Efficient Retirement Portfolios: Using Life Insurance to Meet Income and Bequest Goals in Retirement

Kristen Moore
Nick A Halen
Keira Dong
Presenter: Qinglai (Patrick) Zeng

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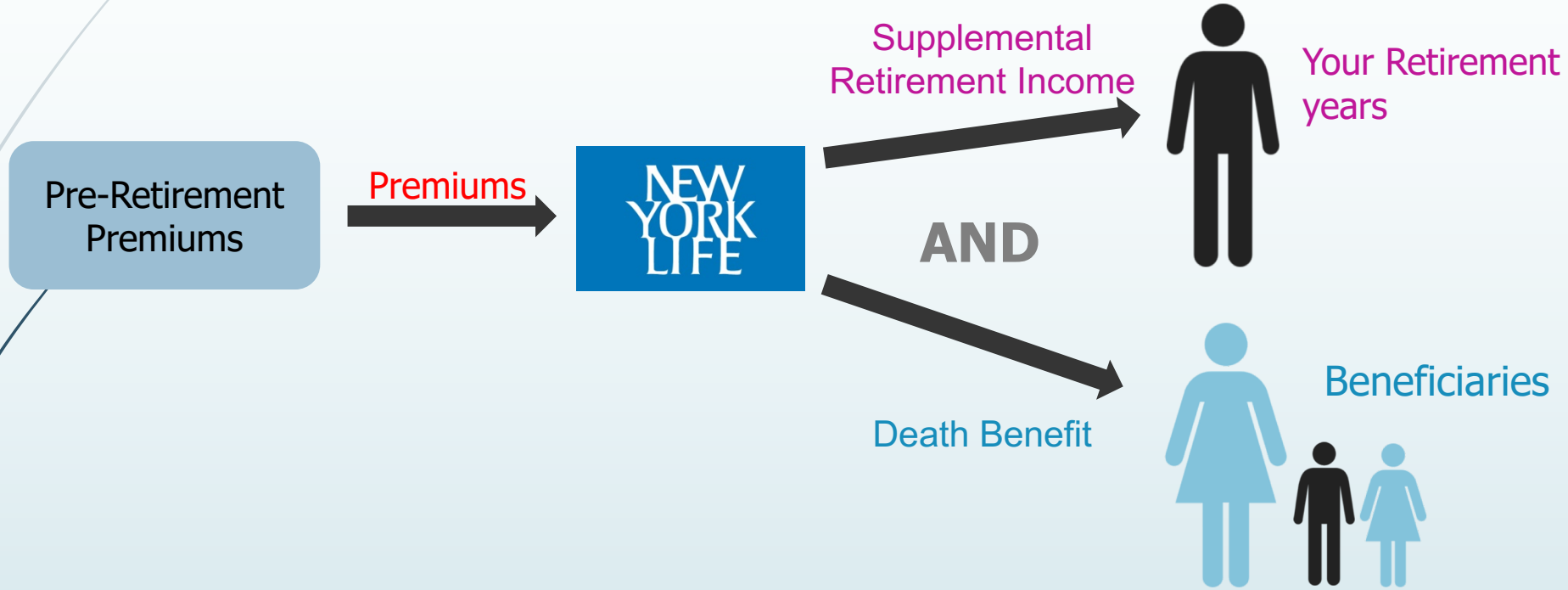
Competing Objectives in Retirement

- Retirees face significant financial risk and competing financial objectives
  - Income
  - Bequest

Partial Literature Review

- Using life annuities to manage income risk
  - Chen and Milevsky (2003); Milevsky et al. (2006)
- Using life insurance to maximize probability of reaching bequest goal
  - Milevsky et al. (2014, 2015)
- Portfolios with traditional investments, life annuties, and life insurance in terms of several metrics related to income and bequest or legacy
  - Pfau (2014)

Life Insurance can be a source of retirement income in addition to a source of protection – Life Insurance Retirement Plans (LIRPs)



