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PRESENTATION

Demystifying the Pension Risk Transfer Decision

GLENN O'BRIEN
Prudential

Prudential: A Global Pension Leader

Since 1928 we have been an industry leader in providing integrated pension plan services to sponsors and participants, and have developed systems specifically for pension plan administration, which have the flexibility to accommodate the varied needs of clients. As the largest pension annuity insurer in the U.S.[1], we are a proven leader in our ability to administer payments of benefits to pension plan participants.

#1 WE ARE THE **LARGEST** MANAGER OF U.S. PENSION BUY-OUTS[1]

$1.4 TRILLION IN ASSETS UNDER MANAGEMENT

13 SOVEREIGN WEALTH FUNDS

31 OF THE **100 LARGEST** PENSION FUNDS

35 Fortune 100 Companies

[1] LIMRA Group Annuity Risk Transfer Survey, 1Q19.

As of June 30, 2019 unless otherwise noted. Assets for PGIM Fixed Income shown in $billions as of each year end and June 30, 2019. [1]Includes all assets managed by PGIM, Inc., the principal asset management business of PFI. Assets include public and private fixed income, public equity – both fundamental and quantitative and real estate. [2]Source of US Pension Fund data: Pensions & Investments Top 1000 US Pension Funds published February 6, 2019 and S&P's MMD Top 100 US Pensions. [3]Source of Global Pension Fund data: P&I/Willis Towers Watson 300 Largest Pension Funds ranking, data as of December 31, 2017, published September 2018. [4]Source of European Pension Fund data: IPE Top 1000 European Pension Funds – 2018. [5]Source of Fortune 500 list: Fortune issued June 9, 2019. Beginning with first quarter 2019, PGIM Fixed Income's methodology of reporting clients has changed to include individual Collateralized Loan Obligation (CLO) vehicles. [6]In 2005 the inclusion of an acquired business contributed $11 billion to the Firm's assets under management. In 2014, the affiliate PGIM Japan business merged into PGIM Fixed Income contributing $100 billion. Asset class breakdown based on company estimates and are subject to change. [7] As of March 31, 2019.

Agenda

- **Risk:** Your pension annuity company
- **Price:** The opportunity cost to keep it or move it
- **Strategies:** What does moving it mean in 2019 and beyond

