



# EVERYBODY OUT OF THE POOL!

## Optimizing Outcomes if There is a Shift From a Collective to an Individual Pension Risk System

**Amy Kessler**

Senior Vice President and Head of Longevity Risk Transfer  
Prudential Financial, Inc. (PFI)

Presented at the Fourteenth Annual International Longevity Risk and Capital Markets Solutions Conference  
Park Inn by Radisson Amsterdam City West  
Amsterdam, The Netherlands  
**September 20, 2018**



**PFI**

Bring Your Challenges®

# The Pace of Aging Across the World is Breathtaking



In 2017, approximately

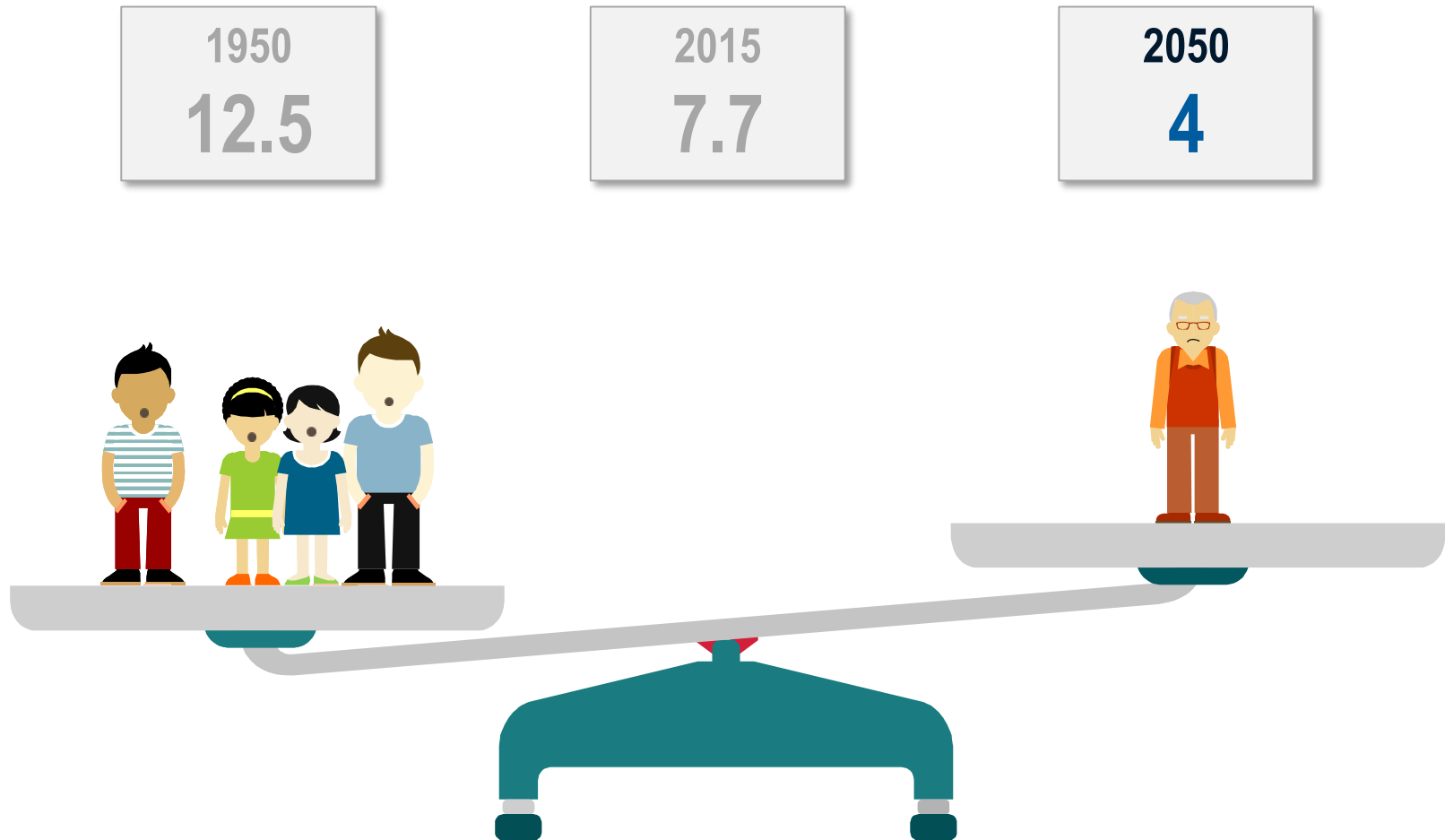
**1/5** of Europe's  
population was  
over age 65

