EIOPA Technical Findings on the Long-Term Guarantees Assessment

June 2013

The EIOPA report on the Long-Term Guarantees Assessment makes a number of recommendations to further encourage long-term liability business and the holding of long-term investments while aiming to improve the application across markets and alignment with risk management processes.

INTRODUCTION

On 14 June 2013, the European Insurance and Occupational Pensions Authority (EIOPA) published its Technical Findings on the Solvency II Long-Term Guarantee Assessment (LTGA) that was run for selected firms over February and March 2013.

The LTGA tested six possible measures aimed at ensuring that short-term market movements are appropriately treated in the context of long-term insurance business. The LTGA was intended to identify measures that provide more stability to the economic balance sheet of insurers and to the European insurance market as a whole.

The LTGA tested these long-term guarantee (LTG) measures under 13 quantitative scenarios with accompanying quantitative questions covering:

- Adaptation to the relevant risk-free term structure, or Counter-Cyclical Premium (CCP);
- The use of extrapolation for the risk-free term structure;
- The application of a Classical Matching Adjustment;
- The application of an Extended Matching Adjustment;
- The use of a transitional measure (tested by EIOPA using firms' data); and
- An extension of the Recovery Period for individual breaches of the Solvency Capital Requirement (SCR) due to exceptional falls in financial markets (also tested by EIOPA).

The technical findings set out EIOPA's analysis of the LTGA. Based on this, EIOPA has set out a number of recommendations on how the LTG package should be taken forward.

To assist you in digesting this report, Milliman has prepared this summary paper of EIOPA's findings and recommendations, and what these may mean for firms.

OVERVIEW OF EIOPA'S ASSESSMENT

In total, 427 firms participated in the LTGA, representing 59% of life business and 25% of non-life business across member states and 70% of LTG-relevant business, weighted by technical provisions.

EIOPA's assessment and report on its findings has focused around the following aspects:

- Impact on policyholder protection;
- Impact on effective and efficient supervision;
- Implementation effort for firms, national supervisory authorities (NSAs) and EIOPA;
- Incentives for good risk management;
- Impact on financial stability and prevention of systemic risks;
- Impact on insurance and reinsurance undertakings' solvency position (including consideration of the impact on firms of different size and type, groups, individual markets, cross-border business, and whether the measure results in a reduction of volatility of the Solvency II balance sheet);
- Impact on competition;
- Impact on long-term investments; and
- Other considerations (including the availability of long-term insurance products, effectiveness of the measure, any impacts on accounting, and Pillar 2 and 3 implications).

EIOPA has highlighted that the majority of the scenarios tested under the LTGA did not test the proposed measures in isolation. As such, EIOPA has done additional analysis in order to isolate the impact of the individual measures.

OVERVIEW OF UK RESULTS

Across the various scenarios, UK firms participating in the LTGA reported average SCR solvency ratios between 77% and 96% as at YE11, the prescribed reference date for the LTGA. This is significantly lower than the median of 178% across the UK insurance industry in QIS5. While EIOPA has stated in the report that the reference date of YE11 represents an "adverse case" scenario for insurers due to the combination of high spreads and low interest rates, it is concerning that the UK ratios are consistently lower than those of other key insurance markets across Europe.

Fundamentally, the LTGA revealed that a significantly large number of UK firms would not have been able to cover their MCR under all scenarios tested (ranging between 8% and 25% of firms in the sample across the various scenarios).

The UK market in particular was expected to benefit greatly from the application of the Classical Matching Adjustment under the LTGA. However, it is not apparent that this measure has lifted the relevant sectors of the UK insurance market out of technical insolvency (i.e., to the level it can cover its average SCR).

While it is not possible from the report to determine why the UK reports consistently low SCR ratios for all of the scenarios tested under the LTGA, we would expect this to be due to a combination of factors. EIOPA has commented that many firms have not yet optimised their solvency positions based on the Solvency II framework. As such, where firms are using certain "non-conventional" assets, such as equity release or mortgage-based assets, to back annuity products as at YE11, we believe strict application of asset eligibility requirements may have prevented them from taking credit for the matching adjustment in respect of these products (as the cash flows can potentially be altered by a third party). For those firms able to apply the matching adjustment, the overly conservative calibration of the fundamental spread may have restricted the amount of benefit they were able to take credit for.

