Dear Sir or Madam,

The Life Bond group welcomes the initiative taken by the Bank for International Settlements to look into the subject of a regulation of the longevity risk transfer market and its impact on the stability of the worldwide financial system; we as the Life Bond group are glad to be able to comment on the previous analyses of the Bank for International Settlements. The Life Bond group fully supports the Bank’s initiative to prevent future distortions by means of an adequate regulation of the transfers of longevity risks on the capital market. We regard this moderate regulation as necessary in order to create a stable framework for a future risk transfer market with qualified participants in the financial market, who – in our view – must be experienced in the management of longevity risks. Additionally, risk concentrations should be avoided by means of a functioning risk transfer market.

The Life Bond group was founded more than 12 years ago. We are the German asset manager for professional and semi-professional investors for investments in secondary and tertiary market life insurances, which is why we have dealt with the transfer of longevity risks for many years. We have a firm view on the worldwide development of markets for longevity risks as well as the specific national developments. In the following we focus on hypothesis 2 of your consultative report of August 2013.

The volume of transformed longevity risks, above all in the form of longevity swaps, will increase in the next few years. In this context the following risks will be increasingly monitored by the regulatory authorities:

- Transparency risk: the volume of traded longevity risk is unknown
- Management risk: the management risk is on the rise due to a cumulation of longevity risks at only a few addresses
- Address risk: no quality standards for risk takers

The regulatory authorities will have to create a regulatory framework which looks into the following questions:

1. How is the longevity risk to be defined? What are the prerequisites for longevity risks to be gathered?
2. What prerequisites are to be met by risk sellers and risk takers in order to get access to the market for the trade with longevity risks?
3. How are the rules for the trade with longevity risks to be formulated?

The second point of the BIS consultative report “Longevity risk transfer markets: market structure, growth drivers and impediments, and potential risks” of August 2013 is directly linked with the necessary prerequisites of the takers of longevity risks from a regulatory point of view.

The regulatory authorities should make sure that the takers of longevity risks have special abilities and distinct experience in the management of these specific risks. The provision of historical data is also part of this. In particular, it must be ensured that the asset managers have a specific conceptual know-how in the evaluation and management of longevity risks. This know-how must be demonstrated by means of standard processes and specific instruments. A verifiable, long-term track record is a must-have. The result of these qualities is a specification statement for asset managers, who want to act as risk takers of longevity risks. If an asset manager meets the requirements, s/he will receive an admission attestation as a participant in the market for longevity risks.

With regard to this point you will find the respective information in the PowerPoint presentation attached to this e-mail. My colleague in management, Christian Seidl, and I would be happy to outline our project approach in a personal meeting with you.

Please do not hesitate to contact me if you have any questions.

Best regards,
Rüdiger Frischmuth

Dr. Rüdiger Frischmuth
Executive Vice President
Life Bond Management GmbH
Muenchner Str. 54
D-82069 Hohenschaeftlarn/Germany
Joint Forum: Longevity risk transfer markets: Market structure, growth drivers and impediments, and potential risks

Dr. Rüdiger Frischmuth
Christian Seidl

Hohenschäftlarn, October 18th, 2013
The present document is solely intended to provide information and does not constitute any investment consultation or investment recommendation and has only been created as a discussion tool for the addressed qualified investors. Qualified investors are defined as professional and semi-professional investors according to Sect. 1 para. 19 No. 32 and Sect. 1 para. 19 No. 33 of the Capital Investment Code (KAGB).