In 2050, nearly

**1/3** of Europe's  
population will  
be over age 65

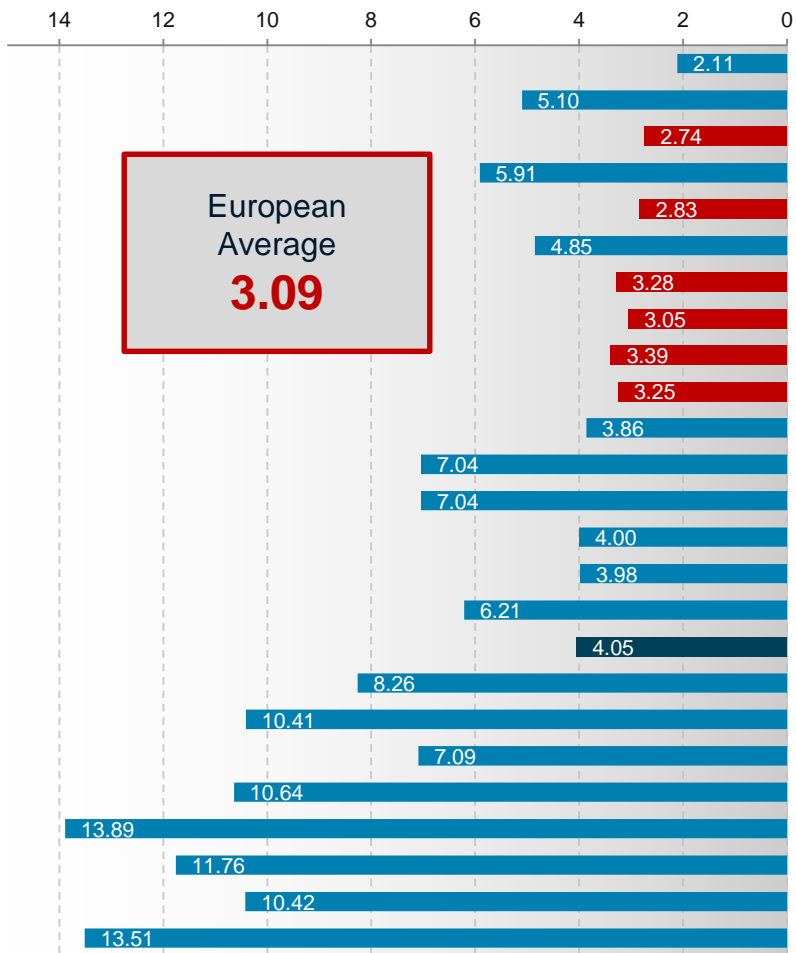


# We Have Never Faced a World Where So Few Would Support So Many

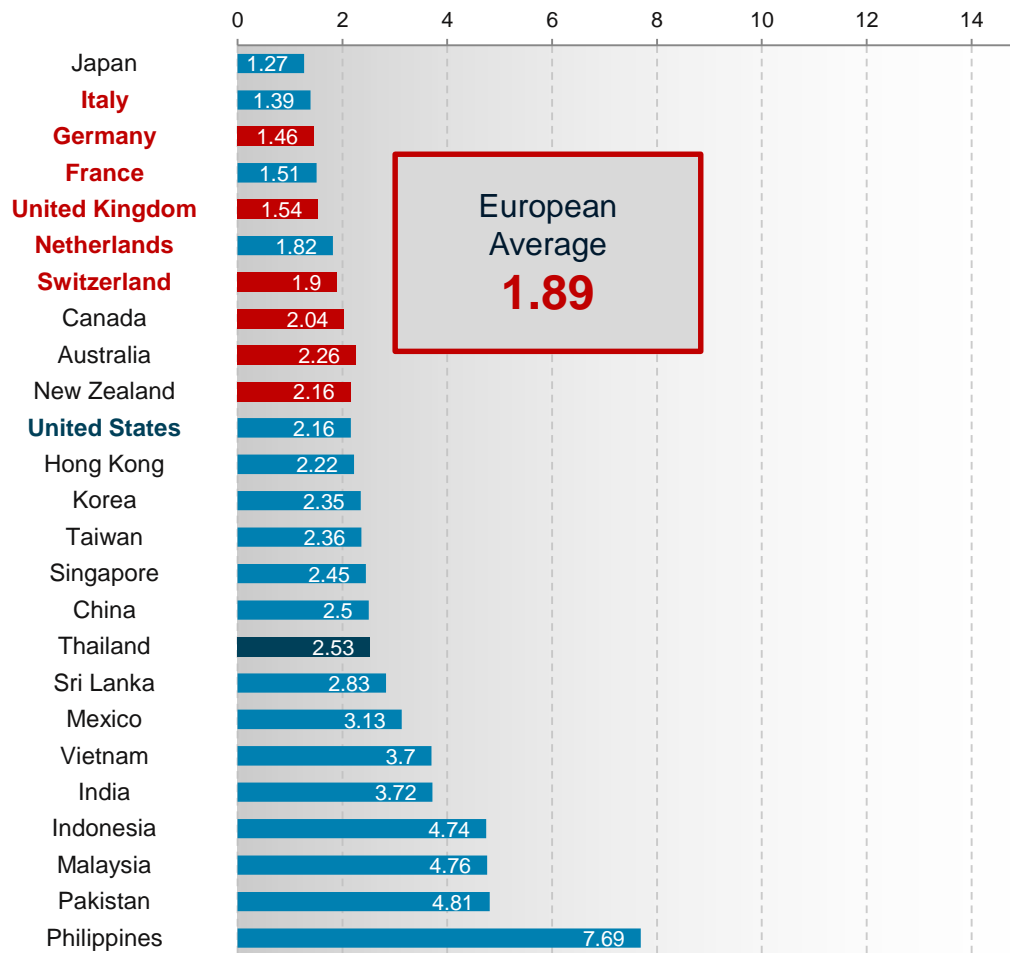


# Old-age Support Ratios Are Expected to Plummet By 2050

## Old-age support ratio (2015)



## Old-age support ratio (2050)



**PFI**

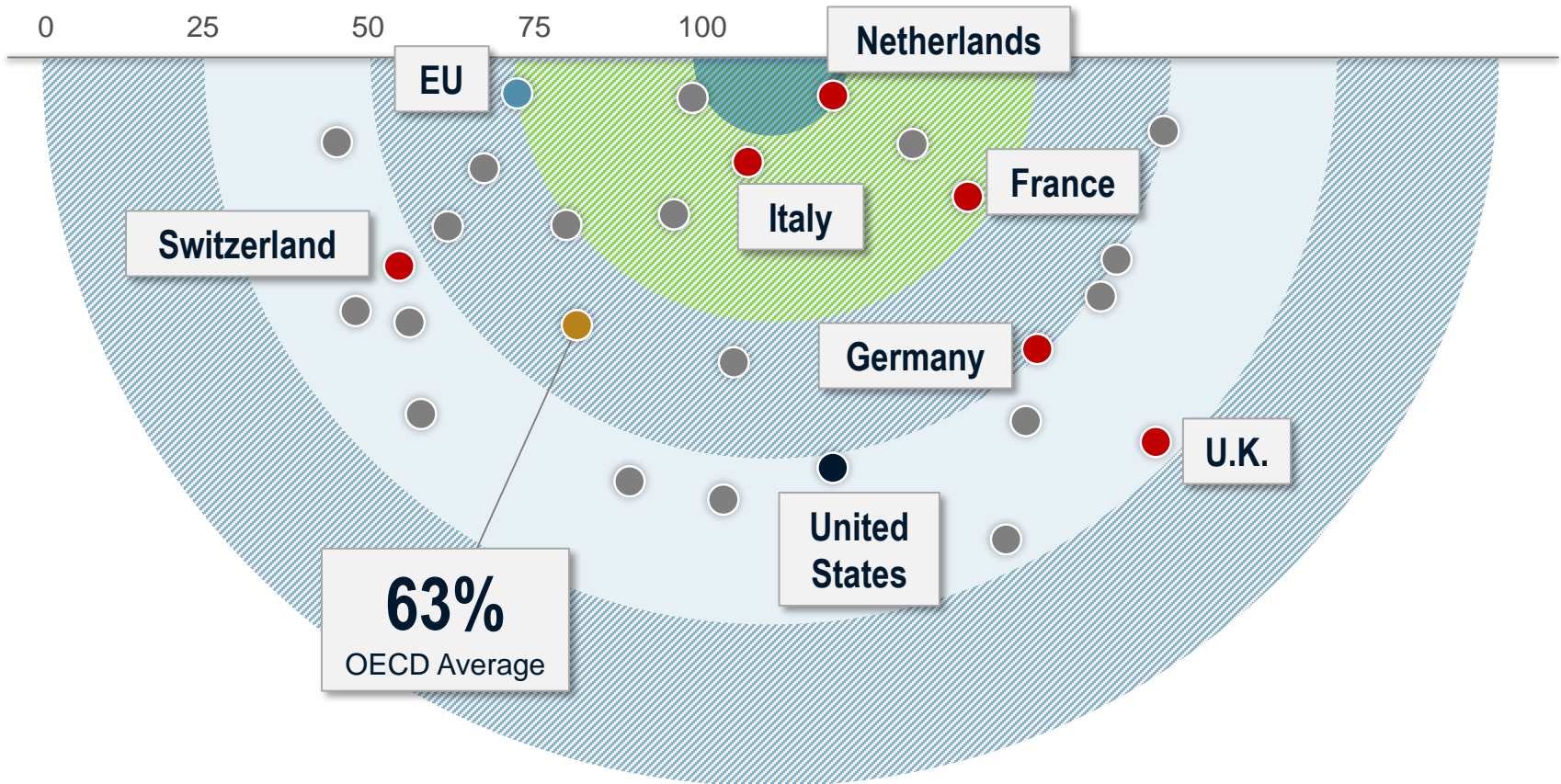
Bring Your Challenges

Old-age support ratio as defined as the number of people of working age per person of pension age (65+).

Sources: OECD, Pensions at a Glance 2015: OECD and G20 indicators, OECD Publishing, Paris. Includes World Bank, United Nations Data. Taiwan 2015 figure from the Taiwan Statistical Data Book, 2016; 2050 projection from Council for Economic Planning and Development, "2008-2056 Population Projection in Taiwan ROC," Sep. 2008.

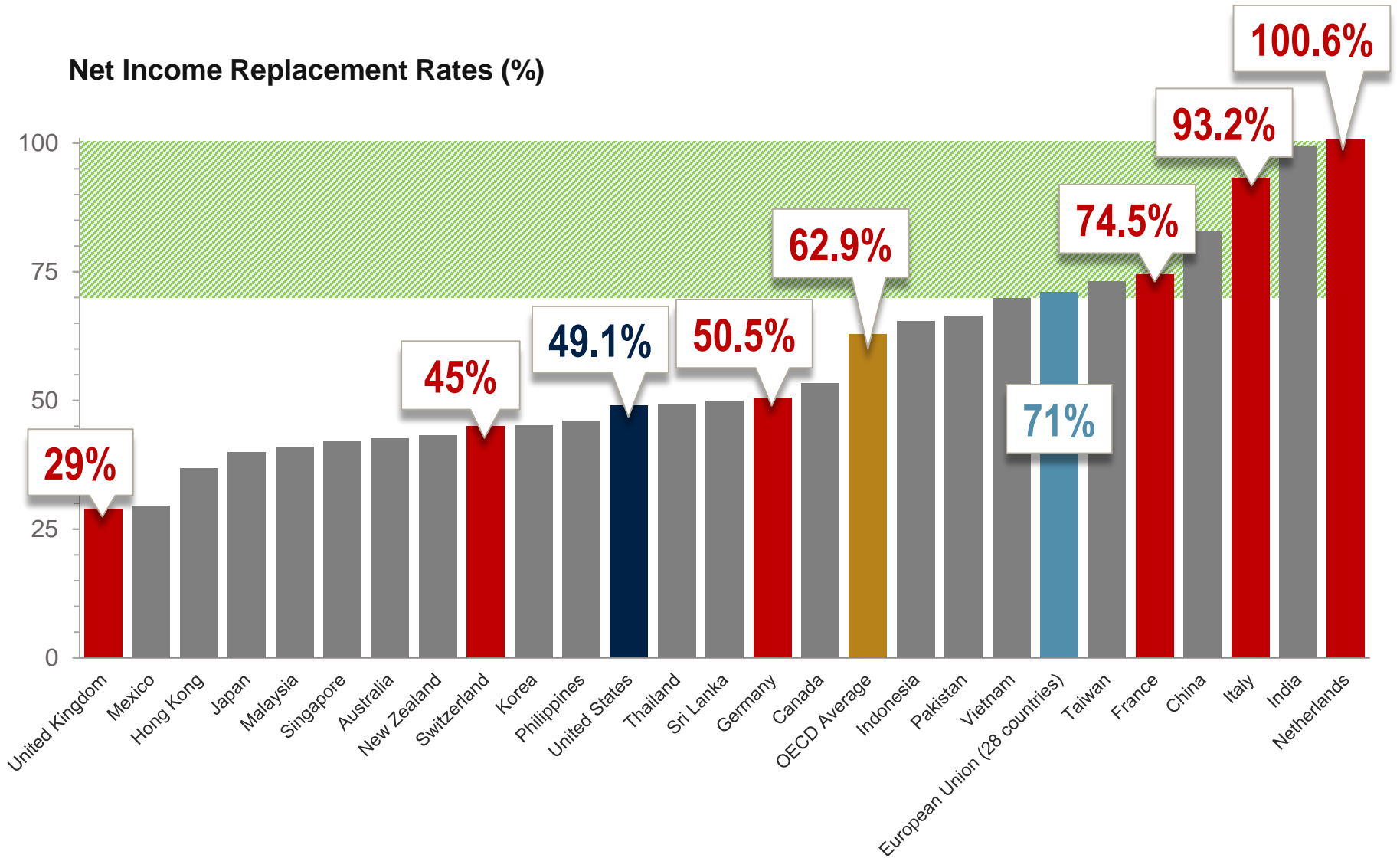
# For Many, Financial Readiness is Off-target