This impact may be amplified due to the absence of any non-life firms for the UK market, meaning that results are slanted heavily towards firms with LTG business. Many of these firms reported significant solvency issues under the QIS5 specifications, which may have improved from application of the current measures.

Summary of EIOPA's recommendations

1. *The CCP should be replaced by a new measure called the Volatility Balancer. This should be applied by adding a "special" Own Funds item to the economic balance sheet.*
2. *The Classical Matching Adjustment should be implemented but should allow for immaterial mortality risk and be applicable to all life and non-life business meeting the prescribed criteria. The strict restrictions on the use of BBB-rated assigned assets should be maintained but with rebalancing permitted to manage the risk of downgrade.*
3. *The Extended Matching Adjustment should not be implemented.*
4. *The period over which the extrapolation of the Euro converges to the Ultimate Forward Rate should be extended from 10 years, (e.g., to 40 years). This should be accompanied by related sensitivity analysis in Pillar 2 to monitor any risks arising from deviations between the extrapolated risk-free curve and economic reality.*
5. *Transitional measures should be included to help firms move between the current Solvency I and the Solvency II regimes. However, the proposed measure to transition interest rates between the two regimes over a seven-year period should be accompanied by a second adjustment. This second adjustment would run down the fixed difference between the value of technical provisions calculated under the different regimes at the point of Solvency II implementation directly on the balance sheet.*
6. *The use of an extended recovery period should be included to allow firms sufficient time to rectify temporary breaches of their SCR during crisis situations. However, the triggers for this should be extended to cover other crisis situations not directly linked to exceptional falls in financial markets, and the criteria for setting the maximum recovery period should be reviewed.*
7. *There should be no member state options on the LTG measures and cross-border business should not be excluded.*
8. *The impact of all the LTG measures should be publicly disclosed.*

OVERVIEW OF EIOPA'S FINDINGS

EIOPA has commented that the assessment has "*identified some suitable adjustments to the framework that will support overcoming regulatory distortions to long-term business triggered by short-term volatility*". While it believes the package of measures should encourage long-term liability business, and thus the holding of long-term assets, the report notes concerns that the LTG package is overly complex. As a result, EIOPA has set out a number of recommendations to reduce and simplify the package, including the recommendation that the LTG measures should not be treated as member state options and that cross-border business should not be excluded from any of the measures.

EIOPA's position is that the measures should be applied equally across Europe, without the option for member states to choose whether to apply these in their respective markets and without the previous exclusion of cross-border business. While this appears to better reflect one of the original aims of Solvency II, to encourage a common market and create a uniform regulatory environment across all member states, we note that this may make it more difficult to find the political agreement for the package of measures required to allow Solvency II to move forward.

A number of risk management issues were raised through the LTGA, particularly in relation to any adjustments made to the risk-free rate where these may move the interest rate curve away from economic reality. Where this is the case, EIOPA has noted that distortions may occur between Pillar 1 and firms' risk management processes. To help address these concerns EIOPA has recommended that all LTG Pillar 1 items should be accompanied by Pillar 2 sensitivity analysis.

EIOPA has highlighted the need to ensure that the overarching aim of policyholder protection is supported through the application of the LTG measures. While a number of the measures act to increase the discount rate, and hence decrease technical provisions, EIOPA believes that the risk of these changes jeopardising policyholder protection can be mitigated through additional risk management measures and enhanced disclosure.

While we would have expected the additional sensitivity analysis to have already been picked up within firms' Own Risk and Solvency Assessments (ORSAs), where the results are material, implementing this in practice may further increase the costs and resources required, particularly during the transitional period or periods of financial crisis.

VOLATILITY BALANCER

While the EIOPA report concludes that the application of the CCP as envisaged in the LTGA technical specifications could be an effective measure to reduce artificial volatility of Own Funds during distressed market conditions, and hence help prevent forced sales of distressed assets, it also highlights a number of shortcomings with the measure. These include:

- The CCP is designed to deal with spread-related crises—it is less effective at dealing with other crisis situations (e.g., the current low interest rate environment);
- The effectiveness is limited for many firms as its use significantly increases the Solvency Capital Requirements (SCR) through the CCP sub-module;
- Asymmetry of the CCP only provides relief during crisis times—potentially causing under-capitalisation of the insurance sector;
- The CCP lacks the predictability needed for it to function as an effective counter-cyclical measure;
- The sudden activation and de-activation of the CCP could lead to large changes in the balance sheet and SCR—effectively introducing a further source of volatility.

