lack of long-term financial assets available to match the duration of their liabilities arising from products with much longer policy terms of more than 15 years. As a result, declining interest rates can have a bigger impact due to upward adjustments in the value of liabilities¹¹ that exceed assets. This in turn will reduce a life insurer's solvency position. Given the prolonged low interest rate environment, a sensitivity analysis was carried out to assess Malaysian life insurers' solvency positions under declining interest rate scenarios.

Methodology

The sensitivity analysis assessed the change in value of life insurers' assets and liabilities for each fund (i.e. participating, non-participating and investment-linked funds) following parallel declines in interest rates ranging from 50 basis points (bps) to 200 bps. The assessment is undertaken separately for each fund in line with requirements¹² for insurers to maintain minimum solvency positions at the fund level. In assessing the impact on funds' solvency positions, the assessment excludes additional buffers within shareholders' funds and fungible surpluses from other funds that can typically be applied to offset any deficit that might arise. Results at the fund level are then used to estimate the impact to the capital adequacy ratio (CAR) at the company level. For this analysis, the value of non interest rate-sensitive assets is assumed to remain constant. This assumption is considered conservative as assets such as equities and properties typically appreciate in value when interest rates decline (Diagram 2.1).

Diagram 2.1: Illustration on Sensitivity Analysis Approach



* Sensitivity refers to the expected changes in valuation of assets and liabilities of a particular fund as interest rates move downwards by 100 basis points

Source: Bank Negara Malaysia

¹¹ Insurance liabilities are derived by computing the net present value of future benefit payouts and expenses. The risk free rate or the internal rate of return are typically used as the discount factor.

¹² Based on the Financial Services Act 2013 (FSA), all licensed insurers are required to maintain assets in an insurance fund of a value equivalent to or higher than the liabilities of that fund.

Results and findings

Based on the sensitivity analysis, the Malaysian life insurance sector is expected to remain resilient with the aggregate industry CAR sustained above the prescribed regulatory level of 130% even under a scenario of 200 bps parallel decline in interest rates. The results reflect the favorable claims experience and relatively strong pricing power that life insurers have. Out of 42 funds offered by all 14 life insurers, only four insurance funds of three life insurers were insolvent under the different scenarios. In aggregate, these funds account for 1.5% of the total value of all life insurance funds (Table 2.1). In each case, the insurance companies have adequate capital buffers to support the insolvent funds.

Table 2.1

Impact of Interest Rate Reduction on Insurance Funds' Solvency

Interest Rate Reduction (bps)	Number of Funds Becoming Insolvent			Size of Insolvent Funds (% of Total Life Insurance Industry Fund)
	Participating	Non-participating	Investment-linked	
-50	-	-	-	-
-100	-	-	-	-
-150	-	2	1	0.8
-200	-	3	1	1.5

Source: Bank Negara Malaysia

The impact of interest rate shocks on individual funds, largely depends on the type of fund (Table 2.2), which influences the expected cash flows and discount rates applied. The impact on non-participating funds was the most pronounced relative to other funds given that their liabilities are all guaranteed and hence, are valued using risk-free discount rates i.e. MGS yields.

Participating funds on the other hand, were less sensitive to interest rate movements relative to non-participating funds. This reflects the nature of a participating policy, which comprises both guaranteed and non-guaranteed benefits. Non-guaranteed benefits represent the share of the insurer's business profits attributable to the policyholders, which may vary over time depending on the fund's business and investment performance. They are valued using a fund-based yield (FBY), which is more closely aligned to the risk profile and outlook of the participating fund, as the discount rate. The resulting valuation changes from a movement in the FBY therefore tends to be less sensitive to changes in interest rates compared to non-participating funds.

Investment-linked funds are also less sensitive to lower interest rates compared to non-participating funds. This reflects the feature of an investment-linked policy where any increase in the cost of insurance is borne by the policyholder's unit investment fund. If the policyholder's unit investment fund becomes depleted, the policy will lapse and the corresponding insurance liability of the insurer will cease. This reduces the expected amount of future net outflows and liabilities for the insurer.

Table 2.2

Average Sensitivity of Insurance Funds to 100 bps Decline in Interest Rates

	Participating	Non-participating	Investment-linked
Assets (%)	+8.0	+8.6	+5.9
Liabilities (%)	+12.4	+15.8	+7.4

Source: Bank Negara Malaysia