## Net Income Replacement Rates (%)

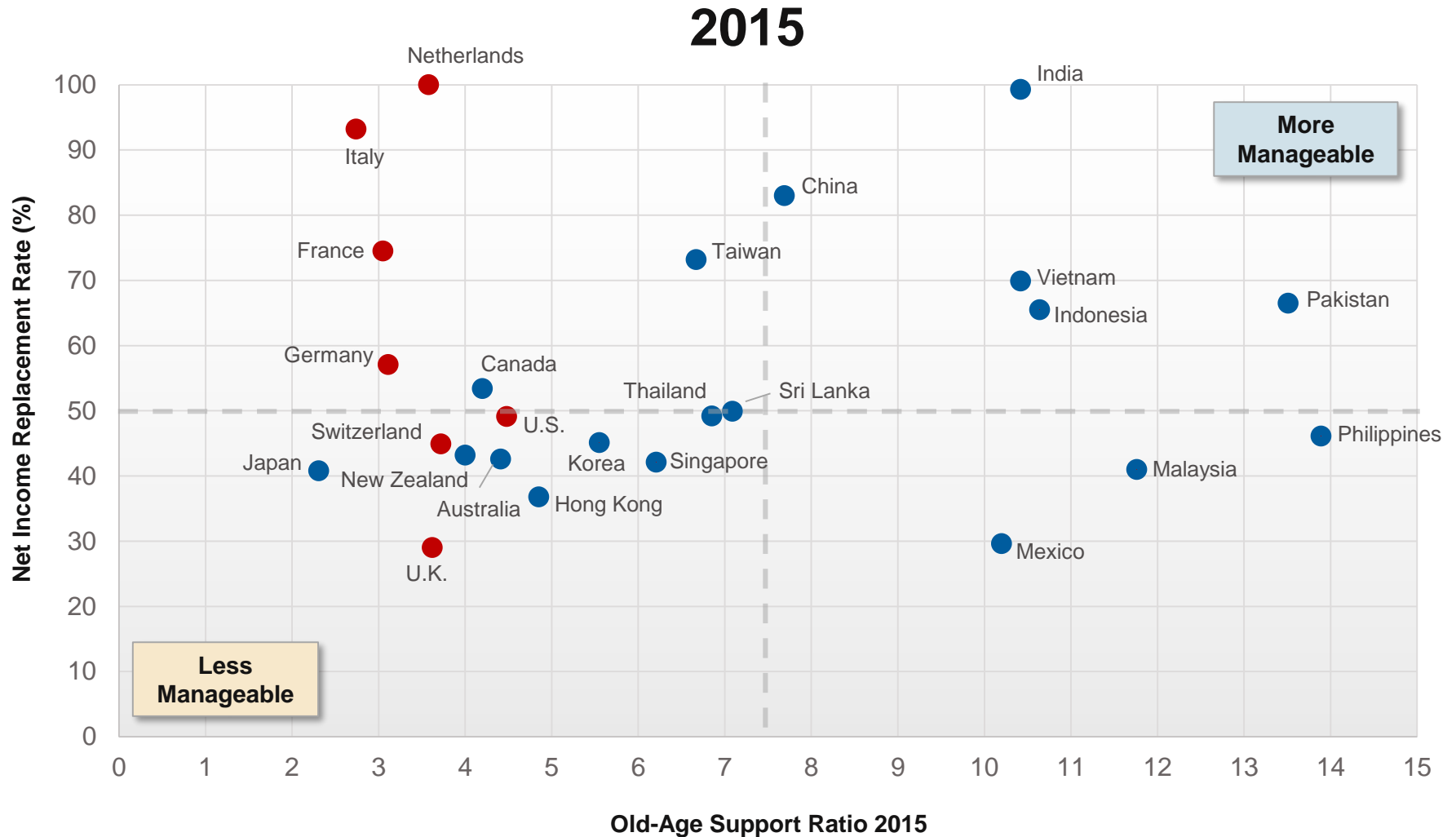


# For Many, Financial Readiness is Off-target

Net Income Replacement Rates (%)



# All Things Equal, the Picture Appears More Manageable Today...

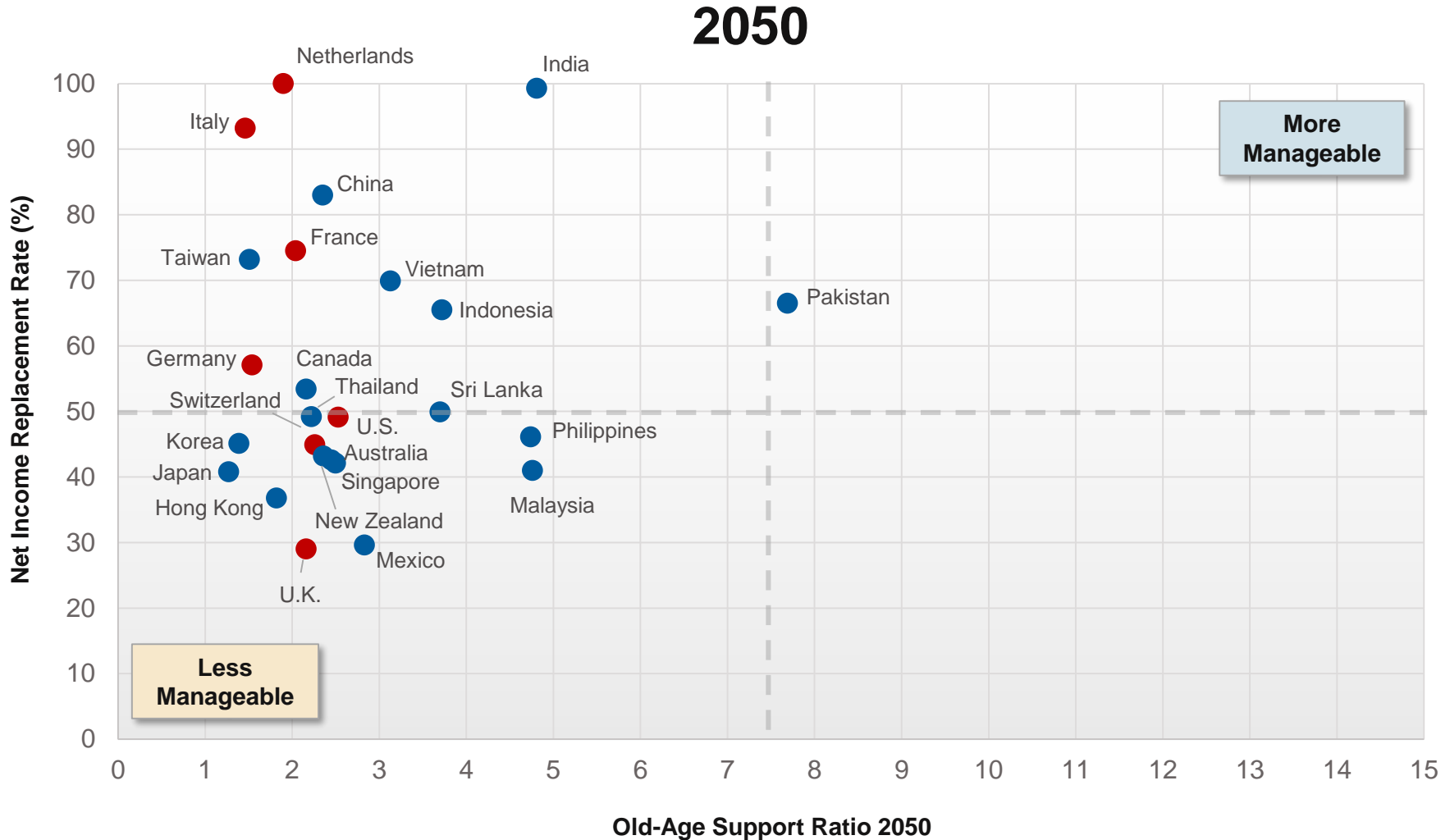


**PFI**

Bring Your Challenges

Sources: *Net Pension Replacement Rates*, 2016 OECD data. Data consists of % of pre-retirement earnings for men. Mexico: OECD 2014; *Pensions at a Glance Asia/Pacific* 2013; Taiwan from World Bank Pension Indicators and Database Briefing 2012. Old-age support ratio: OECD, *Pensions at a Glance* 2015, including World Bank data. Taiwan Statistical Data Book, 2016.

# ...Than it Will in 2050, Unless We Act Decisively



**PFI**

Bring Your Challenges

Sources: *Net Pension Replacement Rates*, 2016 OECD data. Data consists of % of pre-retirement earnings for men. Mexico: OECD 2014; *Pensions at a Glance Asia/Pacific* 2013; Taiwan from World Bank Pension Indicators and Database Briefing 2012. Old-age support ratio: OECD, *Pensions at a Glance* 2015, including World Bank data. Taiwan Statistical Data Book, 2016.