Our Contribution

- We examine the potential of life insurance to meet both income and bequest needs in retirement
  - Life Insurance Retirement Plans (LIRPs)
- Among financial advisors, opinions about LIRPs are mixed
- We contrast retirement portfolios that include a LIRP with those that include only investment products
- We simulate market scenarios and demonstrate that inclusion of a LIRP can improve financial outcomes in retirement

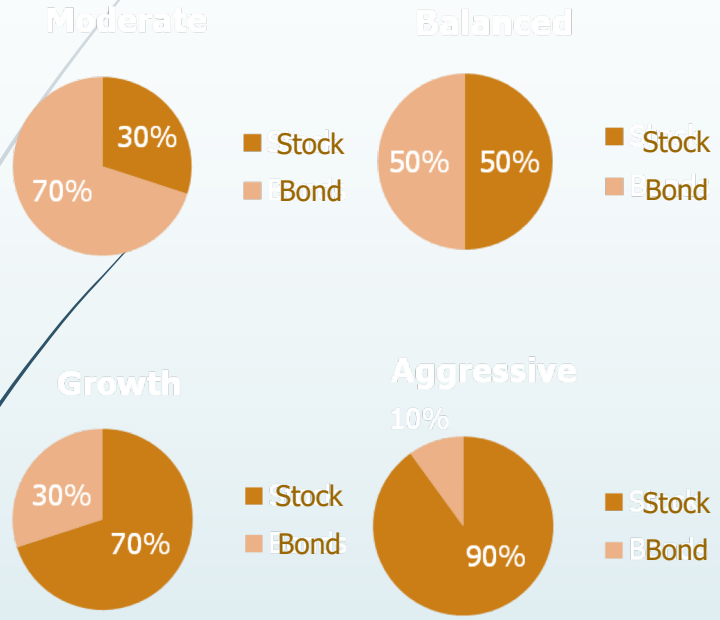
NYL's Custom Whole Life Product (CWL)

- CWL is a permanent life insurance product that pays dividends
- NYL's CWL is the first whole life insurance product that lets policyholders select how long they pay premiums and is designed to maximize the cash value accumulation in the policy
- The cash value accumulation in a permanent life insurance policy grows tax-deferred
- Retirees generally have tax-free access to their policy cash value, and can use partial surrenders and policy loans to supplement their retirement income

Model Overview

- Project all possible combinations of traditional assets (stocks and bonds) and non-traditional assets (Custom Whole Life)
- Run Monte Carlo simulations through 250 market scenarios
- Calculate the income risk and legacy potential
- Compare the performance of the resulting portfolios

Projecting All Combinations of Traditional Asset Portfolio and CWL



Traditional Asset Allocations

	Face Amount					
Income Withdrawal Years	50k	60k	70k	80k	90k	100k
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Custom Whole Life

- 16 retirement income withdrawal years
- 6 face amounts
- Total 96 possible CWL products
- 4 x 96=384 possible allocations for each age
- Calculate income risk and legacy potential for each of the 384 product combination
- We project three issue ages 35, 45 and 55

