LONGITUDE EXCHANGE

Longevity 17 Presentation

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Longevity Risk Market Potential

There's an **enormous amount of longevity-linked liabilities** in public and private pension and annuity markets. The magnitude of risk dwarfs the capacity of traditional providers – **capital markets investors must get involved**.

LONGEVITY SUPPLY | LONGEVITY CAPACITY

$100 trillion = total longevity-linked liabilities, globally

$12 trillion = total longevity risk (3σ event)

$600 billion = potential annual longevity risk transfer demand

$120 trillion = total fixed income assets, globally

$600 billion = size of global reinsurance market (for all risks)

$40 billion = current annual longevity risk transfer

not all to scale

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Pros/Cons of Index-based Longevity Transactions

Index transactions streamline hedging and investing in longevity risk. **Lower barriers. More participants. Better pricing.**

Pros

No Data Requirements
Easy to price and calculate transaction cash-flows.

More Market Participants
Capital market participation improves pricing and capacity.

Standardization
Efficient and repeatable process leads to liquidity.

Secondary Market
With a marketplace comes a secondary market.

Customization of Risk
Desired risk layer is transacted. CDO/CLO approach possible.

Cons

Basis Risk
Not indemnity, but basis risk is quantified and managed.

Not Current Standard
Market needs to evolve. But reinsurers are seeking capacity.

Regulatory Framework
Basis risk needs to be placed in capital (S2) framework.

Indices for Main Markets Only
Not all markets have good indices. But main markets do.

Counterparty Risk
LE has set-up a central counterparty with collateral.

Longevity Risk Hedging Demand

Pension Funds

Protect Buy-Out Pricing while on Glide Path
Pensions preparing to do a Buy-Out in the coming years can insulate against price increases due to longevity improvement.

Plan Not Intended to Close or Buy-Out
Not all pensions are suitable for a buy-out (e.g., public plans), but longevity risk hedging still makes sense in risk management framework.

Buy-Out Insurers

Diversify Sources of Longevity Capacity
Many insurers have executed billions of hedges with the same few reinsurers presenting a concentrated credit risk exposure.

Lower Overall Cost of Longevity Protection
By utilizing both index-based and indemnity protections a lower overall cost can be achieved that just executing longevity swaps.

Life Reinsurers

Longevity Book as Grown Relative to Mortality
After a decade of writing longevity swaps many reinsurers life book is relatively balanced between longevity and mortality.

Currently Lack any Longevity Offtake
Reinsurers are currently the end of the value chain for longevity risk and seek a way to hedge to continue writing significant new business.

Longevity Risk Taking Capacity

Capital Markets

Uncorrelated, Attractive Risk-Adjusted Returns

Longevity risk is uncorrelated from other capital markets investments and can increase Sharpe Ratio.

Can Deploy Significant Capital with Limited Resources

Index transactions have lower analytical requirements which can be reused on any trade referencing the same underlying data.

Life Insurers

Negatively Correlated Exposure to Mortality Risk

Most life insurers have more mortality risk than longevity, adding this exposure can balance risks with limited capital requirement.

Index Transactions Don't Require Underwriting Expertise

By referencing public (or Club Vita) data sets, insurers don't need to consider the idiosyncrasies of the underlying pensioner pool.