Public use allowed

# Collective DC Risk Management Solutions

Collective Defined Contribution Schemes allow members to accumulate savings in a professionally managed fund and pool their longevity risk after retirement



Benefits can be cut for members if:

- People live longer than expected; or
- Assets earn less than expected

**CDC schemes have achieved great outcomes because they can take more asset risk due to intergenerational risk sharing and the ability to cut benefits.**



# The Collective System in the Netherlands Has Achieved the Highest Net Income Replacement Rate in the World

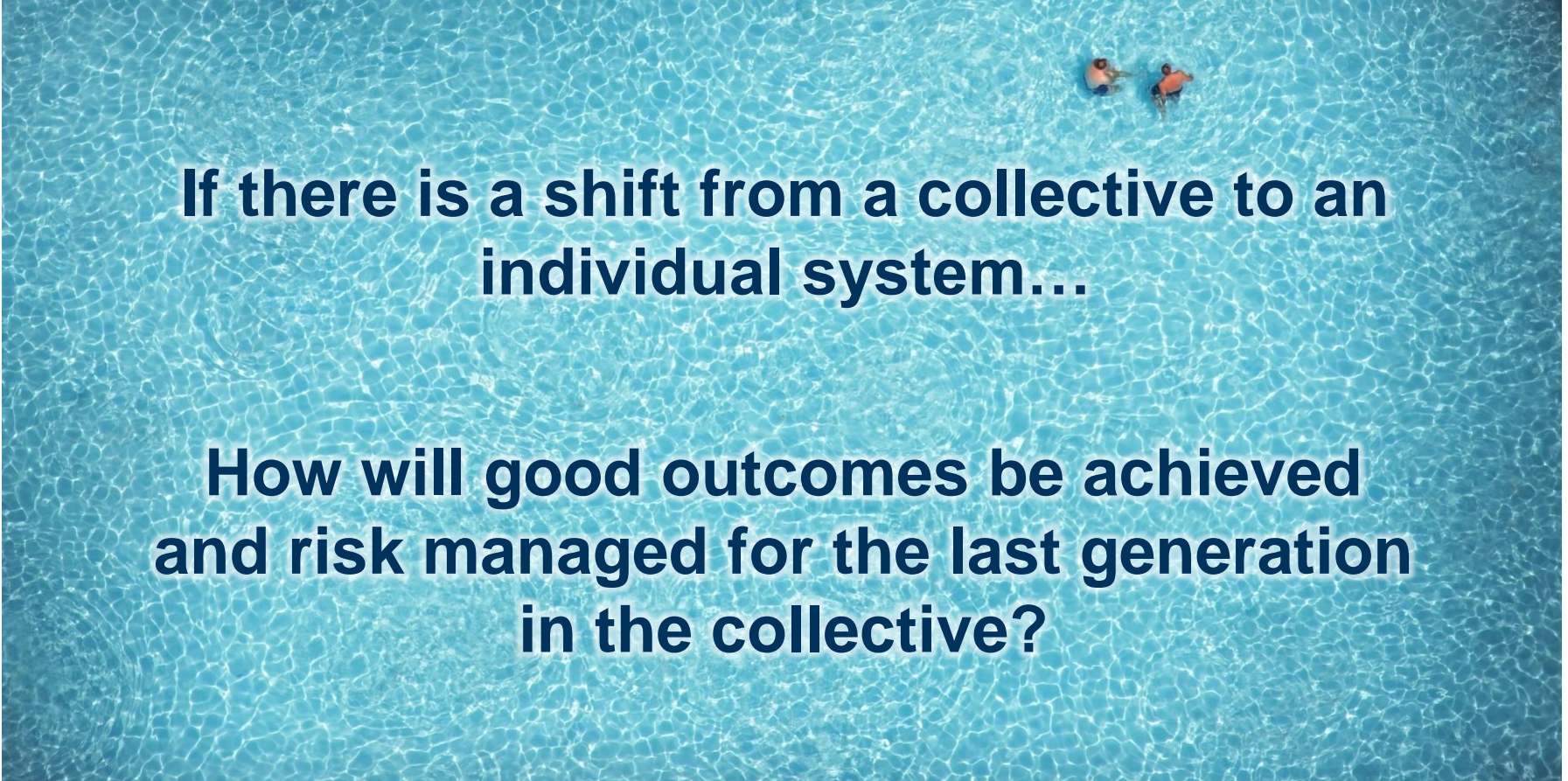
Disciplined saving and investing by individuals and their employers throughout the working lifetime

World-class asset management

Pooling of risk across generations allows more asset risk to be taken, higher returns, and a source of funding if people live longer than expected.



# The Collective System in the Netherlands Has Achieved the Highest Net Income Replacement Rate in the World

An aerial photograph of a swimming pool with clear blue water. Two people are swimming in the upper right quadrant of the pool. The water's surface is covered in ripples and reflections of light.

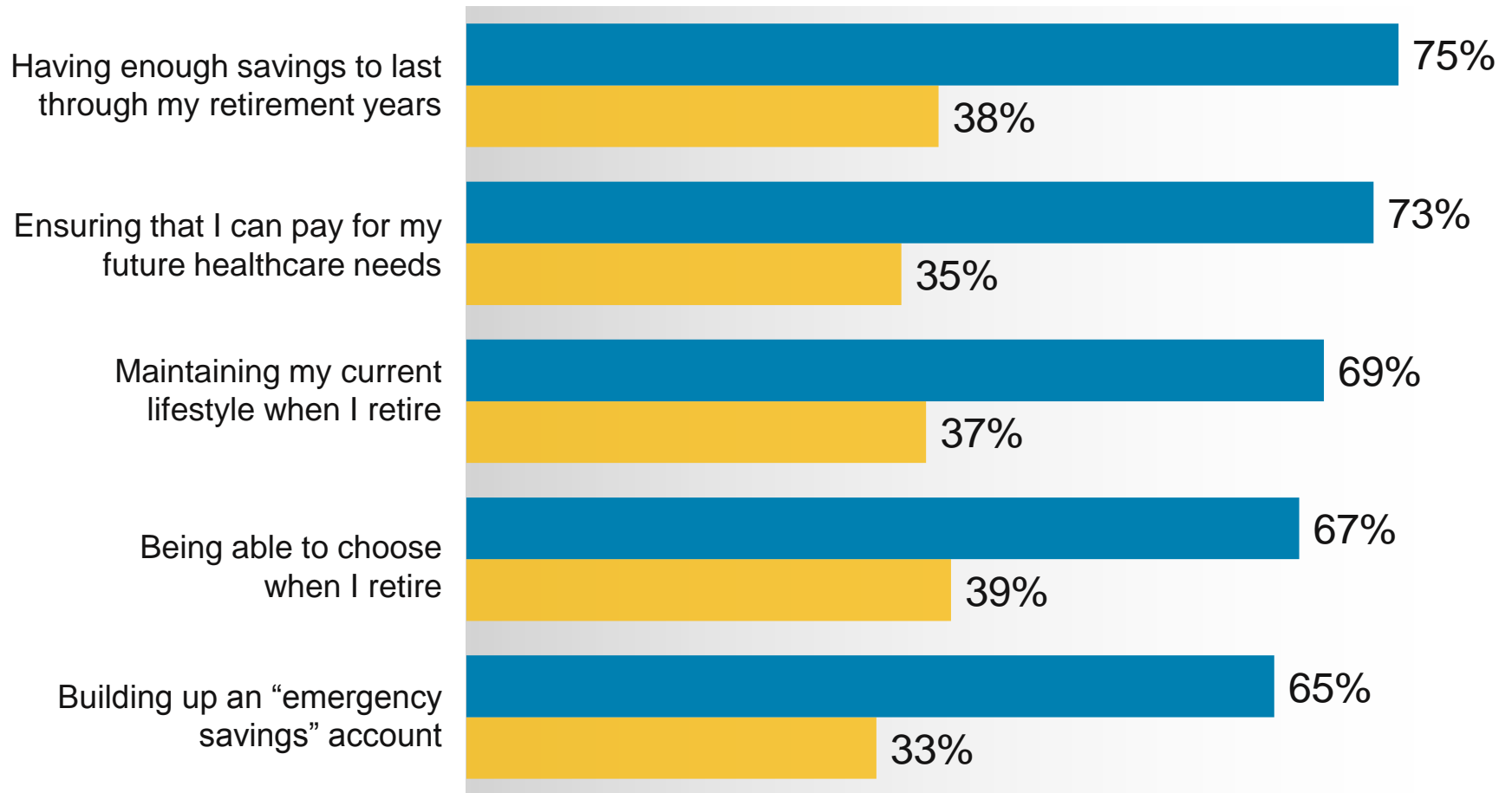
**If there is a shift from a collective to an individual system...**

**How will good outcomes be achieved and risk managed for the last generation in the collective?**



# Many Americans Lack Confidence in Achieving Their Retirement and Financial Goals

## Importance of Financial Goals and Confidence in Achieving Them



**PFI**

Bring Your Challenges<sup>®</sup>

Source: PFI Decision Insights Group in collaboration with Chadwick Martin Bailey, "Americans and Money 2018," Total Market Scan, February 2018.

