

Solvency II – the Matching Adjustment and its effectiveness in the Covid Crisis

In the previous blogs from our Life Office Macro Financial and Capital Management working group of the IFoA COVID-19 Action Taskforce, we have considered the following areas, looking back on the Covid-19 crisis:

- capital and management actions taken by life insurers, both prior to and during the crisis, as well as those planned for the future¹;
- the countercyclical measures in Solvency II and how well they worked in practice²;
- how insurers' solvency ratios, under Solvency II, actually performed³; and
- actions actually taken by international regulators in response to the crisis⁴.
- countercyclical capital requirements and regulatory flexibility

In this blog we focus on the Matching Adjustment, how well it protected insurers from stresses to credit markets and what lessons might be learned from the crisis for future reform of Solvency II.

What is the matching adjustment?

Solvency 2 (S2) requires liabilities to be valued using the prescribed risk-free rate (RFR). However, permission can be obtained to discount liabilities at the RFR plus an adjustment (an increase) based on the assets held. One of the permitted adjustments is the Matching Adjustment (MA).

To be eligible to apply the MA, the timing and amount of the liability cashflows must be “sufficiently predictable” and the portfolio of assets backing liabilities must match the liability cashflows to within a specified tolerance. Typically, this requirement is only met by single premium contracts with no policyholder surrender option, i.e. annuities. The same predictability criteria apply to the asset cash flows leading firms to invest in, predominantly, fixed interest assets. Where a portfolio of assets/liabilities is eligible, the MA added to the RFR is equal to part of the expected return on the asset portfolio in excess of the RFR. This excess return, the spread, is considered to be composed of two parts; compensation for credit risk (called the Fundamental Spread (FS) in S2) and compensation for illiquidity risk. The MA which is included in the discount rate is calculated as the market spread less Fundamental Spread and can be considered to be the spread for illiquidity risk.

Part of the justification for including the MA in the discount rate is that, as the asset cashflows match the liability cashflows and the assets can be held to maturity, then there is no illiquidity risk, i.e. firms will not be required to sell their assets in times of stress. Clearly firms are still at risk of assets defaulting or downgrading and the part of the spread that represents compensation for credit risk makes allowance for the costs incurred by the firm when this happens.

The MA acts as a countercyclical buffer. Market credit spreads typically rise during times of crisis and asset values fall. As it is calculated using long-term, through-the-cycle assumptions, the FS does not

¹<http://blog.actuaries.org.uk/blog/using-hindsight-gain-foresight>

²<https://www.actuaries.org.uk/system/files/field/document/Countercyclical-effects-v5-intro-%28002%29.pdf>

³http://www.actuaries.org.uk/system/files/field/document/How%20Solvency%20ratios%20performed_v4_wit hGraphALT.pdf

⁴<https://www.actuaries.org.uk/system/files/field/document/Regulatory-Action-taken-to-mitigate-the-impact-of-the-COVID-19-pandemic-using-international-insight-to-gain-foresight.pdf>

change materially in times of stress. Therefore, for an asset that remains in the same credit rating, all of the spread widening feeds through to the liability discount rate and reduces the value of the liabilities which offsets the fall in the value of the asset. Firms will only see a negative financial impact if an asset's credit rating decreases indicating a reduction in its credit quality and increased expectation of future default. In this case, part of the observed spread widening would be considered as due to an increase in the credit risk and hence the FS would increase.