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<th>Initial situation</th>
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<tbody>
<tr>
<td>2</td>
<td>Problem statement</td>
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<tr>
<td>3</td>
<td>Solution statement</td>
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<td>Initial situation</td>
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</tr>
<tr>
<td>2</td>
<td>Problem statement</td>
</tr>
<tr>
<td>3</td>
<td>Solution statement</td>
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</tbody>
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The defined benefit volume increased slightly, the transferred defined benefit volume soared

Between 2007 and 2012 defined benefit claims increased by 2.9% p.a. (on average) (CAGR)

Transferred volume of longevity risks rose by 35.2% p.a. (on average) between 2007 and 2012

Significant transactions above all in Japan, the UK und the US

Defined benefit volume in bn. USD

- 2007: 14.21
- 2009: 13.51
- 2011: 15.68
- 2012: 16.36

- 2007: 5.86
- 2009: 12.70
- 2011: 19.38
- 2012: 26.48

Between 2007 and 2012 defined benefit claims increased by 2.9% p.a. (on average) (CAGR)
Transferred volume of longevity risks rose by 35.2% p.a. (on average) between 2007 and 2012
Significant transactions above all in Japan, the UK und the US

Sources: Towers Watson Global Pension Asset Studies 2008-2012; LCP Pension Buyouts Reports 2008-2013
Supply and demand are key drivers of traded volumes – demographic trend and regulators are amplifiers

**RISK SELLERS**
- Dwindling staff number leads to negative financing effects
- Unpredictable P&L drains due to longevity risks
- Increasing outplacement of longevity risks from the balance sheets

**RISK TAKERS**
- Low interest rates in developed countries lead to a dividend crisis
- Climbing demand for non-correlating investments with excess returns and controllable risks according to risk types

**STATE**
- Increasing shift from state-run schemes to the private sector (pension plans)
- Rising participation of the private sector in the financing of hospital care

**REGULATORS**
- Creation of institutional regulators for the trade with longevity risks
- Standardization of benefits
- Definition of evaluation procedures
- Definition of quality standards for risk takers
- What is happening on the markets

**DEMOGRAPHY**
- Low number of children in developed countries (the US, Europe)
- Mounting financing problems due to higher life expectancy in developed countries
- Uncertainty over the impact of medical advancements on the longevity risk
SWAP deals with highest growth rates over the past few years

A further increase in transactions is expected

Communicated transactions in Europe

<table>
<thead>
<tr>
<th>Year</th>
<th>Buy-in</th>
<th>Buy-out</th>
<th>Longevity Swap</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>2009</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>2011</td>
<td>6.5</td>
<td>6.5</td>
<td>10.5</td>
</tr>
<tr>
<td>2012</td>
<td>8.5</td>
<td>8.5</td>
<td>20.5</td>
</tr>
</tbody>
</table>

Reasons for growing shares of SWAPS

- Assets of a company stay within the company
- Professional hedging of longevity risks through third parties
- Existing claims of the employee towards the employer persist (pension payments)
- Standardized administration and transaction processes lead to high efficiency
- Financing effect persists
- Relative cost advantages over buy-in or buy-out due to standardization

Sources: Hymans & Robertson, "Buy-outs, buy-ins and longevity hedging" reports; LCP Pension Buyouts Reports 2008-2013
## Selected communicated transactions of the past few years

<table>
<thead>
<tr>
<th>Year</th>
<th>Country</th>
<th>Company</th>
<th>Style</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>United Kingdom</td>
<td>BAE Systems Pension Plan</td>
<td>Longevity Swap</td>
<td>GBP 3.2 bn</td>
</tr>
<tr>
<td>2012</td>
<td>United Kingdom</td>
<td>Akzo Nobel</td>
<td>Longevity Swap</td>
<td>GBP 1.4 bn</td>
</tr>
<tr>
<td>2012</td>
<td>Netherlands</td>
<td>Aegon</td>
<td>Longevity Swap</td>
<td>EUR 12.0 bn</td>
</tr>
<tr>
<td>2010</td>
<td>United Kingdom</td>
<td>BMW Pension Plan</td>
<td>Longevity Swap</td>
<td>GBP 3.0 bn</td>
</tr>
<tr>
<td>2012</td>
<td>USA</td>
<td>General Motors</td>
<td>Full Buy-out</td>
<td>USD 26.0 bn</td>
</tr>
<tr>
<td>2012</td>
<td>USA</td>
<td>Verizon Communication</td>
<td>Full Buy-out</td>
<td>USD 7.0 bn</td>
</tr>
<tr>
<td>2011</td>
<td>United Kingdom</td>
<td>Uniq</td>
<td>Full Buy-out</td>
<td>GBP 830 m</td>
</tr>
<tr>
<td>2008</td>
<td>United Kingdom</td>
<td>Powell Duffryn</td>
<td>Full Buy-out</td>
<td>GBP 400 m</td>
</tr>
<tr>
<td>2012</td>
<td>United Kingdom</td>
<td>MNOPF</td>
<td>Full Buy-in</td>
<td>GBP 680 m</td>
</tr>
<tr>
<td>2009</td>
<td>United Kingdom</td>
<td>CDC</td>
<td>Pensioner Buy-in</td>
<td>GBP 370 m</td>
</tr>
</tbody>
</table>