Importance

Confidence

# The Statistics on Financial Wellness and Retirement Readiness in the U.S. Are Sobering

**22%** of individuals described themselves as feeling **financially secure**.<sup>1</sup>

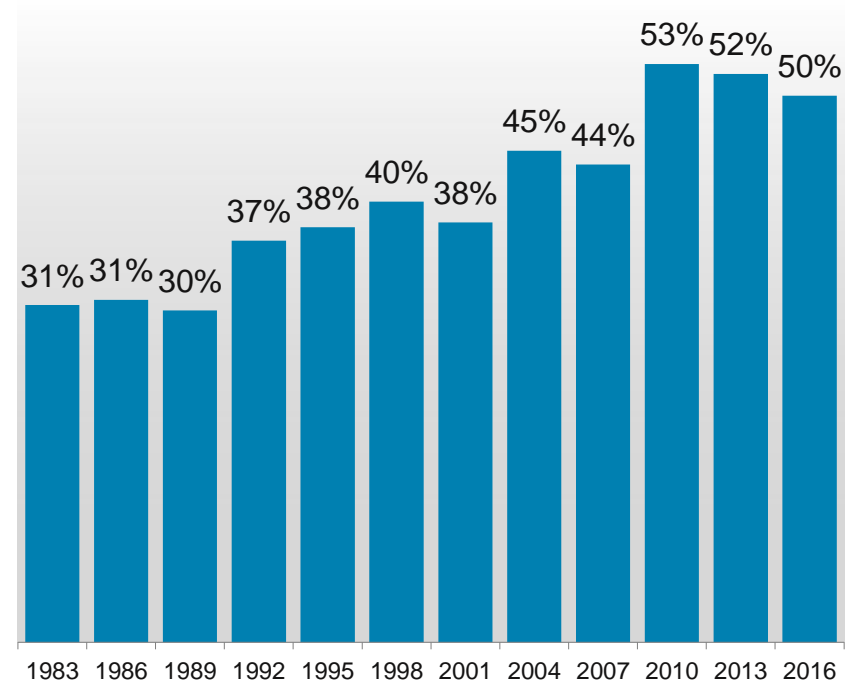
**28%** of non-retired adults currently have **no retirement savings or pension whatsoever**.<sup>2</sup>

**44%** **plan to retire later** than they originally thought they would.<sup>3</sup>

**45%** of employees say that **financial matters cause them the most stress in their lives**.<sup>4</sup>

**63%** of Americans can't afford a **\$500 emergency**—the cost of minor car repairs—and 31% of employees would consider retirement plan loans or withdrawals to cover those expenses.<sup>5</sup>

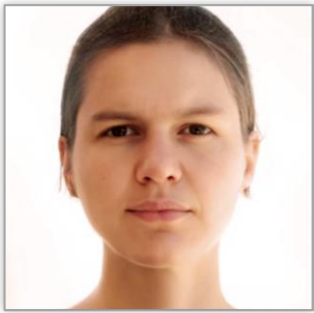
## The National Retirement Risk Index (NRRI) 1983–2016



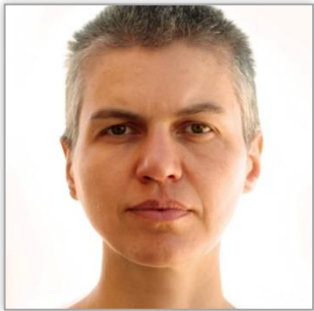
Source: The Center for Retirement Research at Boston College, January 2018, Number 18-1. *The NRRI shows the share of working-age households who are "at risk" of being unable to maintain their pre-retirement standard of living in retirement.*

1. PFI, Financial Wellness Consumer Research, 2016.
2. Federal Reserve Board, <https://www.federalreserve.gov/publications/2017-economic-well-being-of-us-households-in-2016-retirement.htm>
3. PricewaterhouseCoopers, "Employee Financial Wellness Survey 2016 Results," 2016.
4. PricewaterhouseCoopers, "Employee Financial Wellness Survey 2016 Results," 2016.
5. McGrath, Maggie, "63% of Americans Don't Have Enough Savings to Cover a \$500 Emergency," 2016.

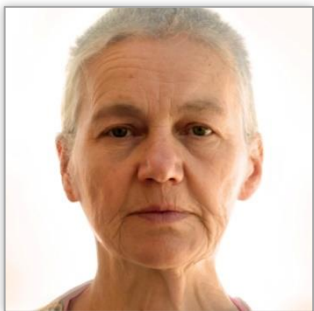
# In an Individual Risk System, People Need Support For Saving and Investing Throughout Their Working Lifetime to Achieve a Secure Retirement



**New Hire**



**Mid Career**



**Near Retiree**

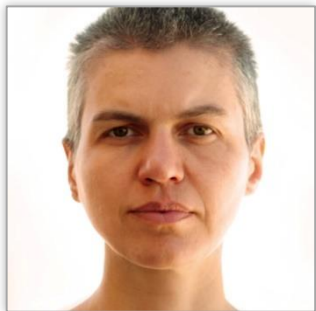
Insurers can help individuals achieve retirement readiness through all stages of their careers



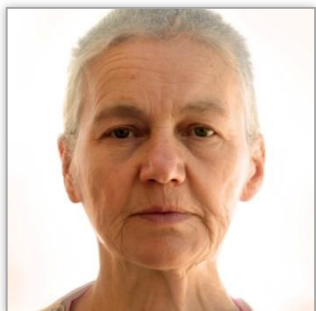
# During a Person's Working Lifetime, Life Insurers Can Provide Support For Saving and Investing Toward a Secure Retirement



New Hire



Mid Career



Near Retiree

## BEHAVIORS



Procrastination



Longevity Disconnect



Optimism Bias



Impulse



Paralysis



Overreaction

## STRATEGIES

Auto-enrollment

Auto-escalation

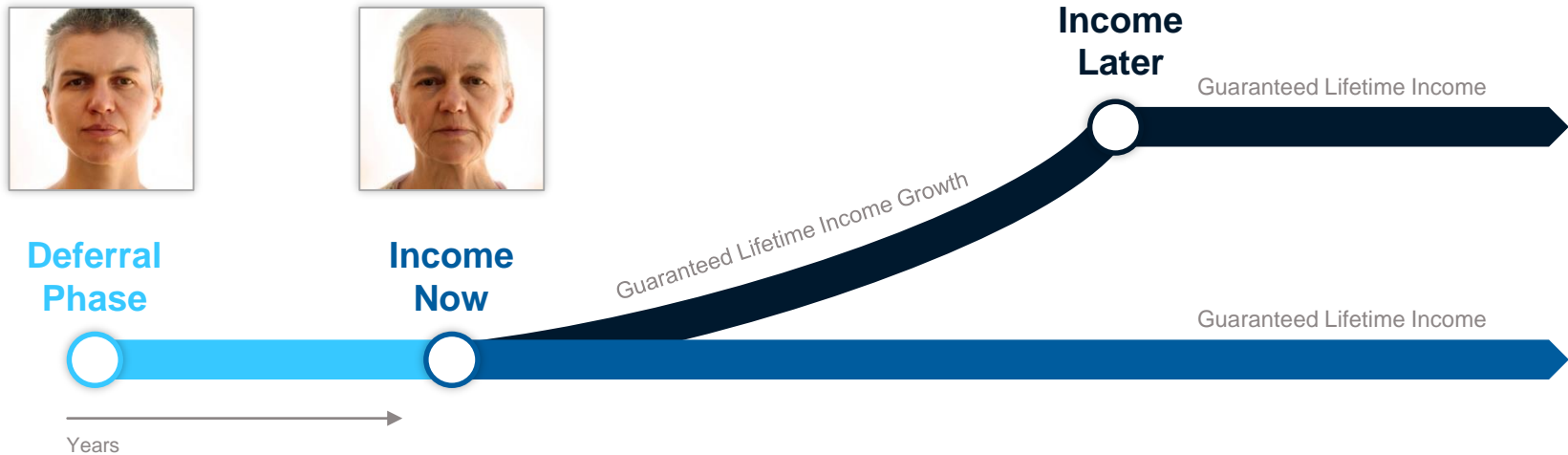
Target Date Funds



**PFI**

Bring Your Challenges<sup>®</sup>

# For Individuals at or Near Retirement, a Lifetime Income Product Offers an Investment and Income Solution



## Income Now

- A predictable annual income stream for life, without stock market exposure
- A built-in death benefit for your loved ones

## Income Later

- The option to defer some or all withdrawals and further grow your income
- The flexibility to access some or all of your funds (subject to contract terms)
- Guaranteed income at a reasonable cost

# A Lifetime Income Product Can Benefit From Best Practices in Hedging, Investing and Product Design

	Deferral Phase	Partial Annuitization	Full Annuitization
<b>Fundamentals</b>	<ul style="list-style-type: none"> <li>• Growth through “Risk Assets”</li> <li>• Liquidity</li> <li>• Account Value Protection</li> <li>• Minimum issue age of 50</li> </ul>	<ul style="list-style-type: none"> <li>• Income from the portion of the assets on insurer’s balance sheet</li> <li>• Growth and liquidity from policyholder assets</li> </ul>	<ul style="list-style-type: none"> <li>• Income security for life from insurer assets</li> <li>• All assets on insurer balance sheet</li> <li>• Typical insurer asset portfolio</li> </ul>
<b>Investment Approach</b>			
<b>Risk Profile</b>	<ol style="list-style-type: none"> <li>1. Capital markets</li> <li>2. Policyholder behavior</li> <li>3. Longevity</li> </ol>	<ol style="list-style-type: none"> <li>1. Capital markets</li> <li>2. Longevity</li> <li>3. Policyholder behavior</li> </ol>	<ol style="list-style-type: none"> <li>1. Longevity</li> <li>2. Capital markets</li> </ol>
	<p><b>HIGH</b> <b>Capital Market and Behavior Risk</b> <b>LOW</b></p>		