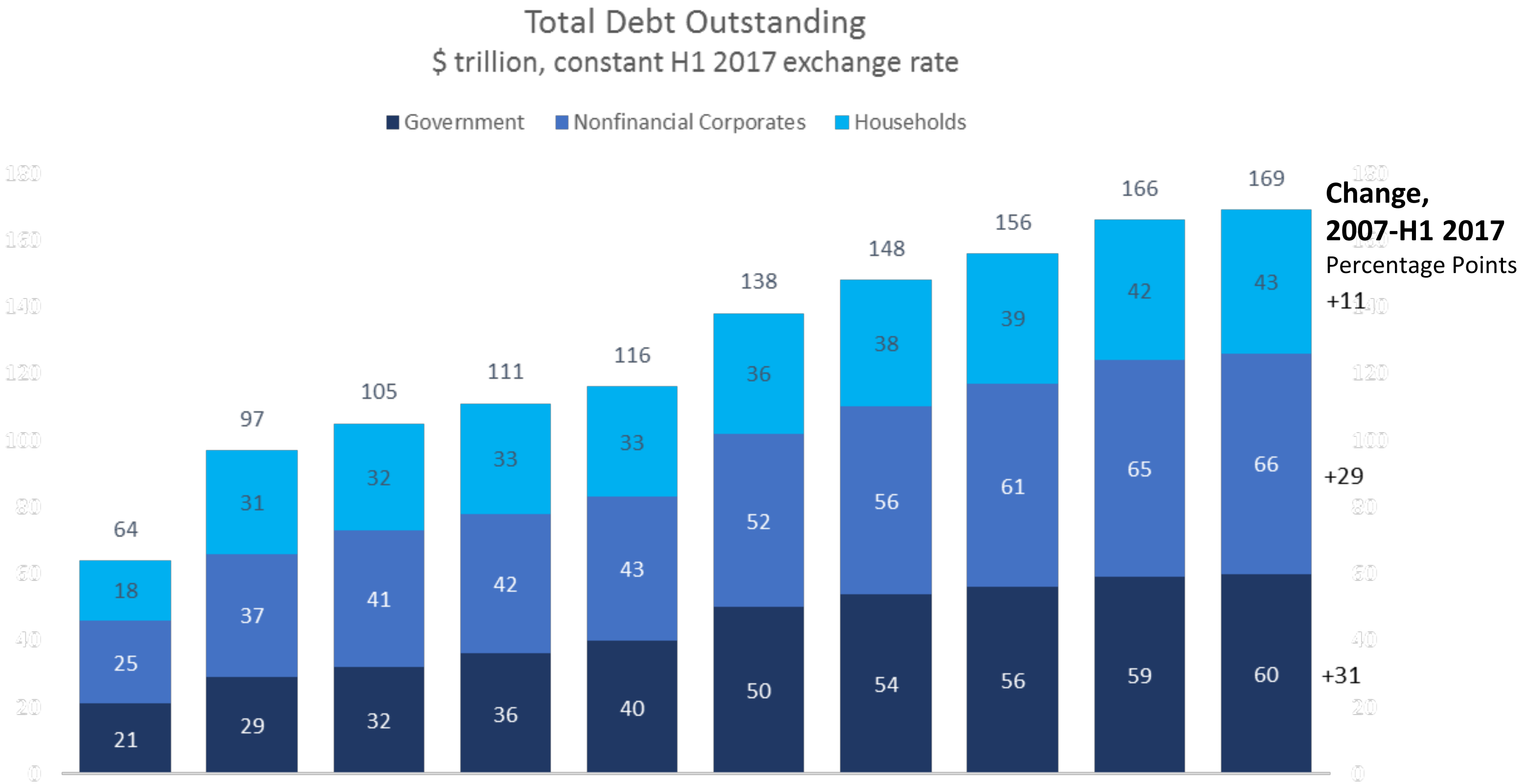
Risk

- **Annuity Companies and Pension Funds Share the following:**
  - **Risks**
    - Investment
    - Longevity
    - Assumption
    - Legal
    - Regulatory
  - **Estimated Cost of Good Sold:**
    - The Actual Cost takes decades to be realized
    - Dependence on assumptions about future events
  - **Required investor capital for negative deviation**

- **Hibernation is a decision to run insurance liabilities**

The World is Awash in Debt

- Global debt has steadily increased at a double-digit rate since 2007 for households, corporations and governments.
- Global GDP has generally kept pace with debt growth, except in the U.S.



	2000	2007	2008	2009	2010	2013	2014	2015	2016	H1 2017
Total debt to GDP[1]	**198**	**207**	**213**	**226**	**224**	**227**	**232**	**234**	**237**	**236**