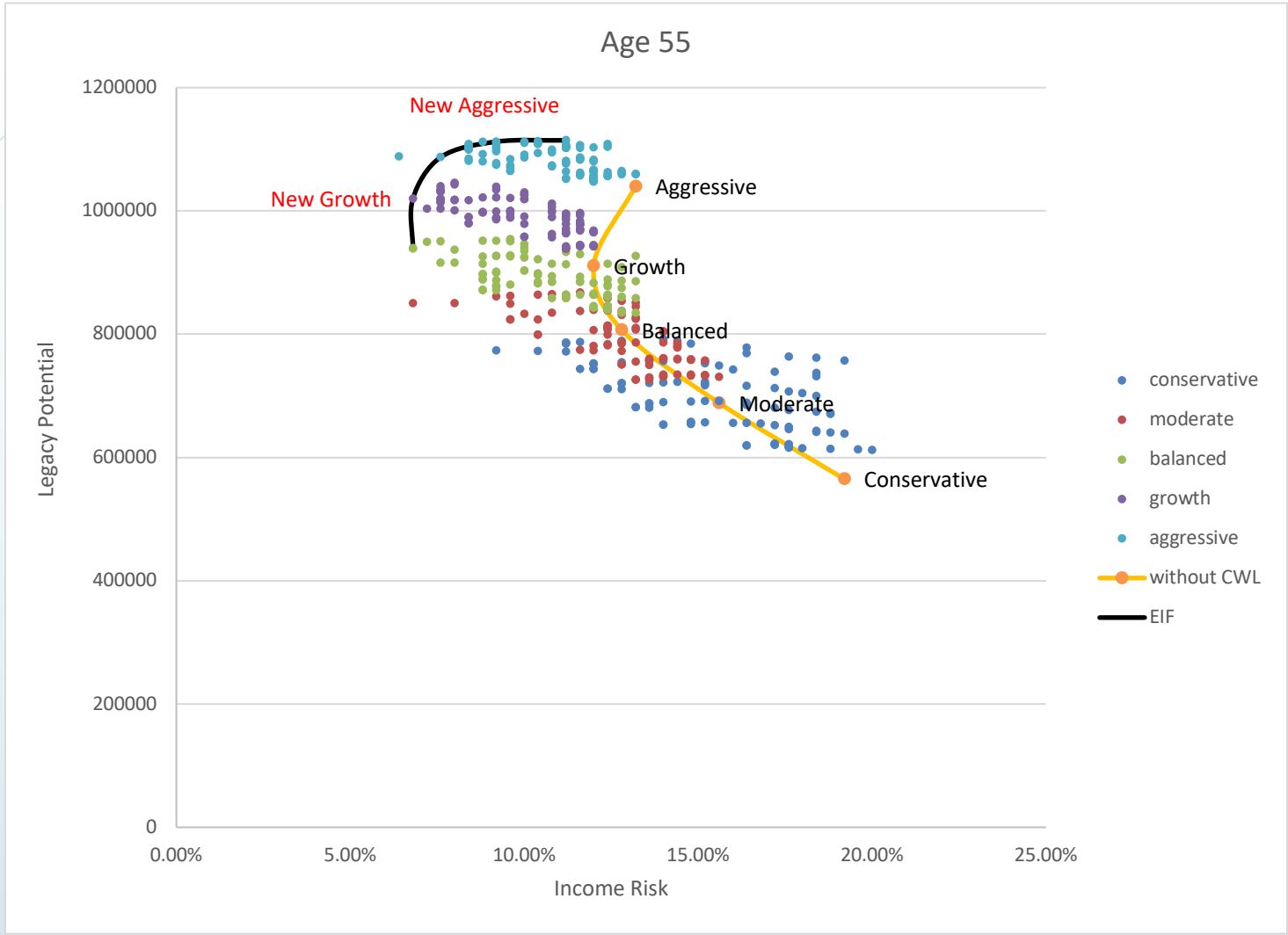
Measures of Portfolio Performance

- Income Risk: the probability of running out of money after retirement
  - The income risk metric incorporates investment risk, longevity risk, withdrawal rate risk, inflation risk and sequence of returns risk.
  - In 250 scenarios, how often were income sources depleted before the 75th percentile of longevity
- Legacy Potential: the remaining asset upon death plus death benefits
  - In 250 scenarios, what was the traditional asset fund balance plus death benefit at the 50th percentile of longevity?
- Efficient Portfolios
  - Minimize income risk while maximizing legacy potential

Results

1. CWL can help improve retirement portfolio performance
2. CWL policy with larger face amounts can be more beneficial
3. Withdrawal strategies for CWL policy
4. CWL adds value at all issue ages. In our simulations, effect was most pronounced at age 45.