# Allocation to Risky Assets Decline Over Time and in the Annuitization Phase, the Insurer Portfolio is Safe in Bonds and Loans

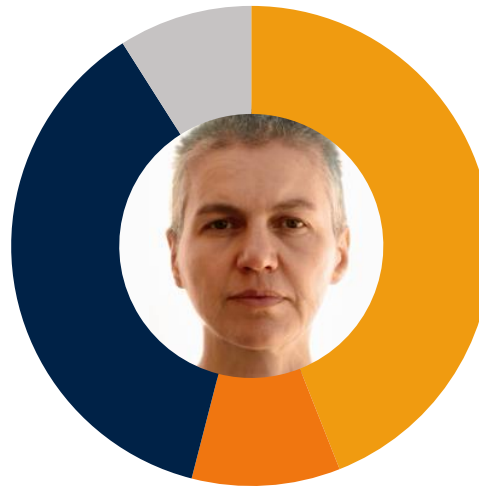
**Accumulation Phase\***  
**Target Date Portfolio**  
 (40 Years Old)



- 55% Domestic Equity
- 20% International Equity
- 16% Fixed Income
- 9% Non-Traditional

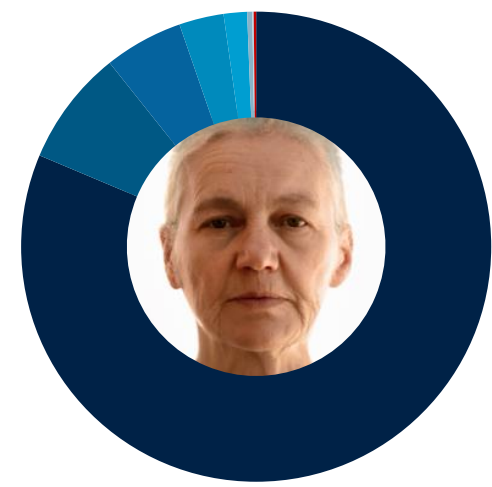
\* Before an individual enters into a lifetime income product

**Deferral Phase**  
**Target Date Portfolio**  
 (55 Years Old)



- 44% Domestic Equity
- 10% International Equity
- 37% Fixed Income
- 9% Non-Traditional

**Annuitization Phase**  
**Insurer Portfolio**  
 (Post Retirement)



- 81.63% Investment Grade Corporates
- 7.97% Commercial Mortgage-Backed Securities
- 5.44% High Yield Corporates
- 3.08% U.S. Municipal
- 1.61% Emerging Markets
- 0.35% Bank Loans
- 0.1% Non-U.S. Government
- 0.17% Cash & Equivalents



**PFI**

Bring Your Challenges<sup>®</sup>

Source: PFI. For illustration only.

# Allocation to Risky Assets Decline Over Time and in the Annuitization Phase, the Insurer Portfolio is Safe in Bonds and Loans

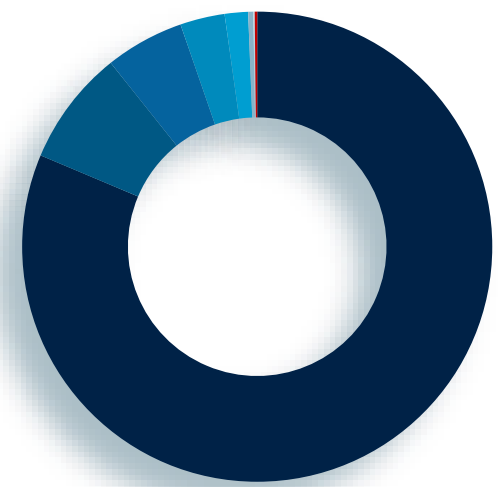
**Accumulation Phase\***  
**Target Date Portfolio**  
(40 Years Old)



**Deferral Phase**  
**Target Date Portfolio**  
(55 Years Old)



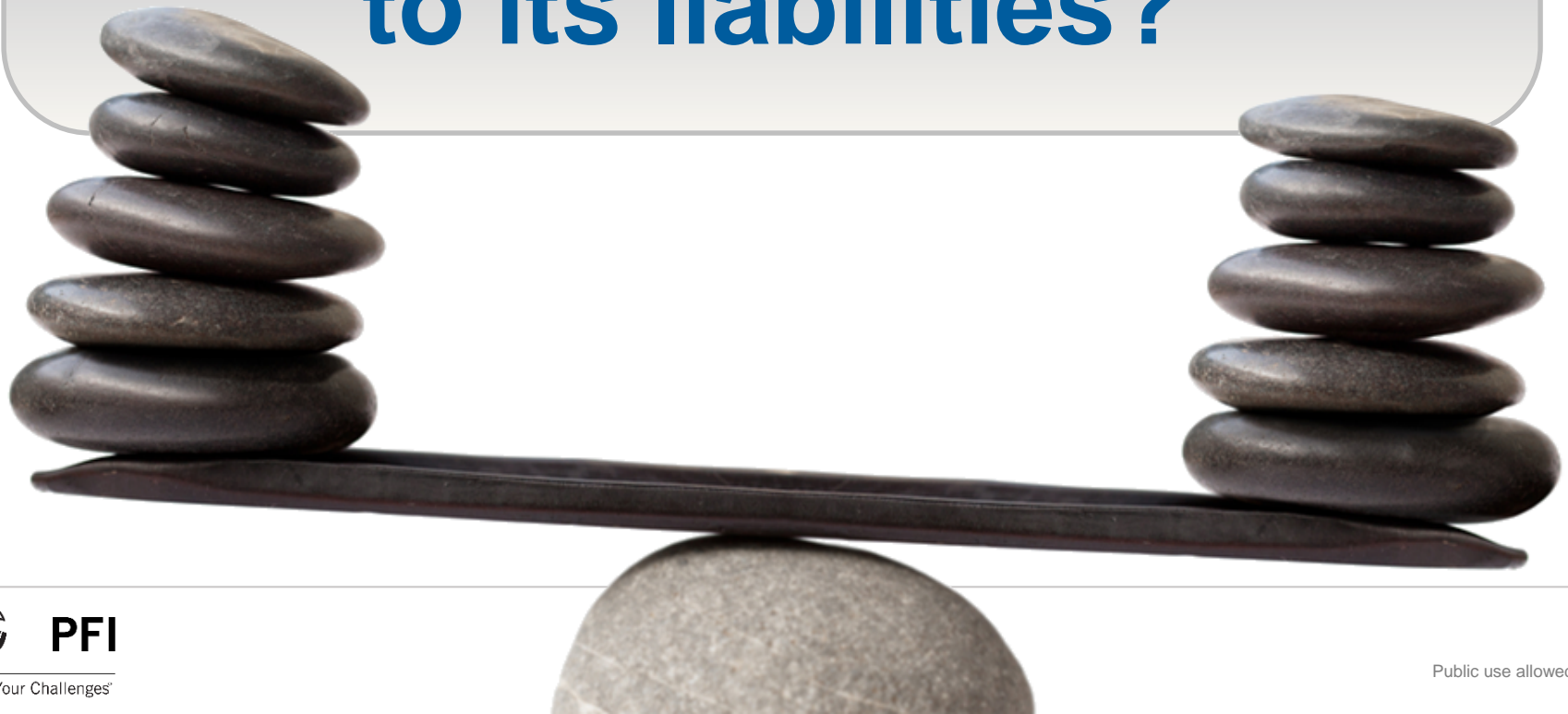
**Annuitization Phase**  
**Insurer Portfolio**  
(Post Retirement)



**The insurer portfolio adds value for our customers through corporate bonds, mortgages, loans and other spread-oriented fixed income assets**



# How does the insurer carefully match assets to its liabilities?



# In the U.K., Insurers Carefully Combine Liquid and Illiquid Fixed Income Selected for Duration, Yield or Inflation Protection

	Liquidity	Duration	Yield	Inflation Protected
U.K. Government Bonds	High	Low	Low	Low
U.K. Inflation Linked Government Bonds	High	Low	Low	High
National Rail Bonds	High	Low	Low	Low
Covered Bonds	High	Low	High	Low
Corporate Bonds	High	Low	High	Low
CLOs	High	Low	High	Low
University Housing and Social Housing	Low	High	High	Low
Commercial Mortgages	Low	High	High	Low
Private Placement Loans	Low	High	High	Low
Infrastructure	Low	High	High	Low
Energy/Utilities (Wind, Solar, Biomass)	Low	High	High	Low
Inflation Linked Ground Leases	Low	High	High	High

