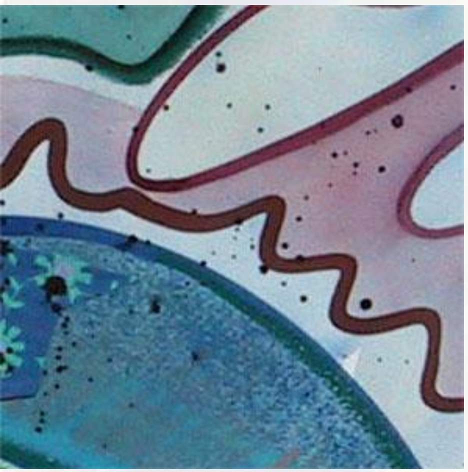
ANNA RAPPAPORT CONSULTING
STRATEGIES FOR A SECURE RETIREMENT℠



A Glance into Personal Retirement Security

Presented by
Anna M. Rappaport, F.S.A., M.A.A.A.

Actuarial Society of Greater New York

November 2011

Acknowledgements and Thank You

- At the 2010 Society of Actuaries Annual Meeting, I did a joint presentation with Stacy Schaus of PIMCO and Jeff Clymer of Aon Hewitt. We wrote an article together that was featured on the cover of the February-March 2010 Actuary, “Improving Retirement Security,” and we wrote another article for Benefits Quarterly, Third Quarter 2011.
- This presentation draws heavily on the content from these three joint efforts and includes some new content. Thank you to Stacy and Jeff for working with me, and also for sharing their ideas and slides.

Agenda

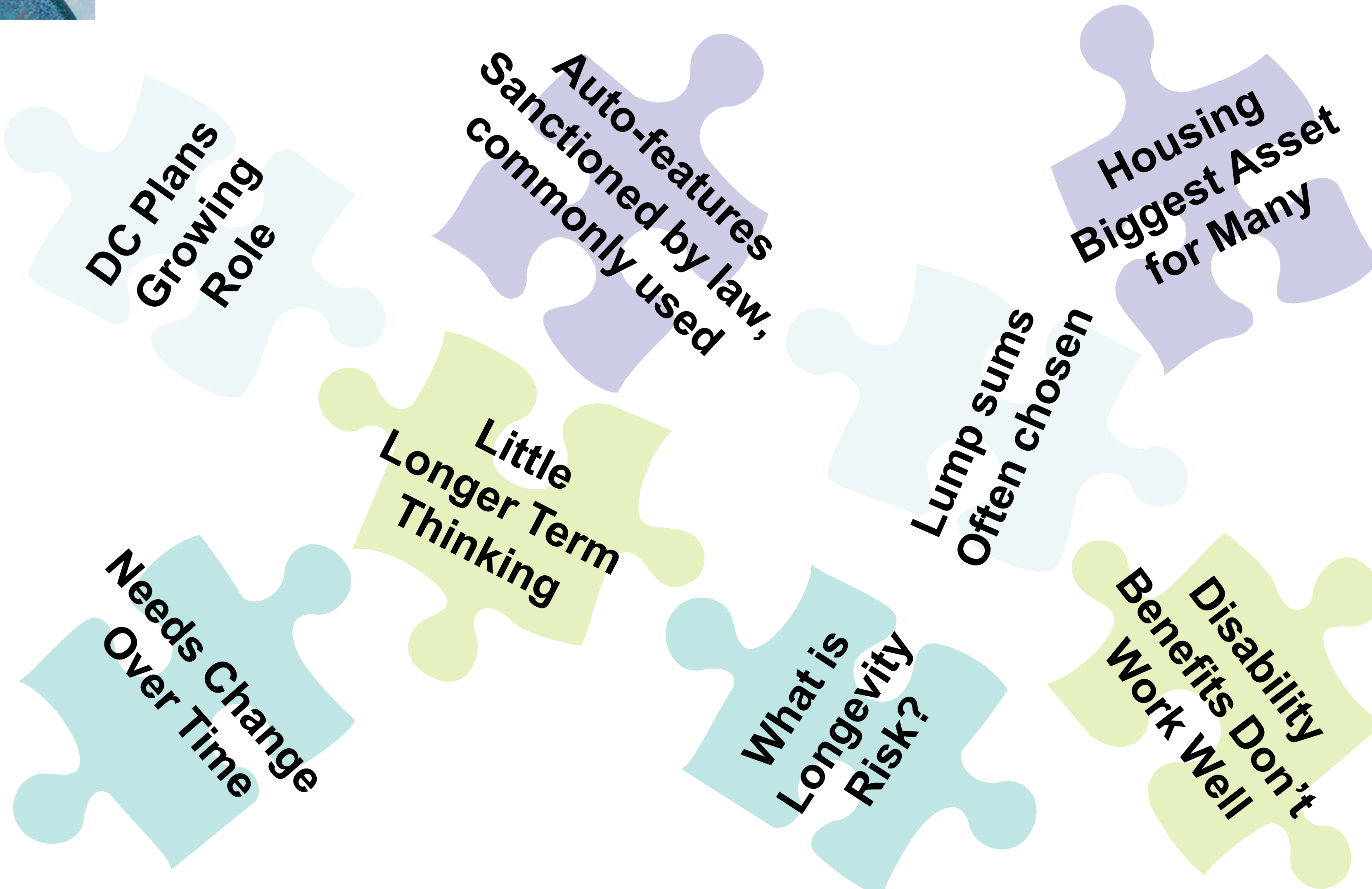
- Current Situation
- Risks
- Moving Forward
- Appendix