The benefit of the MA to insurers and wider society

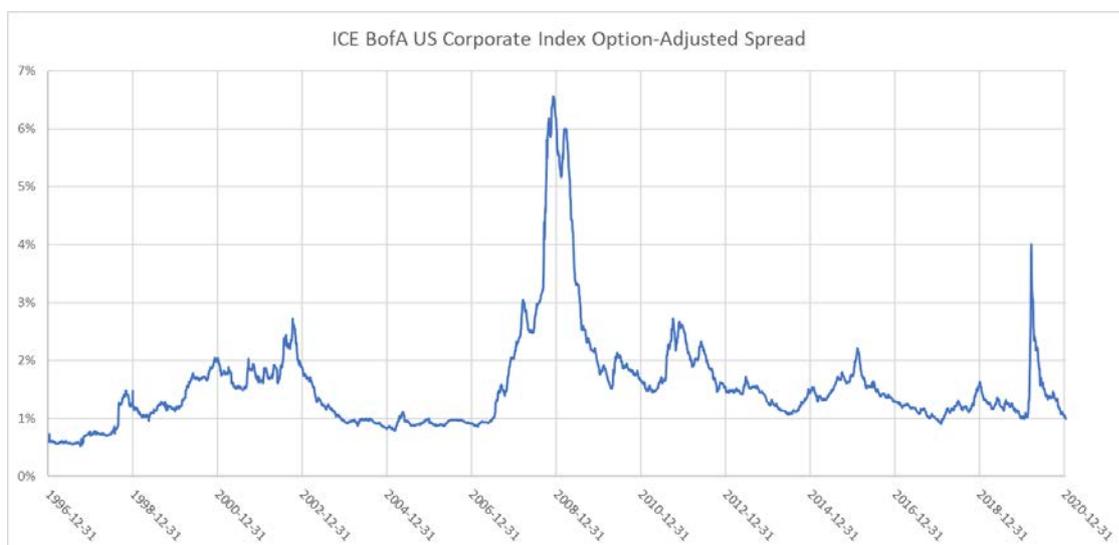
Use of the MA is particularly popular with UK annuity providers. In April 2018, The Prudential Regulatory Authority (PRA) said that the MA was worth £66bn to UK insurers¹. It is expected to be worth significantly more following the increase in Bulk Purchase Annuity (BPA) market activity since then.

Without the MA, insurers' balance sheets would be exposed to the full fall in the market value of the assets and therefore firms would be less likely to hold riskier assets to back their annuities. Without being able to hold assets which offer a spread, firms investment returns would be lower and annuities rates offered to customers would be more expensive. This is particularly important in the current low interest rate environment. Customers include individuals (who would see the pension they can buy with their pension pots fall), companies who de-risk their Defined-Benefit (DB) pensions schemes by buying bulk purchase annuities (BPAs) from insurers (where the cost would also be prohibitively expensive for many). Further, there would be an impact on the equity release mortgage market where funding would fall as the MA eligibility of securitised equity release mortgages is a key reason for the insurers to offer them.

Increasingly firms have been seeking to invest annuity funds in infrastructure assets such as renewable energy and social housing, as well as lending to local authorities. These assets offer long term, illiquid cash flows which are often inflation linked which back firms' inflation-linked annuities. Investment in these assets supports economic growth and the real economy.

How did the MA perform during the crisis?

Credit spreads rose significantly in March 2020 at the height of the first wave of the pandemic. The following chart shows spreads on investment grade USD corporate bonds since 1996.