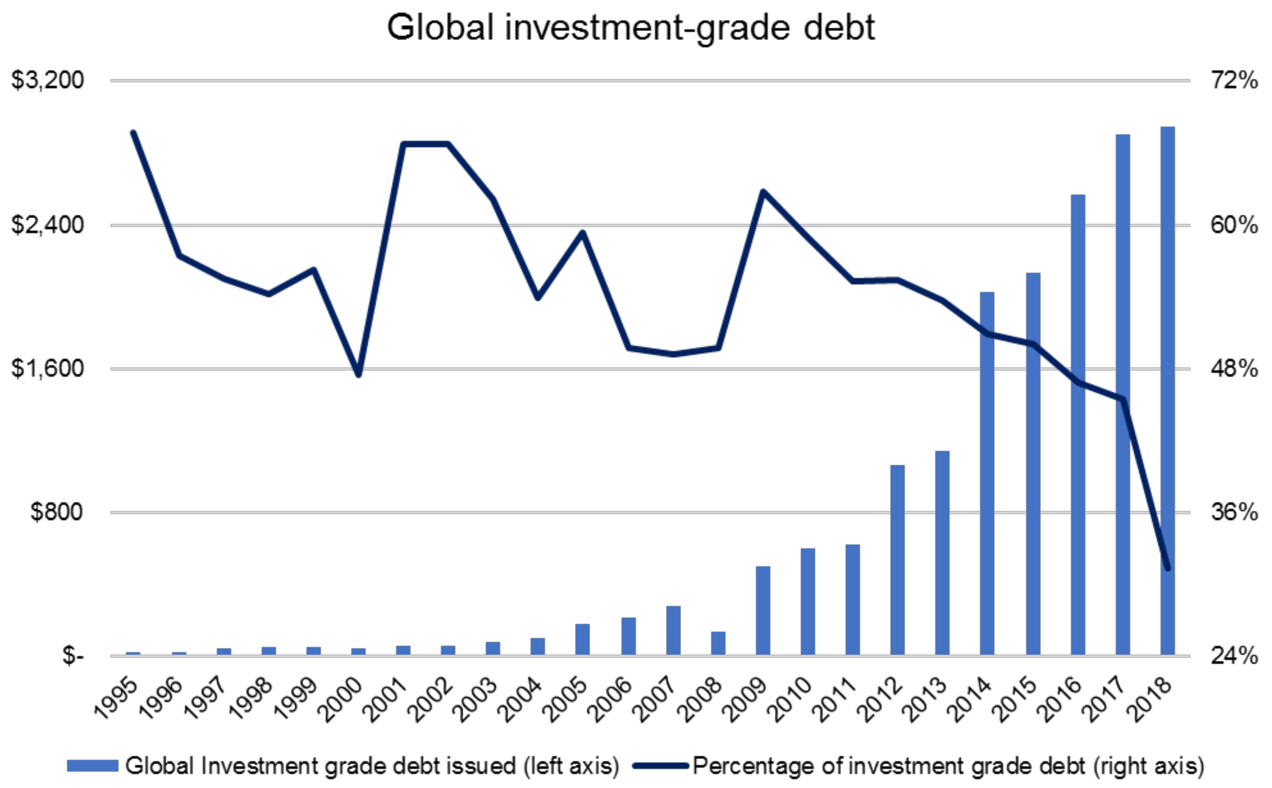
[1] Includes household, nonfinancial corporate, and government debt, excludes debt of the financial sector. Estimated bottom up using data for 43 countries from Bank for International Settlements (BIS) and data for eight countries from McKinsey's Country Debt Database.
NOTE: Figures are rounded.

SOURCE: BIS, McKinsey Country Debt Database, McKinsey Global Institute analysis, June 2018

U.S. Corporate Debt

- **U.S. Non-financial corporate debt is at record high 45% of GDP**.
- Median credit quality has deteriorated over the last 36 years from A- to BB.

Total Non-financial Corporate Debt Outstanding
Loans & Bonds, Net Leverage is nonfinancial corporate debt less cash & cash equivalents