In an attempt to address these perceived issues, EIOPA has recommended the CCP is replaced by a new measure called the Volatility Balancer (VB).

Under EIOPA's proposal, the VB would be calculated as 20% of the spread over the relevant risk-free rate, for a reference portfolio determined at a currency level, less an allowance for default risk.

In addition, an allowance for any significant excess spreads seen nationally, over the currency level spreads, may be included in the VB. The report presents an example of how this excess spread could be specified: as the spread which is at least 100 bps and which is more than twice the size of the currency level spread.

We note that the introduction of the VB should reduce complexity and the implementation effort compared with the CCP. However, the impact of this measure will be significantly reduced by the proposed 20% application of the calculated spread. The rationale for the 20% is to compensate for the removal of a specific SCR sub-module to cover the risk that the implementation of the measure overestimates the artificial volatility affecting spreads. EIOPA notes that the 20% has been selected as providing a similar impact to the SCR CCP sub-module and is a starting point for further calibration work.

Recently, the debate around the CCP has been largely over-shadowed by concerns relating to the matching adjustment and, as such, the CCP may have been viewed as a done deal for insurers. While many of the issues raised by EIOPA in its report will be familiar to insurers, in particular those reflecting the need for increased predictability and concerns around the capital implications of the CCP sub-module, previous discussions had focused on the need for adjustments to the current application of the CCP rather than the introduction of a new measure.

The current proposal for the Volatility Balancer is based on calibrations at a currency level but with the possibility for national adjustments in exceptional circumstances, where the spreads in the local market differ significantly from the currency average. At this stage no specific details are given on the constituents of the reference portfolios. Furthermore, it is currently unclear whether the calibration for the national component is merely an example or a final recommendation. However, as it stands, the ability to adjust the Volatility Balancer for individual markets appears significantly limited as only the national spread that exceeds twice the currency level spread may be included.

EIOPA has set out an impact assessment into the use of the VB at the end of the report. Under this, the values of the VB are significantly lower than the CCP values tested under the LTGA (e.g., a VB of 17 bps as at YE11) due to the 80% reduction in observed spreads. EIOPA has commented that this adjustment is needed to account for the risks associated with implementation and the absence of an SCR element covering this risk.

While EIOPA has commented that further work would be need to finalise the calibrations of this measure, the present VB would appear to represent only 20% of the spread movements (less an allowance for default), and hence would appear to only partially mitigate the short-term volatility.

Where this was applied across a sample of 297 EU firms, the VB with the national adjustment was found to increase the weighted average solvency ratio as at YE11 from 143% (using a CCP of 100 bps) to 150%.

We note that the results from the impact assessment indicate that a small VB would have been applied as at YE04 (the reference date chosen to represent stable market conditions where zero CCP was applied), increasing the average solvency ratio at this date slightly from 196% to 198%.

Despite this, we note that the impact assessment indicates that weighted average solvency ratios for life companies (including composites) would have decreased for a number of countries at both YE09 and YE04 if the VB had been used in place of the CCP. This includes the UK market, where ratios would have moved from 101% to 92% and from 114% to 108% at YE09 and YE04, respectively.

While the recommendation is for a symmetrical measure that acts to reduce both excessive positive and negative artificial volatility, it is concerning that the impact of the VB as at the reference date of YE04 appears to reduce the capital coverage within a number of markets. As such, further calibration may be required.

Special Own Funds adjustment

In response to comments that the calculation of the impact of the various risk-free rate adjustments tested under the LTGA is overly complex, EIOPA has recommended that a simplified approach is used. Under this, the VB would be applied as a direct adjustment to the Own Funds as a “special” Own Funds item.

EIOPA has commented that no agreement has been made as to the classification of the “special” Own Funds items but that it believes classifying this as unrestricted would “have a number of advantages”.

We note that while EIOPA's proposed approach for the application of the VB via a "special" Own Funds item appears to simplify the measure, more details on its application would be needed to fully assess the effectiveness of this approach. In particular, concerns have been raised as to whether applying this adjustment only to the initial Own Funds and not to the calculations underlying the SCR will limit the impact on artificial volatility in the balance sheet.