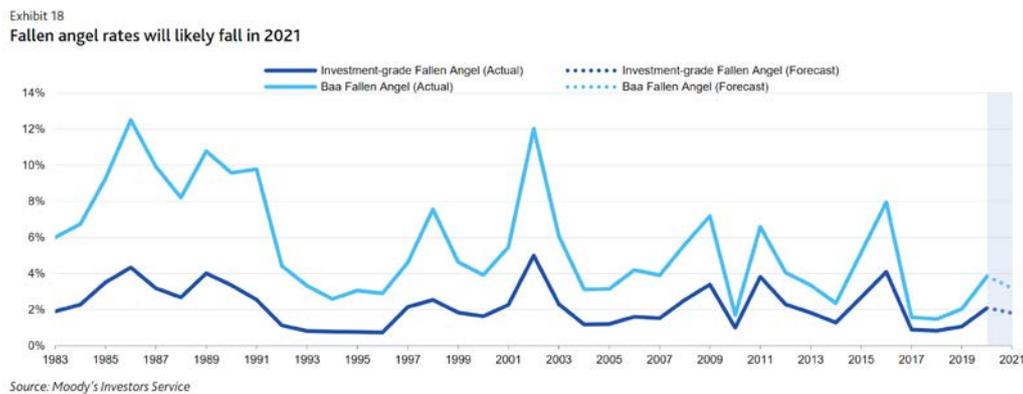


Source: Federal Reserve Bank of St. Louis ²

There was a significant lack of liquidity during March which, along with heightened concerns about credit risk, caused large rises in spreads with daily spread changes similar to, and even exceeding those observed during the 2008 Financial Crisis. The increase in spreads was halted by the intervention of the Bank of England, Federal Reserve and European Central Bank along with fiscal action from the UK, US and EU Area governments.

In the PRA’s Statement³ to insurers on the application of the Matching Adjustment during Covid-19, they stated that “MA has functioned as intended thus far throughout the Covid-19 crisis”. Whilst spreads rose, insurers only experienced low levels of downgrades⁴ and therefore almost all spread widening was absorbed by the MA. As such, despite extreme spread movements, insurer’s balance sheets and their credit risk capital remained relatively stable.

As explained in the next section, insurers will hold almost exclusively investment grade (IG) assets, i.e. BBB rated or higher. The global downgrade rates⁵ in 2020 from BBB to sub-IG (3.8%) and IG to sub-IG (2.1%) did not go beyond historic averages (4.8% and 2.1%). An asset that downgrades from IG to sub-IG is often referred to as a fallen angel, and the below chart evidences that, so far through the crisis, these have been limited.



The credit migration experience of UK firms has generally been better than average (see table below). Additionally, some of the UK firms with the largest MA portfolios have stated that they have low exposures to the cyclical consumer sectors which were amongst the worst affected sectors.

Insurer	Reported date	IG to sub-IG downgrade	Consumer Cyclical
PIC ⁶	HY20	0.2%	2%
L&G ⁷	HY20	0.6%	<1%
Phoenix ⁹	Q320	0.4%	2%

For comparison, L&G stated that IG to sub-IG downgrades were 1.5% in its benchmark index compared with the 0.6% above.

Additionally, Phoenix Group indicated that only 4.5% of the portfolio experienced a one-letter downgrade, Rothesay⁸ indicated it had only experienced one downgrade from IG to sub-IG. At HY20, Rothesay, L&G and PIC stated they had had no defaults and Phoenix stated it had experienced one default by Q320 which was on a retail asset in its private debt portfolio.

In response to the low level of downgrades and defaults suffered by insurers, the PRA requested firms to perform a stress test where 50% of the portfolio suffered a one letter downgrade, broadly in line with the worst experience over one year as seen in 1932⁴. The results showed that whilst most firms are exposed to a severe downgrade stress of this kind, they have a range of management

actions available to help mitigate losses, particularly if the losses arise over a reasonable timeframe. The PRA used the results as part of their discussions with firms.

Actions taken by insurers

Whilst the Matching Adjustment is considered to have performed reasonably in this crisis given the reasons above, firms were still required to take action to manage the credit quality of their portfolio.

Managing the “BBB cliff”

Solvency 2 requirements¹⁰ state that the MA on a sub-investment grade asset cannot be higher than that of a BBB asset of the same sector, currency and term. This means that, for an investment grade asset downgrading to below BBB, only a small amount of the resulting fall in the market value feeds through to a reduction in the liabilities, creating a “cliff edge” effect.

This cap also applies in the Solvency Capital Requirement (SCR) calculations and therefore sub-investment grade assets attract significantly more capital than investment grade; not only is the MA offset materially lower but sub-investment grade spreads are significantly more volatile which leads to higher 1-in-200 spread stresses in the SCR.

Due to the BBB cliff S2 tends to force firms to hold investment grade assets and some firms limit their exposure to BBB debt. For example, Phoenix states that it has a cap of 20% of its portfolio in BBB debt.

Almost all insurers have created “watch lists” of assets which they consider have heightened risk of imminent downgrade and they have used these as a base for their credit management trading strategies; in particular selling (generally BBB debt) debt at risk of becoming sub-investment grade.