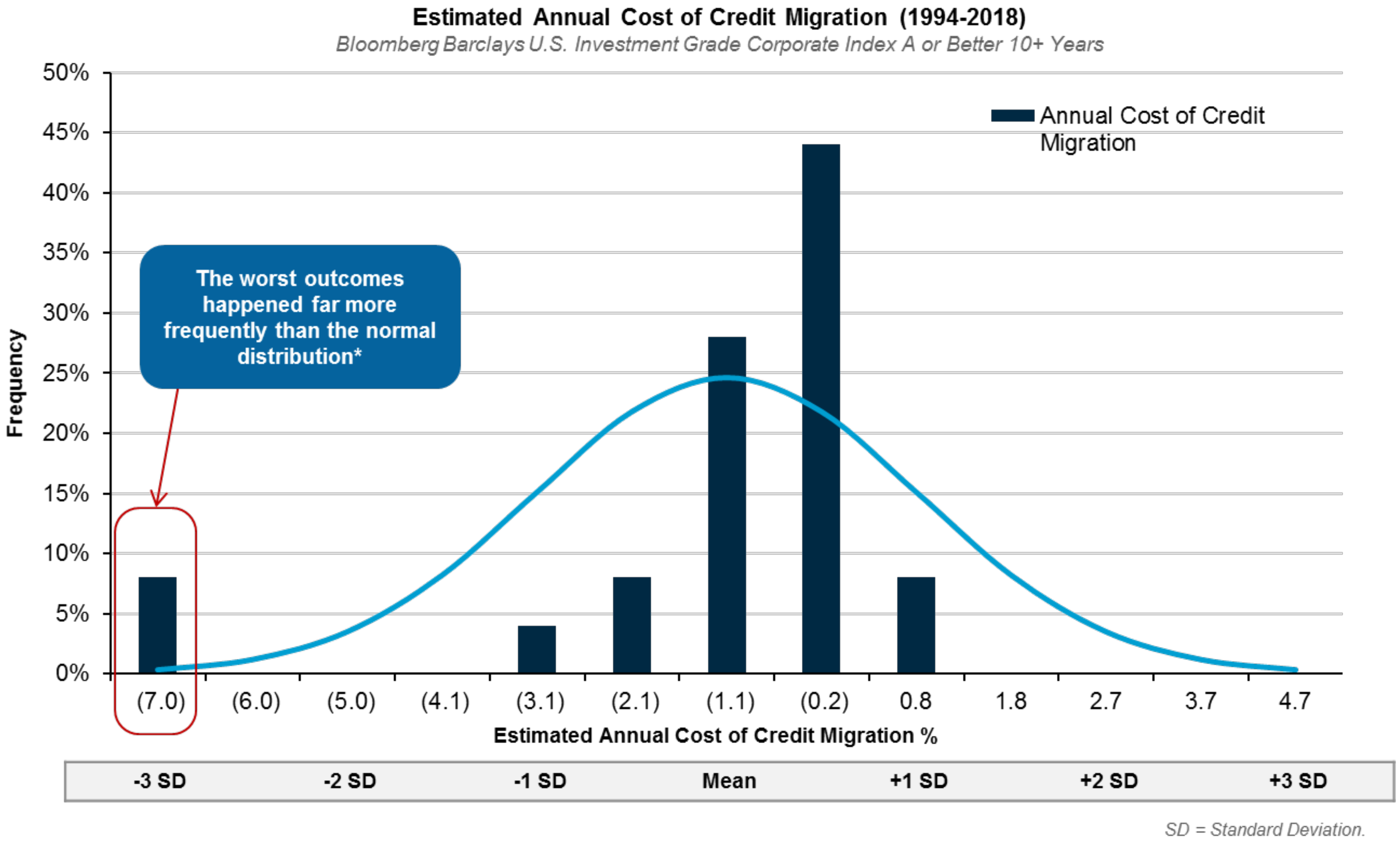
U.S. Median Ratings 1982-Today
(by issuer)

36 years ago	A-
25 years ago	BBB+
15 years ago	BBB
10 years ago	BB+
Five years ago	BB+
Today	**BB**

Data as of May 31, 2018, and as of Dec. 31 for all previous years.