MATCHING ADJUSTMENT

The Matching Adjustment (MA) is an adjustment to the discount rate used to value specific liabilities whereby the market value of the liability mirrors the market changes in the assigned asset values that are not related to default or downgrade costs.

The LTGA tested two forms of the MA:

- **The "Classical" MA (CMA)** – Applied only to predictable liabilities where these are matched by an assigned portfolio of assets meeting specific eligibility criteria and not exposed to the risk of losses on forced sales; and
- **The "Extended" MA (EMA)** – Extends the MA to unpredictable liabilities and thus exposes the asset portfolio to the risk of forced sales.

In general, both firms and NSAs expect the MA to be the most costly (in terms of time and resources) LTG measure to implement, particularly if the requirements to ring-fence eligible liabilities and assigned assets are maintained.

Classical Matching Adjustment

The CMA was found to be the "*most effective tool within the tested LTG package with regards to mitigating short-term volatility*". As such, EIOPA has recommended that this measure be implemented in its current form.

Despite the effectiveness of this measure, a number of concerns have been raised through the LTGA, particularly in relation to the strict restrictions on assigned asset portfolio. EIOPA has acknowledged these concerns but recommended that the strict conditions are maintained to ensure appropriate risk management incentives and thus policyholder protection.

Two key concerns acknowledged by EIOPA are:

- That the application of the CMA is likely to shift firms' investment focus towards assets with fixed returns and away from investments such as callable bonds, floating rate notes, residential mortgages, equity release mortgages, property, equity and other variable yield participations. This could lead to an increase in concentration risk amongst firms; and
- That the restrictions around credit quality for assigned assets (which must be BBB-rated or higher with a maximum of 33.33% of assigned assets rated as BBB) may lead to pro-cyclical price effects where "*assets with a poor outlook are sold to avoid inadmissibility*".

EIOPA has recommended several small changes to the current form of the CMA, advising that:

- Non-life annuities and reinsured annuities should be eligible if they meet the other eligibility requirements;
- The requirement to ring-fence portfolios should be maintained but further elaboration and clarification should be given on how this should work in practice;
- The level of permitted mismatch between asset and liability cashflows should be revised from 15%, used in the LTGA, to a more prudent level while making some allowance for mismatching at very long durations;
- A floor should be set for the fundamental spreads for sovereigns as a percentage of the current spread; and
- EIOPA should provide a figure for the maximum level of MA that may be claimed in respect of BBB-rated assets.

In addition to the above, EIOPA has proposed that immaterial mortality risk should not exclude products from the CMA as such provision is in the best interest of policyholders and, where immaterial, would not require firms to sell the assets covering CMA business. EIOPA recommends that mortality risk should be considered immaterial where:

(Deviation of the mortality risk / BE) < 5%

The deviation of the mortality risk is calculated as the present value of the difference between liability cashflows before and after a mortality shock (considering only unfavourable differences where the mortality shock results in higher expected cash flows), and BE is the best estimate liability of the portfolio of matched obligations.

The results of the LTGA have demonstrated that the CMA is an effective tool for mitigating short-term volatility from the Solvency II balance sheets of portfolios eligible for this measure. As such, we expect firms to welcome EIOPA's recommendation that this is implemented under Solvency II, particularly in the UK and Spanish markets, where around 30% and 20% of the respective technical provisions were calculated under the LTGA with application of the CMA.

While we share EIOPA's concerns that the CMA may increase concentration risk for insurers through an increased focus on specific long-term investments, this may not be the most significant impact. In particular, the availability of these assets at some durations may have significant liquidity implications for many firms.

Furthermore, where insurers are encouraged to move away from non-eligible investment classes, such as equity release mortgages, the wider social impacts should be considered, as a significant source of funding is potentially removed from these markets. While EIOPA has commented that no closed list of admissible types of assets should be prescribed for the future application of the CMA, as was the case for the LTGA, the strict application of the criteria that the asset cash flows shall be fixed and shall not be subject to third-party options appears unlikely to permit firms to include assets previously restricted under the LTGA.

We note that EIOPA's recommendation that products with immaterial mortality risk should not be excluded from the CMA is to be welcomed. This is particularly so in the Spanish market, where EIOPA has highlighted that this exclusion had a significant impact, and other markets may use this as an opportunity for greater product development.