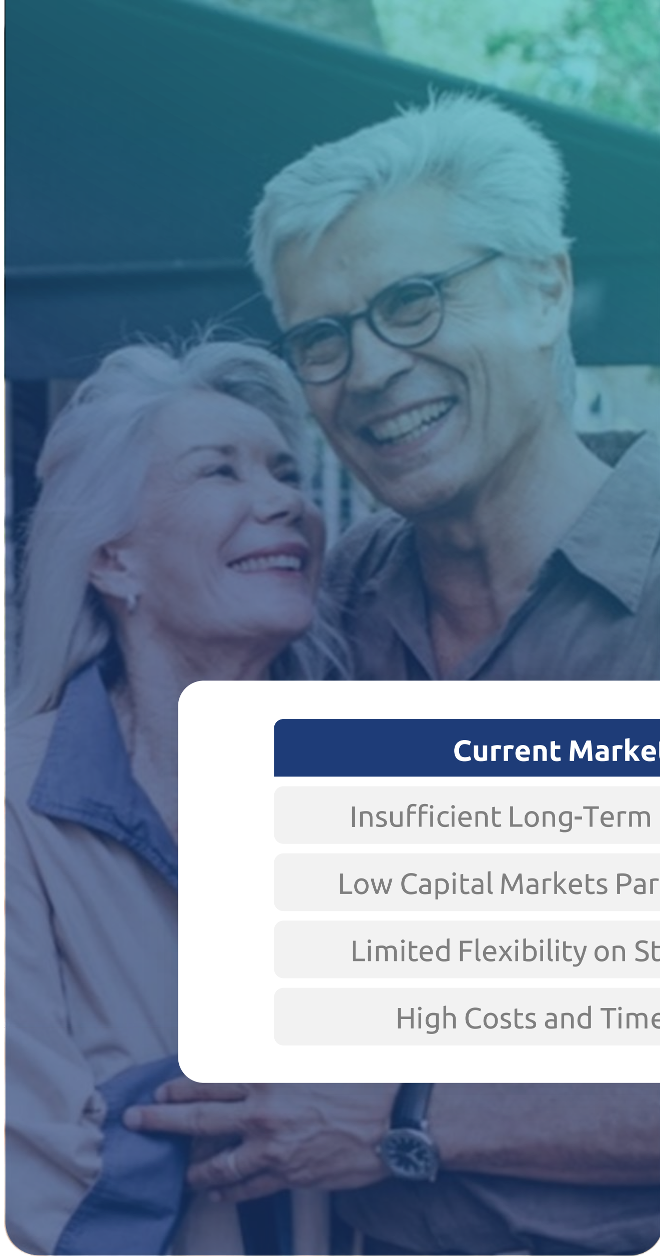
Life Reinsurers

Longevity Risk is already a Core Business Line

Life reinsurers already have expertise in longevity risk, index-based transaction are an easy way to add exposure.

Index Transactions can Diversify Across Countries

Reinsurers may offer indemnity swaps in only one country, while index trades can bring country diversification with less underwriting basis.



Longevity Risk is the largest asset class that doesn't exist

To date, the hedging market is **dominated by a few large reinsurers** whose capacity is insufficient to meet the long-term demand, globally.

There has been **limited capital markets participation.** Accessing this capacity is the only way to fulfill the longevity risk markets potential.

Current Market	Improved Market
Insufficient Long-Term Capacity	Abundance of Well-Priced Capacity
Low Capital Markets Participation	Broad Involvement by Investors
Limited Flexibility on Structures	Hedge Optimization Possible
High Costs and Timelines	Efficient and Liquid Market

The market lacks a marketplace.

Longitude Exchange is the marketplace for longevity risk

We provide free tools that **simplify hedge structuring and analysis**, so hedgers can rapidly execute affordable, strategic risk transfer.

Capital markets investors gain **greater access to uncorrelated**, attractive risk-adjusted longevity investments.

Lower costs. Faster timelines. Greater liquidity.

How Longitude Exchange Works

Our tools streamline the process of hedging and investing in longevity risk. **More efficient. More liquid. More deals.**

For Hedgers

Hedge Construction
Construct trades optimized for risk and capital objectives.

Hedge Analysis
Measure hedges impact on risk and capital positions.

Hedge Placement
Conduct auctions, negotiate terms and execute deals.

Hedge Reporting
Receive reporting, payment and collateral instructions.

Hedge Management
Increase or decrease hedges through secondary trading.

For Investors

Longevity Modeling
Models and datasets to generate longevity scenarios.

Investment Analysis
Price transactions using longevity scenarios.

Investment Execution
Place bids and negotiate terms with counterparties.

On-going Valuations
Live quotes and historical trades to mark positions.

Secondary Trading
List positions, request bids, and buy listed transactions.

Expansion of Market through Digitization

DIY Toolbox for Hedgers & Investors

Purpose built Hedger customer journeys

Hedgers go through a structuring and analysis process that takes account of their specific jurisdictions and regulatory environment.

Investor Toolbox lowers barrier to entry

Index format and (3rd party) tooling on the platform enables analysis of investment opportunity and removes need for complex underwriting skills.

Freemium SaaS Model

Free Services

A suite of valuable longevity risk modeling and analysis tools draw market participants to the platform.

Premium Features

Certain analytical tools (e.g., customized capital models) and capabilities (e.g., extract analyses) will cost extra.

3rd Party Services

Brokers & Banks

Intermediaries are incentivized to use the platform, as more transactions and transaction types are opportunities to add value.

Service Providers

Third party modeling agencies (e.g., RMS, AIR), index providers (Club Vita), and transaction services (e.g., Dedomainia) available via the platform.

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