Source: S&P Global Fixed Income Research

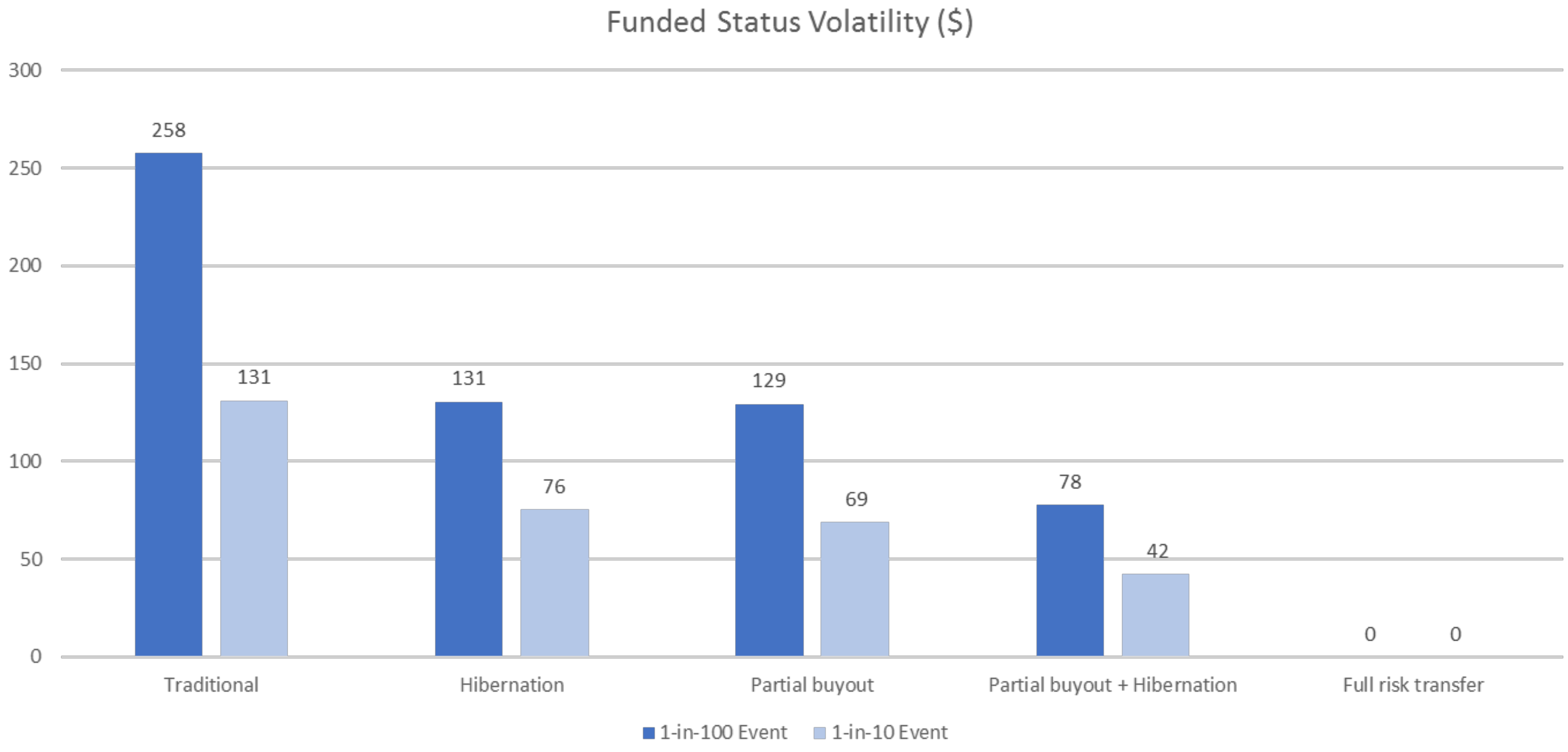
Credit Migration Can Be Costly to Sponsors



Source: Barclays POINT, PGIM Fixed Income. As of December 2018.
*Normal distribution with same mean and standard deviation as the annual estimated cost of credit migration. For illustrative purposes only. Estimates are not actual and may vary.