**The overall yield of the portfolio achieves substantial spread over risk free**

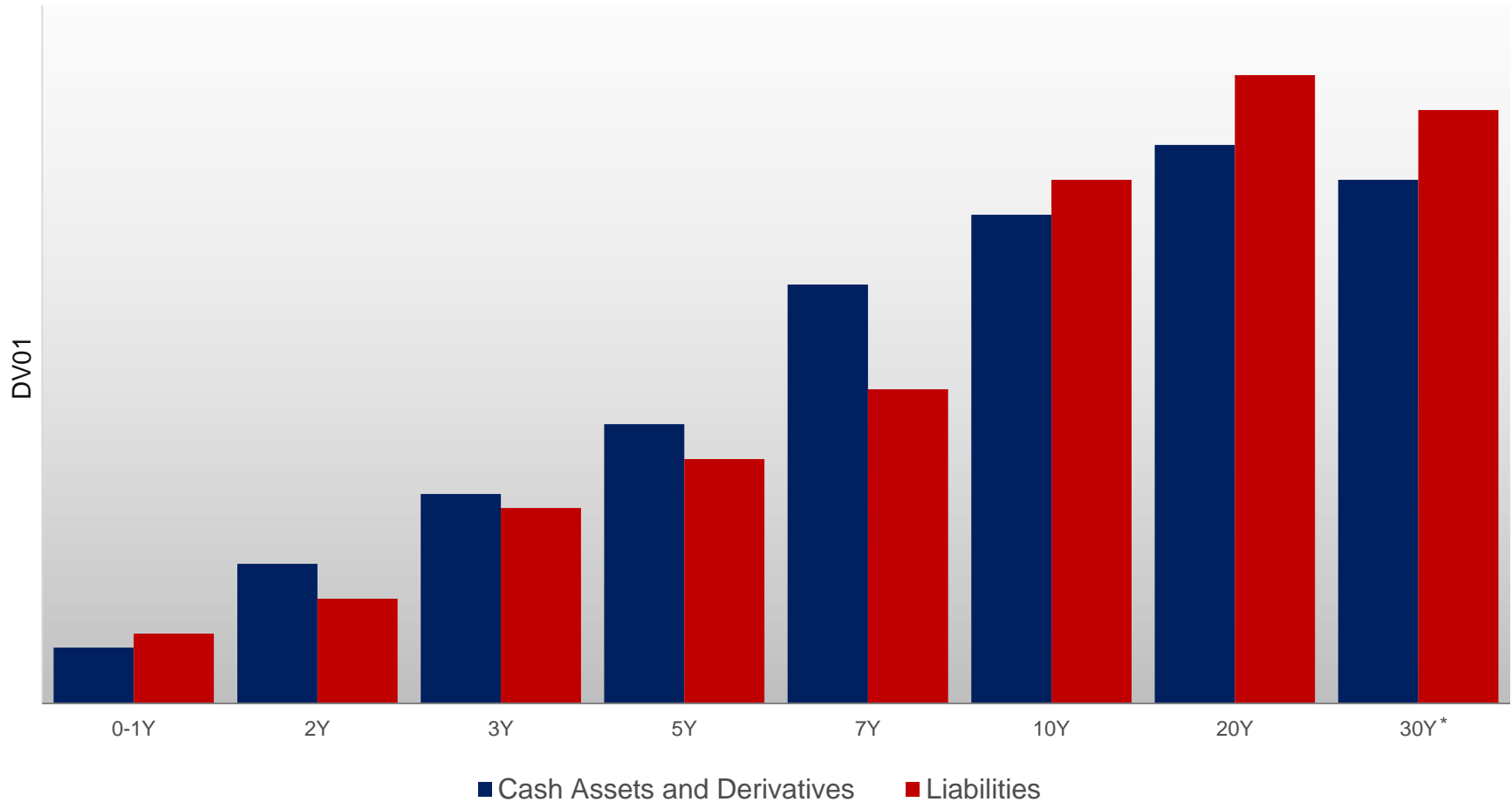
**This investment activity is fundamental to economic growth**