Sources: LCP Pension Buyouts Reports 2008-2013
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>Initial situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Problem statement</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Solution statement</td>
<td></td>
</tr>
</tbody>
</table>
Increasing volume of longevity transfer requires institutional constraints

Market participants and market platform for longevity risks (LR)

- Management risk due to cumulation of longevity risks at only a few addresses
- Volume of traded LR unknown
- No quality standards of risk takers

Risk Sellers
- Pension funds
- Large as well as small- and medium-sized enterprises
- Private persons

Requirements for longevity risk transfer market
- Formal and content-based standards for traded longevity risks
- Allowed access to the market for risk sellers and risk takers
- Regulations for auctions

Risk Takers
- Banks, savings banks
- Pension pools
- Reinsurers
- Family Offices
- Private persons

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October 2013
Chart 10
Evaluation and management of longevity risks critical success factors of risk takers

Risk concentrations and skills needed for the evaluation and management of LR

Dominance of single deals on the longevity risk transfer markets (communicated longevity swap transactions Europe 2012)

Skills needed by longevity risk managers

- Instruments
- Methods
- Processes
- Purchasing
- Management
- Sales

Longevity risks

- Deal Deutsche Bank - Aegon Q1/2012: 11.3%
- Total of all deals Q2/2012: 6.7%
- Total of all deals Q3/2012: 82.0%

1) In Q4/2012 no communicated transactions
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Initial situation</td>
</tr>
<tr>
<td>2</td>
<td>Problem statement</td>
</tr>
<tr>
<td>3</td>
<td>Solution statement</td>
</tr>
</tbody>
</table>
Project aim is the creation of a skill profile for longevity risk managers

Project approach

<table>
<thead>
<tr>
<th>Project set-up</th>
<th>Conceptional project work</th>
<th>Next steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concretization project assignment and its content</td>
<td>Definition of specific skill factors for longevity risk managers</td>
<td>Transfer into an admission catalogue for LR managers</td>
</tr>
<tr>
<td></td>
<td>Definition of further relevant success factors for LR managers</td>
<td>Purposes:</td>
</tr>
<tr>
<td></td>
<td>• Capital resources</td>
<td>• Admission attestation as risk taker</td>
</tr>
<tr>
<td></td>
<td>• Management</td>
<td>• Spread indicator for raising of funds</td>
</tr>
</tbody>
</table>

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Project assignment  LR skill profile  Rating system
Longevity risk manager needs distinct skills for the evaluation and management of longevity risks

Evaluation and management of longevity risk

Analytical skills to estimate life expectancy and access to reference data

Client/demand oriented approach
- Applicable evaluation of longevity risk primarily depends on the composition and structure of the LRT or rather the lives covered by the transaction
  - Life expectancy estimation of each individual based on medical records, e.g. individual portfolio of pensioners
  - Life expectancy estimation of a certain group or reference population, e.g. pensioners of a single corporation, entire working class pensioners
  - Life expectancy estimation of the whole population, e.g. specific country, worldwide

Access to detailed and up-to-date historical mortality data

Medical and actuarial know-how to scale future mortality projection
- Medical improvement and pharmaceutical research and development
- Disease patterns and course of diseases especially with older age population
- Impact of social life, education, income and wealth