Managing Volatility

A hibernation strategy is not the perfect hedge many think it is. In a 1-in-100 or 1-in-10[1] level market event, plans with a hibernation strategy are slightly worse off than those that transferred even just 50% of their liabilities to an insurer

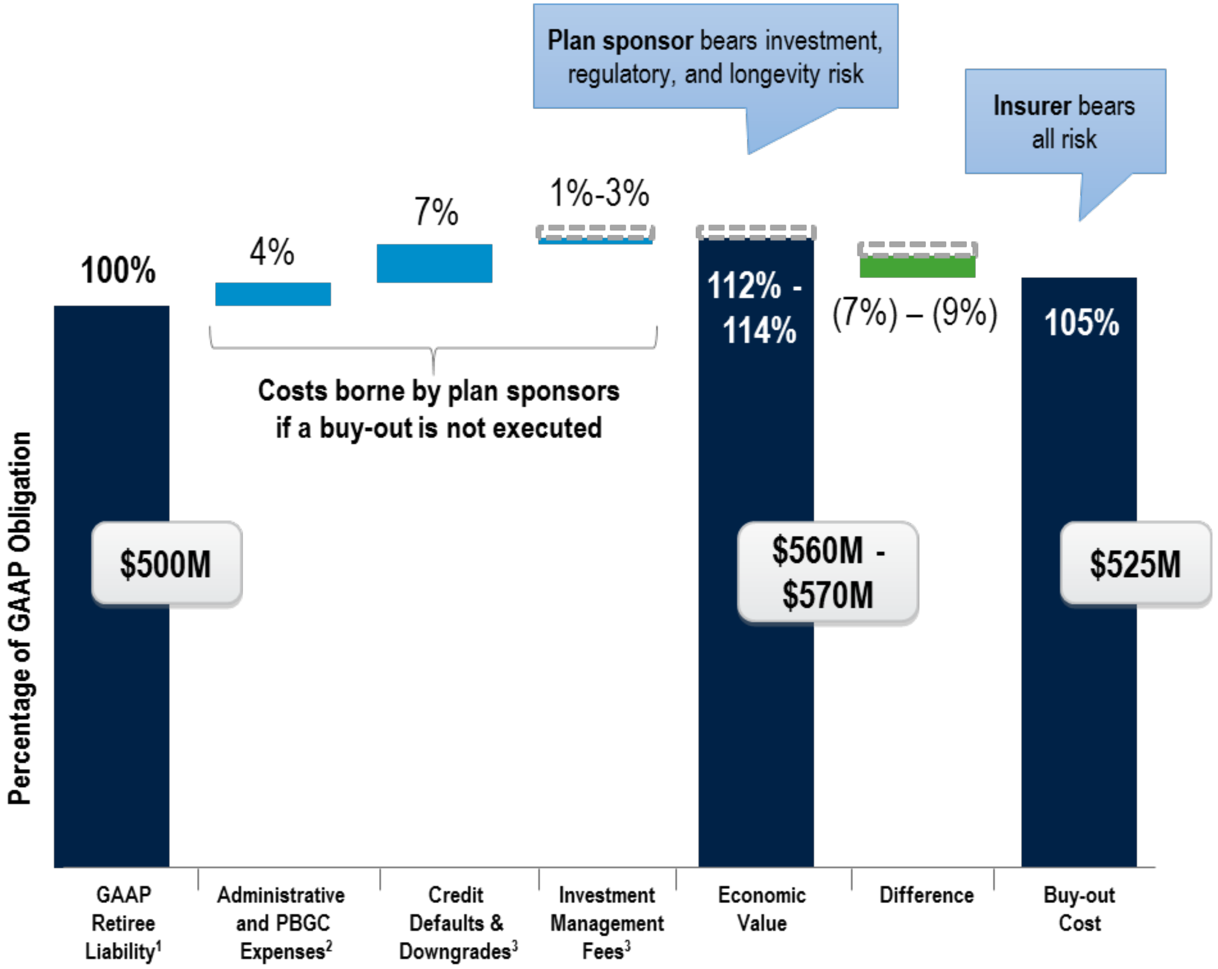


Source: Prudential calculations September 2019

[1] The 1-in-100 (1-in-10) level event represents approximately a 1.25% (0.75%) decrease in interest rates, a 45% (17%) decrease in equities, defaults on 3%-12% (0%-6%) of corporate bonds based on credit quality and tenor, and corporate spreads widening by 1%-12% (0%-3%) based on credit quality and tenor. Assumes full plan has $1B in liability at 13 duration and $900M in assets, and $500M in liability at 15 duration and $450M in