**Cash flow is matched to the liability as closely as possible and swaps may be used to improve the match**



**PFI**

# With These Insurer Portfolios, it is Possible to Control Key Rate Duration Risks

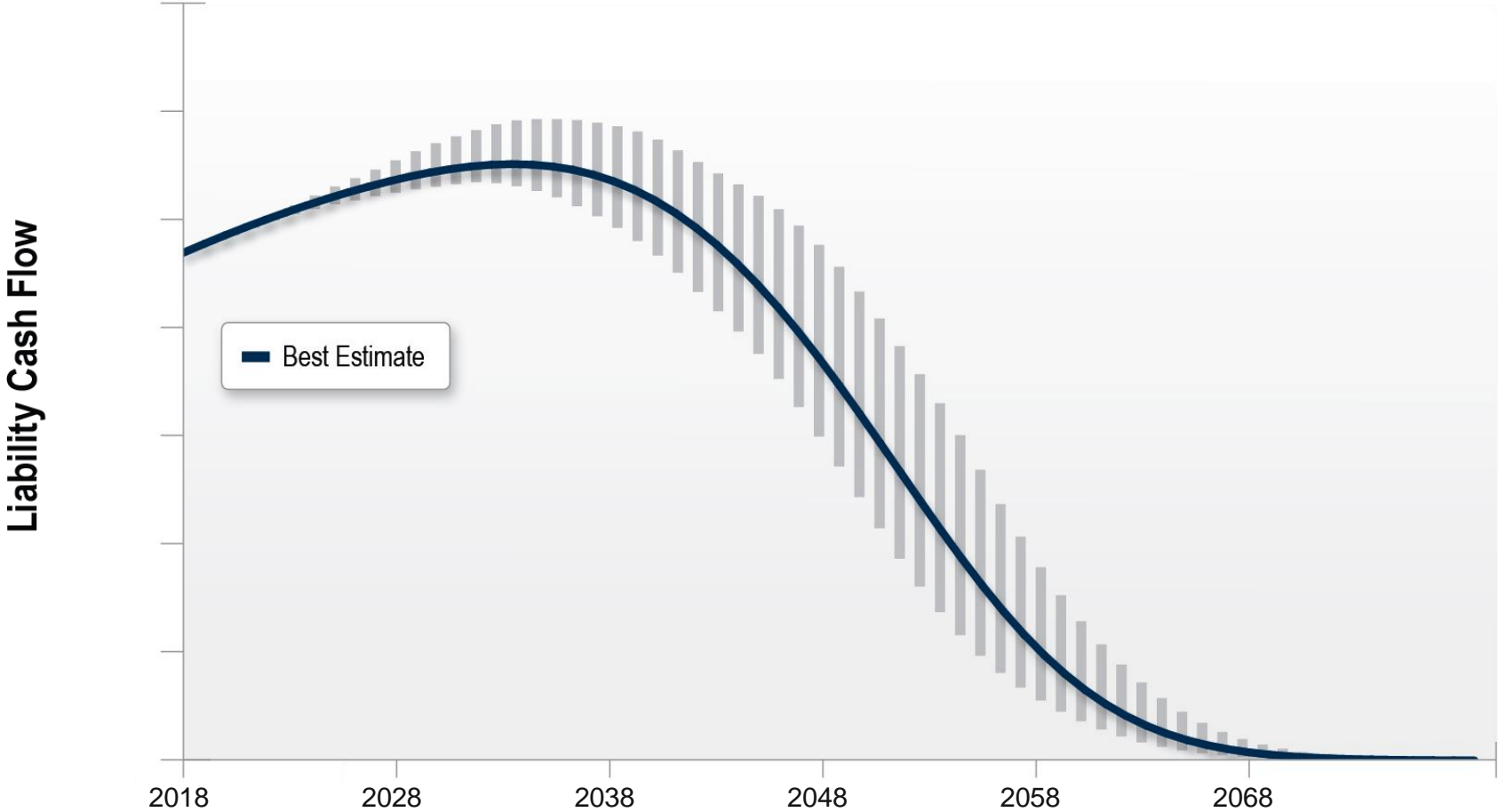


**PFI**

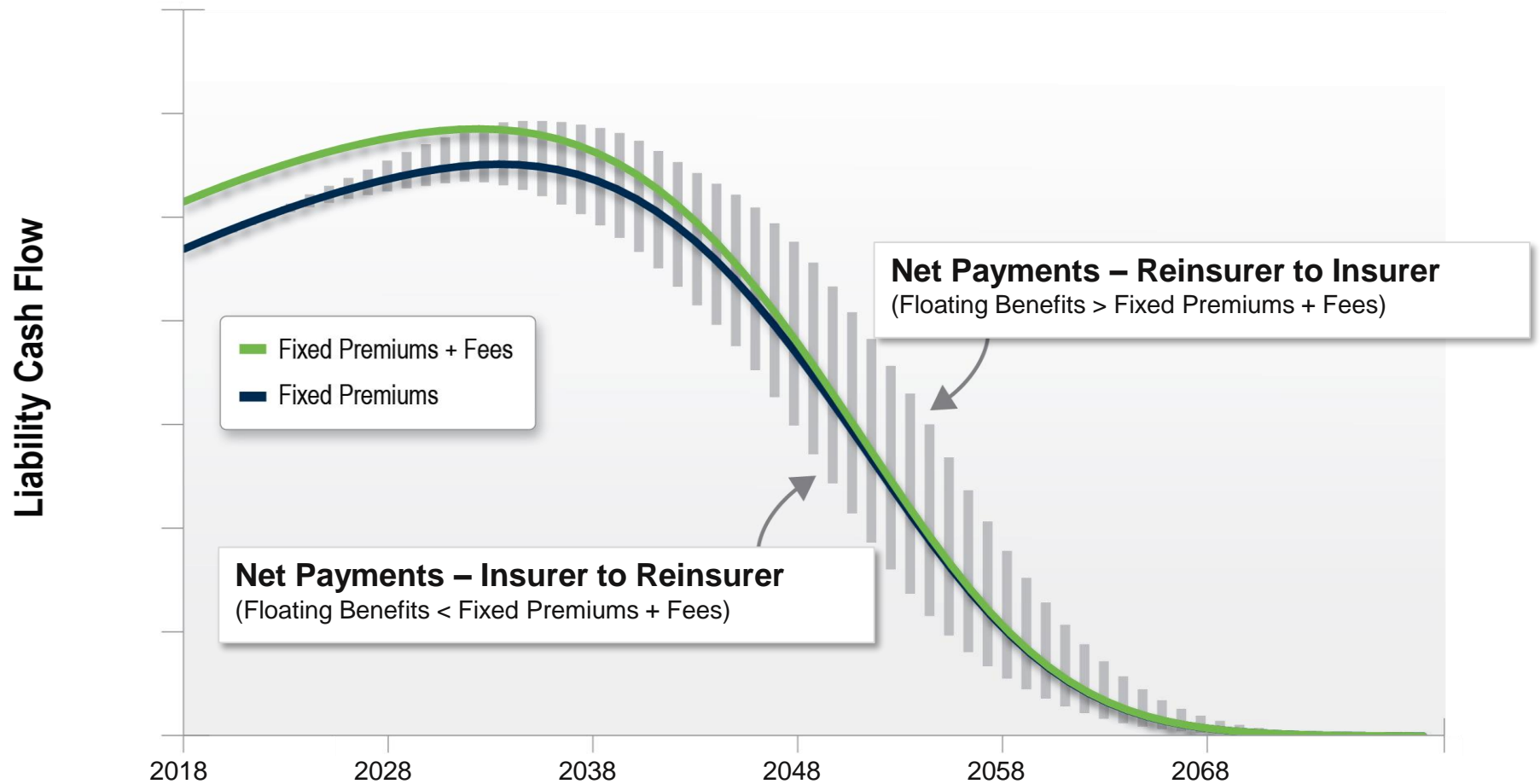
Bring Your Challenges<sup>®</sup>

Source: PFI. This is only an illustrative example of a typical portfolio backing a group annuity.  
\*A small amount of liability is longer than 30 years and can be invested in government bonds.

# Longevity Risk Can Be Balanced With Mortality Exposure, or Reinsured

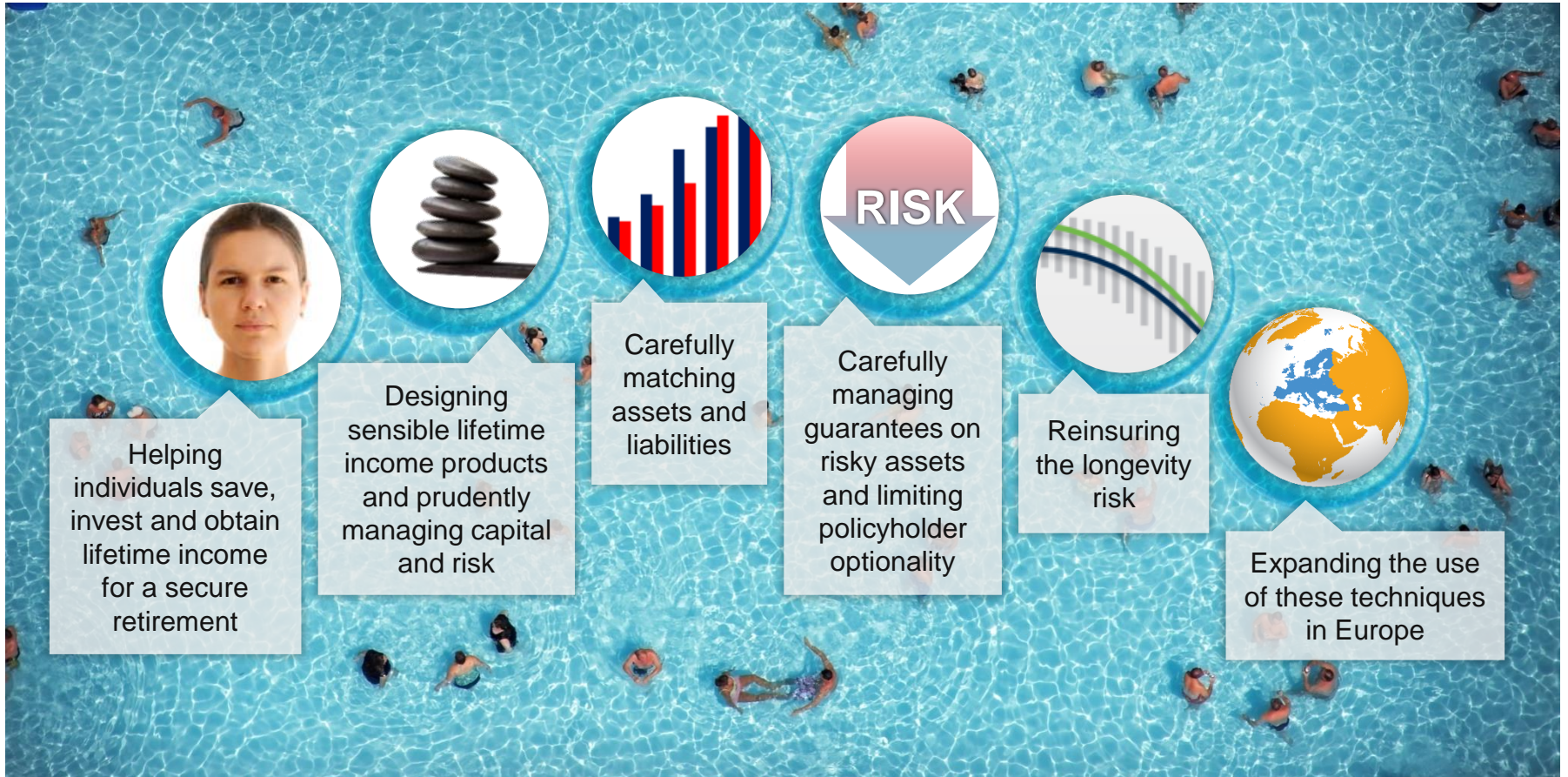


# Longevity Reinsurance Converts an Unknown Future Liability Into a Fixed Payment Over Time



# Closing the Gap in an Individual System

While an individual system is unlikely to match the results of the collective, we can build a bridge to retirement security by...



## Important Disclosures

This document has been prepared for discussion purposes only. Prudential Financial, Inc. (PFI) does not provide legal, regulatory, or accounting advice. An institution and its advisors should seek legal, regulatory, investment and/or accounting advice regarding the legal, regulatory, investment and/or accounting implications of any of the strategies described herein. This information is provided with the understanding that the recipient will discuss the subject matter with its own legal counsel, auditor and other advisors. This document does not constitute an offer or an agreement, or a solicitation of an offer or an agreement, to enter into any transaction (including for the provision of any services).

Insurance and reinsurance products are issued by either Prudential Retirement Insurance and Annuity Company (PRIAC), of Hartford, Connecticut, or The Prudential Insurance Company of America (PICA), of Newark, New Jersey. Both are wholly owned subsidiaries of PFI, and each company is solely responsible for its financial condition and contractual obligations. PFI of the United States is not affiliated with Prudential plc, which is headquartered in the United Kingdom.

Certain of the product concepts and case studies discussed in this presentation are describing U.S. insurance and U.K. reinsurance arrangements offered, negotiated, underwritten and performed by PICA or PRIAC in the United States of America, and are not intended to mean, and do not mean, that such products are being offered in any jurisdiction. Neither PRIAC nor PICA is licensed or regulated by the U.K. Prudential Regulation Authority as an insurer or regulated by the Financial Conduct Authority, nor does either offer insurance or reinsurance in the United Kingdom. PRIAC and PICA do provide offshore reinsurance to companies that have acquired U.K. pension risks through transactions with U.K. plan sponsors. Neither PRIAC nor PICA is authorized to write longevity reinsurance within the European Economic Area.

PFI's Traditional Buy-out is a group annuity contract issued by PICA, Newark, NJ 07102. Amounts contributed are deposited in PICA's general account. Any payment obligations or guarantees are contingent on the claims-paying ability of PICA, and are subject to certain limitations, terms and conditions. PFI's Portfolio Protected Buy-out and PFI's Portfolio Protected Buy-in are group annuity contracts issued by PICA, Newark, NJ 07102. Amounts contributed to the contracts are deposited in a separate account established by PICA. Payment obligations specified in the group annuity contracts are insurance claims supported by the assets in the separate account and, if such assets are not sufficient, by the full faith and credit of PICA, subject to certain limitations, terms and conditions. Products not available in all U.S. states.

© 2018 Prudential Financial, Inc. and its related entities. Prudential, Prudential Retirement, the Prudential logo, the Rock symbol, and Bring Your Challenges are service marks of Prudential Financial, Inc. (PFI) and its related entities, registered in many jurisdictions worldwide. Prudential Retirement is a PFI business.

1008567-00001-00



**PFI**

Bring Your Challenges<sup>®</sup>