Proven expertise in the assessment of longevity risk
- Many years of experience in longevity related investments or asset classes
- Strong track report
- Good reputation

Market intelligence
- Knowledge about the LRT markets and its players
- Knowledge about the options to mitigate longevity risk and about the universe of existing LRT instruments
- Knowledge about regulatory, legal and tax requirements and characteristics depending on the jurisdiction or the special situation of the party looking for LRT

State-of-the-art operation, processes and (software-)tools including back-up solutions

Monitoring of longevity risk
- Tools to analyze and compare actual to expected mortality on an observed population
- Tools to prepare updated projections and scenarios of future mortality/life expectancy based on actual mortality experience on an observed population
Detailed and field-tested data base as well as excellent actuarial concepts success factors of longevity risk managers

Data management

- Administration of internal portfolio
- Research of external data
- Quality
- Availability
- Consistency
- Security
- Data modeling/application
- Life expectancy assessment of specific population
- Index compilation
- Advisory services

October 2013

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Chart 15
Further success factors of longevity risk managers

Size of enterprise, controlling und management

**Organisation**
- Categorical separation of portfolio and risk management up to the management level
- Adherence to compliance standards to avoid conflicts of interest in the LR management

**Investment processes**
- Hedging behaviour based on market development
- Interlocking of top-down and bottom-up-processes in the analysis and evaluation of LR

**Results**
- Track Record in AM

**Risk management**
- Focus on customer-specific risk profiles and requirements
- Definition of risk budgets from the selection and analysis of the objects to constant qualitative and quantitative controls within the investment processes; implemented consistently

**Management quality**
- Qualification and stability of the management
- Distinct functional expertise with verifiable track record

**Capital resources**
- Solvency regulations at least pursuant to Solvency II standard
Forecast: Job profile of the longevity risk manager is input for rating

Skills

Founded: 1875 by John Fairfield Dryden
Headquarters: Newark, New Jersey
Global Employees: 48,000 (19,115 in the US)
Management: John R. Strangfeld (Chairman, CEO)
Total AuM: $1,044 trillion
Gross life insurance in force: $3.6 trillion worldwide

Financial Strength Ratings:
- A.M. Best Company: A+
- Fitch Ratings: A+
- Standard & Poor’s: AA
- Moody’s: A1

Rating LLR: Management Rating

Core Competencies:
- Insurance products, retirement solutions, investment management,

Rankings:
- 2nd largest life insurer in the US based on total admitted assets
- 5th largest individual life insurance business in the US in terms of statutory net written premiums
- 8th largest institutional asset manager worldwide.
- Largest seller of individual life insurance in the US based on recurring premiums
- Largest risk taker of longevity risks worldwide

Prudential Financials assets under Management (AUM) – Significant scale and breadth

AUM by Asset Type:
- Non-proprietary insurance, annuity and other: 19%
- International Real Estate: 6%
- Equity: 16%
- Fixed Income: 60%

AUM by Client Type:
- Non-proprietary insurance, annuity and other: 19%
- Institutional customers: 30%
- International: 19%
- Retail customers: 15%
- General account: 34%

Source: Prudential Financial Inc., Life Bond Research
Contact

**Life Bond Lebensversicherungs-handelsgesellschaft mbH**
Münchner Str. 54
D-82069 Hohenschäftlarn

<table>
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</tr>
<tr>
<td>Homepage</td>
<td><a href="http://www.lifebond.de">www.lifebond.de</a></td>
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**Dr. Rüdiger Frischmuth**
Executive Vice President of the Life Bond Group
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e-mail: ruediger.frischmuth@lifebond.de

**Christian Seidl**
Executive Vice President of the Life Bond Group
phone: +49 (8178) 9088-16
e-mail: christian.seidl@lifebond.de
Life Bond is the German asset manager in secondary market life insurances (1/2)