assets post partial buyout. Traditional asset mix assumed to be 50% equity / 50% fixed income; hibernated asset mix assumed to be 10% equity / 90% fixed income. Hibernated fixed income assumed to invest 30% in AA, 60% in A and 10% in BBB.

PENSION RISK TRANSFER ECONOMICS

Evaluating a Retiree Pension Buy-out



- GAAP liability measures the present value of expected benefit payments but does not include other plan related costs captured by the economic value.
- Exhibit assumes employer GAAP mortality matches insurer view.
- Insurer pricing is more efficient than the economic value due to economies of scale and differences in insurer's asset portfolio.

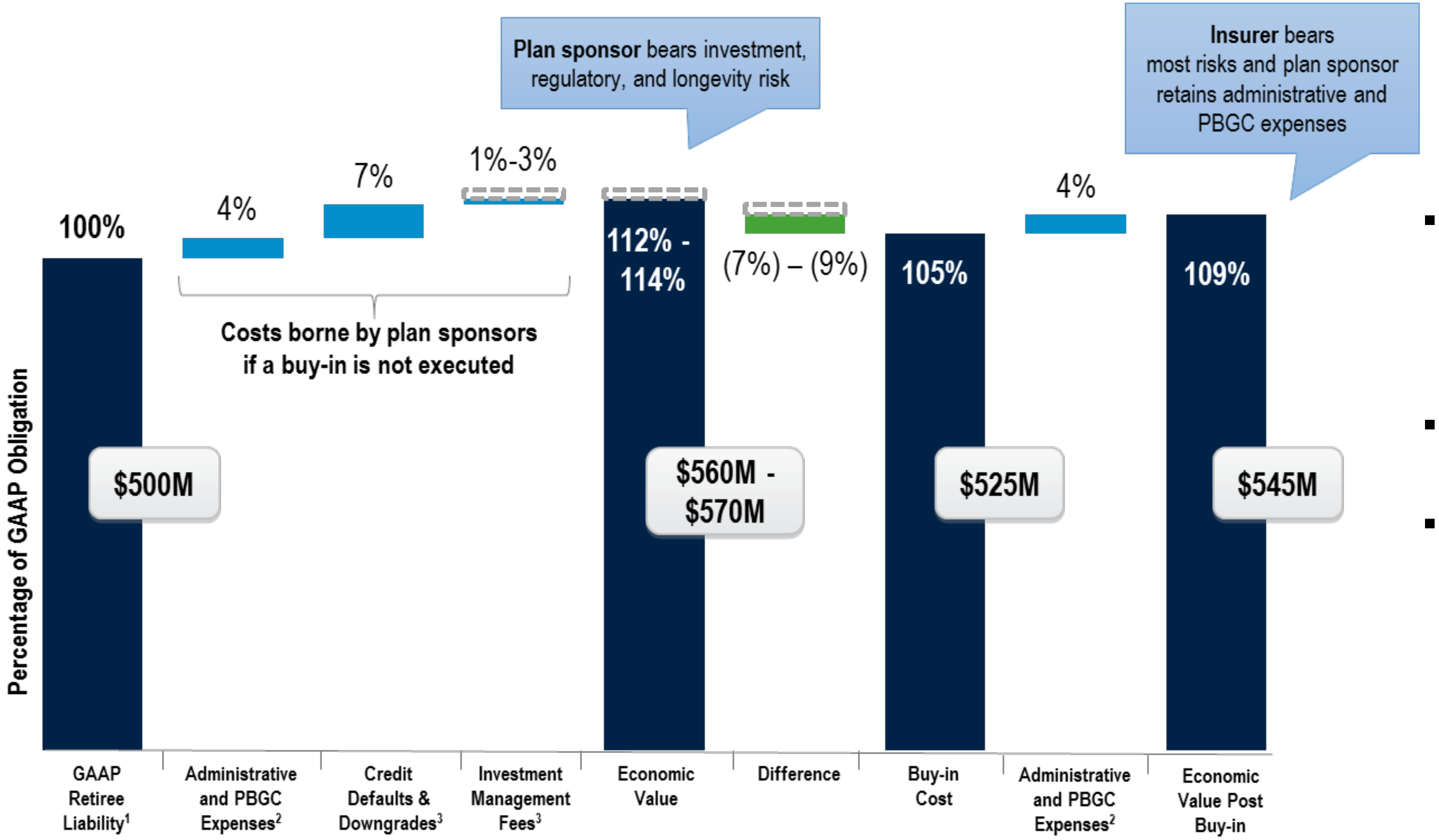
[1] GAAP liability reflects RP-2014 mortality table with MP-2018 and FTSE Pension Discount Curve.