Value of CWL in retirement portfolios



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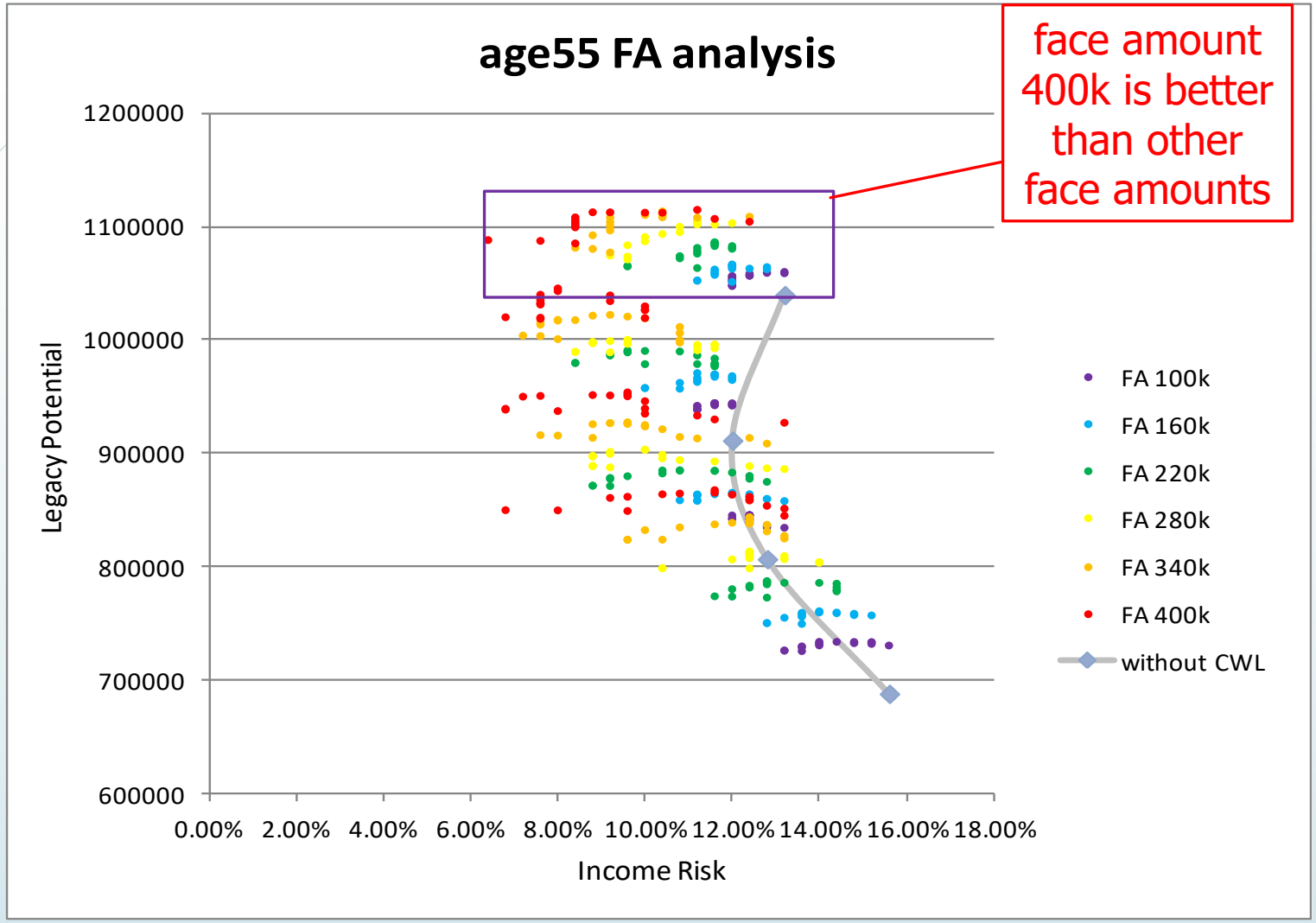
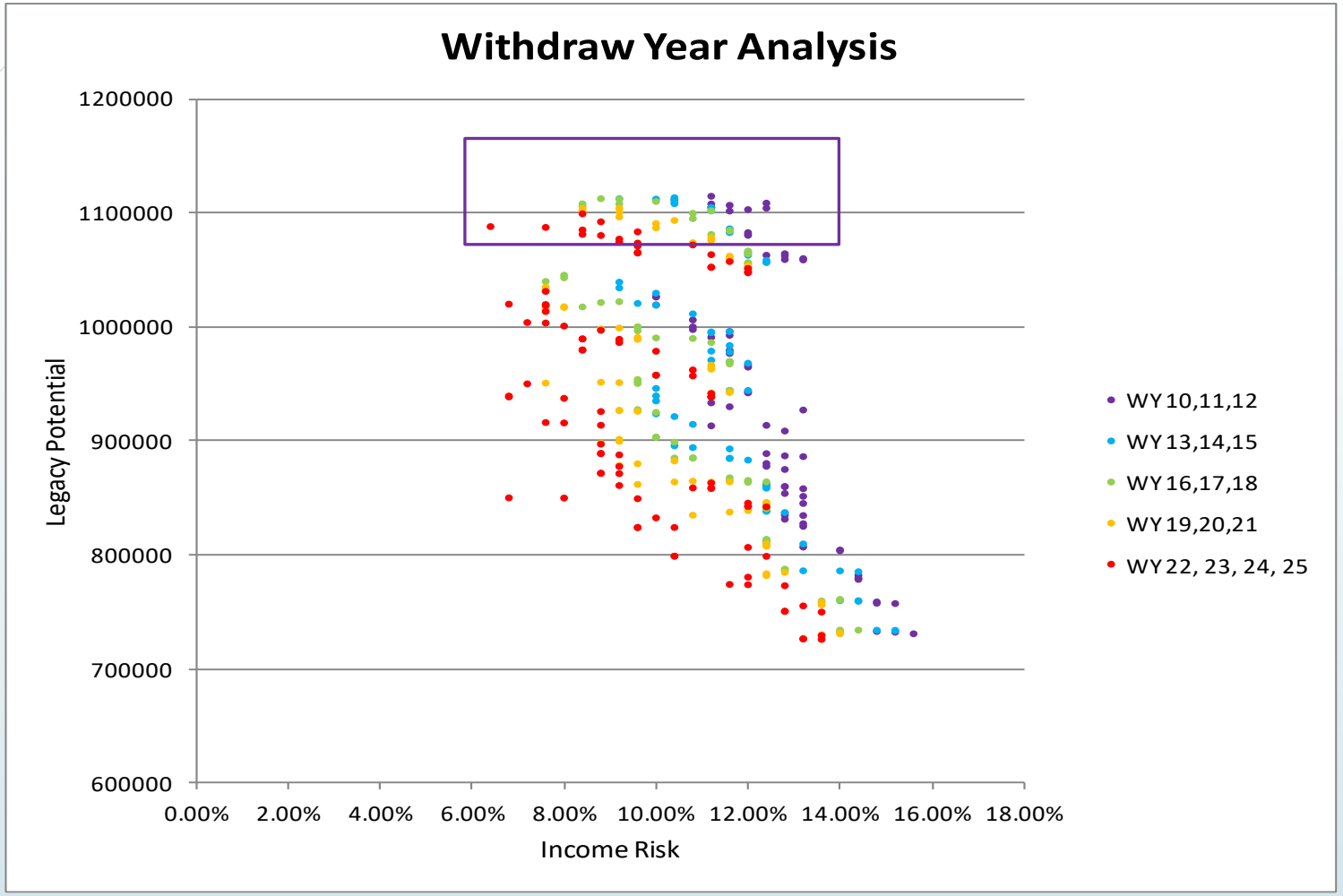
Larger Face Amount can be more Beneficial



Longer withdrawal years reduce income risk at a sacrifice of legacy potential



Issue Age	Initial Asset	Face Amount	Premium Burden	Lowest Income Risk		Largest Legacy Potential	
				Without CWL	With CWL	Without CWL	With CWL
35	50k	100k	67.63%	14.4%	13%	1,144,719	1,208,479
45	200k	200k	44.30%	11.6%	4.8%	1,291,259	1,515,885
55	500k	400k	41.21%	12%	6.8%	1,039,859	1,114,554

- CWL reduces income risk and increases legacy potential at all issue ages
- The effect is more pronounced at issue ages 45 and 55

Thank You!

Investment Strategy before Retirement

-- All results shown above are based on optimal investment strategies before retirement

Issue Age	Pre-Retirement Investment Strategy
35	Age 35 – 65: Aggressive
45	Age 45 – 55: Aggressive; Age 55 – 65: Moderate
55	Age 55 – 65: Balanced