- 100% owner-operated asset manager founded in 2001
- Management with distinct network in the financial industry, excellent industry expertise and international experience
- High level of expertise and experience in structuring and management of investments in life insurances
- Long-term successful cooperation with renowned cooperation partners along the value-addition chain for customer-specific, efficient product, portfolio and risk management
- Conceptualization of specific investment alternatives for qualified investors
Life Bond is the German asset manager in secondary market life insurances (2/2)

Conception competence

Investor consultation for investments in life insurances
Structuring of LI portfolio and investment vehicle
Implementation of investment projects
Secures the cash-flow profile
Continuous product management
Liquidation acc. to plan
Liquidation upon customer request

Implementation competence

LB Sales
LB Product Management
LB Risk Management
LB Portfolio Management
LB Product Management

ifa Ulm
Lux AG*

* Luxemburger Verbriefungsgesellschaft belongs to the Life Bond Group
Life Bond with product and consulting expertise in the area of life insurances

Qualified investors
- Professional investors
  - Pension funds
  - Pension pools
  - Benefit plans
  - Primary banks

Semi-professional investors
- Family offices
- Private equity investors

Others
- Investment advisors, associations, authorities

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<table>
<thead>
<tr>
<th>Return potential</th>
<th>Investment vehicle</th>
<th>Promissory note bonds</th>
<th>Special funds (SIF, QiF, dt. Special Funds)</th>
<th>Index/Bond</th>
<th>Equity participation as KG share</th>
<th>Direct investment</th>
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</thead>
<tbody>
<tr>
<td>Low</td>
<td>GLSS</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
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<td></td>
<td>GUSS</td>
<td>X</td>
<td>X</td>
<td>(X)</td>
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<tr>
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<td>US LSU mit RV</td>
<td>X</td>
<td>X</td>
<td>(X)</td>
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<td></td>
<td>US LSU without RI</td>
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<td></td>
<td>(X)</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

GLSS = German Life Settlement Strategy
GUSS = German/ U.S. Life Settlement Strategy
US LSU = US Life Settlement Underlying
RI = Reinsurance

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Investment Advisory
Research
Consultation re. longevity risks
Dr. Rüdiger Frischmuth is Executive Vice President of the Life Bond Management GmbH and is responsible for the areas sales and product development. Prior to that and for more than 11 years he was a partner at zeb/rolfes.schierenbeck.associates, one of the leading European consultancies for financial service providers. Between 1995 and 2000 Dr. Frischmuth worked in corporate development and was head of the division Asset Management Services of the HypoVereinsbank AG. After that he became CFO of Home Shopping Europe AG (HSE AG).
Christian Seidl is Executive Vice President of the Life Bond Management GmbH and is responsible for the areas asset management and product development. Prior to joining the Life Bond Group in 2003, Christian Seidl held several management positions in the Schörghuber Group in Munich. Christian Seidl trained as a bank clerk and completed his business studies at the University of Regensburg, Germany, before he started his career as an assistant auditor at PriceWaterhouseCoopers in 1996. Christian Seidl has for many years been active in the international secondary markets for life insurances and in the industry’s association BVZL e.V. (www.bvzl.de), where he is a member of the Executive Board International as well as team manager USA.
Stefan Teubler is Life Bond's in-house actuary and responsible for all mathematical and statistical computations and modelings in connection with policy evaluation and ongoing administration, portfolio analytics and the development of new US life settlement investment products. He was born in 1981, studied at the University of Technology Munich, Germany, and earned his diploma in Financial and Business Mathematics. Stefan Teubler started his carrier by joining the Life Bond Group in January 2008.
Michael Klaes is responsible for product development and product management. Before he joined Life Bond in July 2013, Michael Klaes was the head of the business development unit of a German mid-cap company. Prior to that, he worked for more than ten years as product manager and Head of Product Management for Structured Products at DWS Investment GmbH. Michael Klaes holds a diploma in business administration from the Frankfurt School of Finance & Management (HFB) and is a Certified EFFAS Financial Analyst (CEFA).