[2] Costs not included in the GAAP retiree obligation include per person administrative expenses of $40 per year indexed for inflation and PBGC per person expenses of $80 in 2019, and indexed thereafter, plus PBGC variable rate premiums of 4.30% with a cap of $541 per person in 2019 and indexed with inflation thereafter. Funded Status for variable rate premium assumed to be 85%.

[3] GAAP obligations are discounted using rates unadjusted for the risk of credit defaults and migrations and investment management fees. These are estimated at 70 and 10-30 basis points per annum, respectively.

Percentages represent present value of estimated future costs. Pricing is subject to change per market conditions and specific client demographic information.

Evaluating a Retiree Pension Buy-in



- GAAP liability measures the present value of expected benefit payments but does not include other plan related costs captured by the economic value.
- Exhibit assumes employer GAAP mortality matches insurer view.
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PRT STRATEGIES

Buy-in and Buy-out Comparison

Buy-in

Plan investment matches liability.

Buy-out

Complete settlement of plan liability.

Buy-in

- Insurer makes guaranteed payments to plan
- Insurer covers investment and longevity risk
- Does not trigger settlement accounting or reduce funded status
- Convertible to buy-out at any time
- Retain administrative and PBGC costs

Buy-out

- Insurer makes guaranteed payments to participants
- Insurer covers investment and longevity risk
- May trigger settlement accounting and reduce funded status
- Irrevocable
- Eliminate all costs

GLENN O’BRIEN

Managing Director, U.S. Market Leader, Prudential

Glenn O’Brien is a managing director of U.S. distribution for Prudential’s Pension Risk Transfer business. He has helped numerous large U.S. plan sponsors evaluate, price and structure the most significant pension settlement agreements in the U.S. marketplace, and is skilled at assisting plan sponsors with all facets of settlement transactions. Glenn’s management in the sales efforts for the first pension buy-in transaction in the United States, and the successful execution of the two largest pension annuity transactions in the U.S. marketplace propelled Prudential into a leader in pension risk transfer solutions. Glenn also spearheaded the development of Prudential’s participation in the international longevity reinsurance market, wherein Prudential has achieved over $40 billion in transactions since 2011.

Prior to joining Prudential in 2001, Glenn was a principal at PricewaterhouseCoopers, consulting with numerous Fortune 100 clients on various aspects of their retirement plan programs.

Glenn earned a bachelor’s degree in finance from Siena College and completed the Advanced Management Program at the University of Chicago’s Booth School of Business.

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