Extended Matching Adjustment

The report notes that most participants and NSAs found that the EMA measures would reduce the balance sheet volatility resulting from liquidity-related price movements of debt holds. In particular, the application of the alternative EMA under Scenario 6 of the LTGA was found to have the highest impact on solvency ratios for a number of countries.

However, EIOPA has highlighted a number of issues with the EMA mechanism that could negatively impact policyholder protection, including:

- Uncertainty of whether policyholder liabilities could be met without forced sales of assets;
- The possibility that firms could benefit from the EMA without eliminating liquidity risk, but rather may be encouraged to take on inappropriate levels of liquidity risk as long-term illiquid debt is used to back potentially liquid liabilities;
- Concerns that the EMA incentivises firms to invest in assets with low credit quality in order to gain a higher MA; and
- The increase in risks introduced by the number of assumptions and estimations required for the calculation of the EMA.

These concerns, coupled with the added complexity associated with the EMA calculations and supervision, have been found by most NSAs to outweigh the potential for mitigating short-term volatility. As such, EIOPA has recommended that the EMA is not included in the LTG package.

The EMA was intended to extend the application of the MA to other markets. However, the results from the LTGA show that this was not achieved for the standard application as the governance requirements, particularly surrounding eligible assets, meant that this could be applied primarily by the markets that could already benefit from the CMA. Only when these requirements were removed via the alternative EMA were other markets able to benefit, with the samples from the French, Italian and Belgian markets able to maximise the use of this measure.

EXTRAPOLATION

Under the LTG package, extrapolation of the risk-free rate term structure is required to extend the rates beyond those taken from reliable market data to sufficiently long terms in order to allow valuation of long term insurance liabilities.

The LTGA tested two options (10 years and 40 years) for the period of time over which the extrapolation converges from the point at which observations from market data can be used (the last liquid point or LLP) to a long-term equilibrium rate (the ultimate forward rate or UFR).

For the Euro, the EIOPA report highlights the main arguments put forward by the various NSAs for both a shorter convergence period (e.g., 10 years) and longer convergence period (e.g., 40 years).

While a shorter convergence period would lead to a more stable interest term structure, and hence more stable technical provisions, EIOPA has commented that a longer convergence period would give more weight to observed market data and less to the choice of ultimate forward rate.

Furthermore, where the spot rate at the LLP is below the long-term equilibrium rate a rapid convergence will result in higher discount rates than would be achieved using a slower rate of convergence. The impact of this will be to produce lower values of technical provisions where a rapid convergence is applied. In the extreme event where the spot rate at the LLP is significantly lower than the UFR, EIOPA has raised concerns that a short convergence period may "*affect policyholder protection to the extent that an overly optimistic presentation of the financial position…may delay supervisory intervention*".

EIOPA has commented that its recommendation to use a significantly longer convergence period than 10 years (e.g., 40 years) for the Euro should help to improve the market consistency of the risk free rate term structure and hence provide a better alignment with Pillar 2 risk management processes and the calibration of any Economic Scenario Generators (ESGs).

In order to monitor any risks arising from a deviation between the extrapolated risk-free curve and economic reality, EIOPA has recommended the implementation of related sensitivity analysis as part of the Pillar 2 requirements.

We note that, while previous lobbying by national supervisors has highlighted the need for a rapid convergence to the UFR for the Euro in order to reduce volatility in the technical provisions, EIOPA's main concerns around the use of extrapolation relate to the impact on policyholder protection and alignment with risk management processes.

Under the current low interest rate environment, the risk-free rates based on market data are likely to be significantly below a UFR of 4.2% for many countries and, as such, rapid convergence to the UFR risks understating the value of technical provisions for long-term liabilities.

We note EIOPA's suggestion that sensitivity analysis is conducted in Pillar 2 to capture risks in relation to the extrapolated yield curve. While EIOPA has stated that this would not give risk to new Pillar 2 requirements, as it can be incorporated as part of the sensitivity analyses required in the existing Pillar 2 framework, we hope that this would not be a blanket requirement for all firms. We believe it is important that proportionality is applied such that firms may conclude that the risk arising from the extrapolation of the yield curve is immaterial where liabilities are of a short duration.

TRANSITIONAL MEASURES

Transitional arrangements are proposed under Solvency II to smooth the transition from the current regimes.

The LTGA tested a single transitional arrangement under which the valuation of existing in-force life liabilities and calculation of the capital requirements is performed using a weighted average of the Solvency II and Solvency I interest rate curves for the first seven years of Solvency II implementation.