Of course this can be pro-cyclical - the selling of debt at risk of downgrade during a crisis will contribute to falls in price for those assets and hence increase the cost of borrowing for companies. In the PRA’s Statement to insurers, insurers were reminded that there was no requirement to sell downgraded debt providing that they remained compliant with MA regulation and *“it would be reasonable for firms to seek to avoid being forced sellers of assets. In particular, it may be reasonable for firms to reconsider their strategies for managing the MAP (Matching Adjustment Portfolio) in the face of the current global pandemic and its effect on financial markets, particularly the timing of planned asset disposals.”*

Insurer’s investment opportunities

The crisis also presented opportunities for rebalancing portfolios towards longer-term investment strategies and short-term investment opportunities. Some companies took advantage of USD spreads rising more than GBP to trade GBP debt at risk of downgrade for higher quality USD debt without losing the overall level of spread on their assets. Not only was spread preserved but the USD market typically has greater choice and an offers an increase in diversification – provided that the firm is able to hedge the currency risk.

The BPA market

Typically, an increase in spreads results in improved annuity pricing as firms are able to pass some of the increase on to customers. This made it cheaper for trustees who were in a position to transact to enter into a BPA with an insurer and some trustee boards acted quickly to take advantage. Often, pension schemes that are preparing to purchase a BPA will have sold riskier assets and hold a matching portfolio of gilts which would have performed well as risk free rates fell in 2020.

Such schemes therefore did well – the value of their assets rose at the same time as prices fell – making BPA a more attractive prospect. Partly due to this effect the Pension Risk Transfer market remained buoyant in the second half of 2020.

Has the MA evidenced its stability in a crisis?

Whilst the MA's performance will have been welcomed by both insurers and their regulators during the 2020 crisis, acting as it was designed, it is noted that there were limited downgrades (or that these have yet to emerge) and therefore it is questionable whether the MA has been truly tested.

The MA will not protect firms from a "migration crisis" where we see a significant number of downgraded credit assets (in particular, from investment grade to sub investment grade), alongside significant spread widening. Not only would this impact firms balance sheets but this could lead to significant increases in insurers' SCRs due to the "BBB cliff". A scenario of this nature could also lead to pro-cyclicality, as insurers become forced sellers of these downgraded assets, often as a result of specified management actions.

As such, it remains to be seen whether the effectiveness of the MA as a counter-cyclical measure has truly been tested and how this would perform in the face of significant downgrades.

The BBB cap and the post-Covid recovery

The UK Government has expressed the desire to "build back better" following Covid, to "level up" the economy, and has made commitments to tackle climate change. As mentioned earlier, the long-term and often inflation linked nature of BPA liabilities mean that infrastructure investments are a good match for the liabilities and offer an attractive illiquidity premium. In February 2021, Hymans Robertson forecast demand of for around £410bn of BPA over the next decade¹¹ and in December 2020, Willis Towers Watson forecasted £30bn of buy-ins and buy-outs for 2021¹². BPA providers will have a significant amount to invest to support the Government's agenda.

However, the MA rules do create some barriers to investment in infrastructure. Due to the amount of leverage, infrastructure projects are often rated BBB (or even sub-investment grade in the construction phase) meaning they are exposed to the "BBB cliff" limiting the incentive to invest. Following the UK's exit from the EU, the Government has launched a review of S2, with one of the key areas of focus being the MA, including helping insurers invest in infrastructure assets¹³.

Conclusion

The Covid Crisis was described as the first big test of the MA and we agree with the PRA that the MA worked well to protect insurers from spread widening and prevented pro-cyclicality and forced selling. However, the MA has not been tested through a migration stress where we believe it will not provide as much protection to insurers' balance sheets – in fact the BBB cliff will make things worse and could result in pro-cyclical behaviour. This should be a key area of consideration as part of the UK's post-Brexit Solvency 2 reform.

Migration is a risk that insurers are exposed to and they do hold capital against that risk... but in the height of a migration crisis, it would be a brave regulator that allows that capital to be released against observed migrations.

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