While the transitional measure tested was found to achieve its purpose for the technical provisions for certain types of business with long-term guarantees, it was found to be effective only in the few member states where there is a noticeable difference between current Solvency I and Solvency II rates. As such, EIOPA has recommended implementing the tested measure but complementing this with a second measure aimed at transitioning the different valuations of technical provisions between the two regimes. This second measure would run down the fixed difference between the Solvency I and Solvency II technical provisions at the Solvency II implementation date over time using a static adjustment to the Solvency II balance sheet applied as a "special" Own Funds item.

The analysis provided by EIOPA at the end of the report into the impact of the transitional measures indicates that for the UK market, the proposed new transitional arrangement applied to the technical provisions (by means of a static adjustment) would have a significant impact on firms' solvency ratios. Were this to be applied to all firms as at YE11, the weighted average solvency ratio across the sample of UK firms would have risen from 84% to 139%.

In contrast, EIOPA found the "dynamic" transitional measure proposed to be applied to discount rates only raised the weighted average solvency ratio for the sample of UK firms to 101% when applied to all firms, and 89% when only applied to firms with pre-transitional solvency ratios of below 100%.

EXTENSION OF RECOVERY PERIOD

Under Solvency II, a recovery period of six months may be granted to firms which no longer comply with their SCR (with a possible extension by a further three months on approval from the relevant supervisor). Where the non-compliance is deemed to be due to an exceptional fall in financial markets (as determined by EIOPA) a further extension to the recovery period (ERP) may be granted. This is in order to tackle possible pro-cyclical effects of such a breach, including the impact of forced sale of assets in an already distressed market.

As part of the LTGA, EIOPA was charged with assessing the impact of setting a maximum ERP for firms providing long-term guarantees of one-third of the average duration of the technical provisions, with a cap at seven years.

EIOPA has commented that the ERP can be an effective tool to protect policyholders and manage financial stability issues during temporary breaches of the SCR, but that the triggers for this should be broadened to capture other crisis situations not directly linked to exceptional falls in financial markets. As such, it recommends that the measure is implemented but that the maximum length should be reviewed, as it considers the strict and sole link of the maximum length of the ERP to the duration of the liabilities to be "*too simple given the multitude of factors that determine the decision for the application of the measure*".

SUMMARY

EIOPA's technical findings on the LTGA conclude that the package of measures tested should encourage long-term liability business, and thus the holding of long-term assets.

However, the report notes concerns from national supervisors and participating firms that the LTG package is overly complex. As a result, EIOPA has set out a number of recommendations to reduce and simplify the package.

These include removing the Extended Matching Adjustment (including a secondary transitional measure for technical provisions) and replacing the CCP with a new measure labelled the Volatility Balancer.

In line with the objectives of Solvency II, including the creation of a level supervisory playing field across Europe, EIOPA also recommends that the LTG measures should not be treated as member state options and that cross-border business should not be excluded from any of the measures.

While the recommendations set out by EIOPA address many concerns from industry, there are a number of calibrations and technical details that remain unresolved. As such, where these recommendations are adopted in the final report to the trilogue parties in July, these look likely to provoke further political debate as to what are appropriate measures to be applied across Europe.

ABOUT MILLIMAN

Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in healthcare, property & casualty insurance, life insurance and financial services, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe. For further information, visit milliman.com.

MILLIMAN IN EUROPE

Milliman maintains a strong and growing presence in Europe with 250 professional consultants serving clients from offices in Amsterdam, Brussels, Bucharest, Dublin, Dusseldorf, London, Madrid, Milan, Munich, Paris, Warsaw and Zurich.

www.milliman.co.uk

CONTACT

If you have any questions or comments on this briefing paper or any other aspect of Solvency II, please contact any of the consultants below or your usual Milliman consultant.

William Coatesworth
william.coatesworth@milliman.com
+44 20 7847 1655

John McKenzie
John.mckenzie@milliman.com
+44 20 7847 1531

Milliman does not certify the information in this update, nor does it guarantee the accuracy and completeness of such information. Use of such information is voluntary and should not be relied upon unless an independent review of its accuracy and completeness has been performed. Materials may not be reproduced without the express consent of Milliman.

Copyright © 2013 Milliman, Inc.