Current Situation

Today’s Focus: Personal Challenges and Retirement Security

- Accumulating and managing funds: Retirement system—increasingly focused on DC plans.
- Security depends on
  - Adequate contributions
  - Appropriate/successful investments
  - Not using money too early
- Preparing for shocks
  - Disability
  - Job loss
  - Health problems
  - Premature death, loss of spouse
  - Family issues

A Changing Landscape: The Big Picture Today



Evolving Family and Demographic Issues

- Life spans increasing
- Boomers reaching retirement
- More divorce
- Women still have different life histories
- Older women likely to be alone
- Families are major source of support for aging people

Don’t forget about families as risk poolers

Retirement Focused Concerns of Employers and Employees

Employers

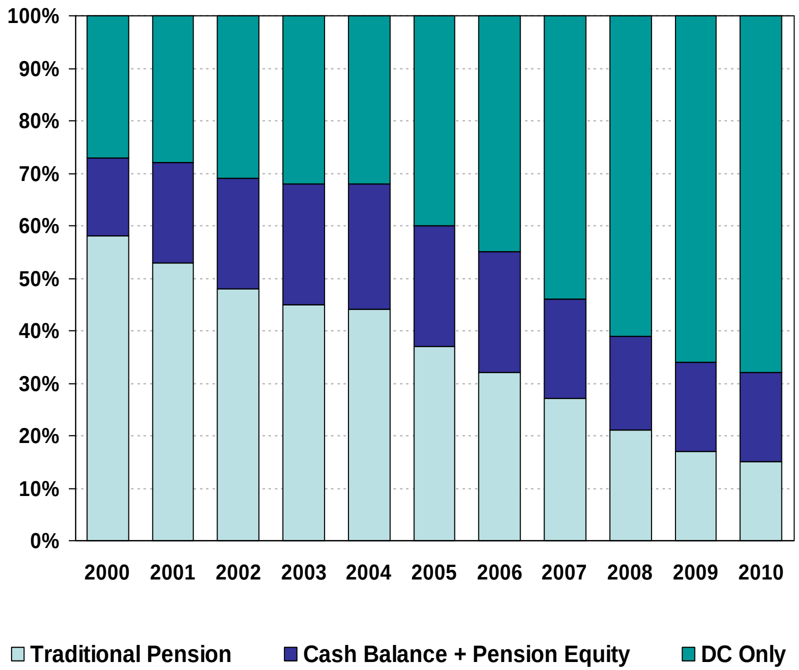
- Helping employees realize the benefit of the funds they have accumulated
- Securing retirement for employees
- Managing fiduciary liability
- Winning loyalty and appreciation from employees
- Supporting talent management policy
- Keeping administration simple and cost effective

Employees

- Housing and asset losses
- Timing of retirement
- Dealing with confusion
- Managing money in retirement
- Finding good advice
- Being able to deal with emergencies
- Leaving money to heirs
- Making money last
- Not losing money

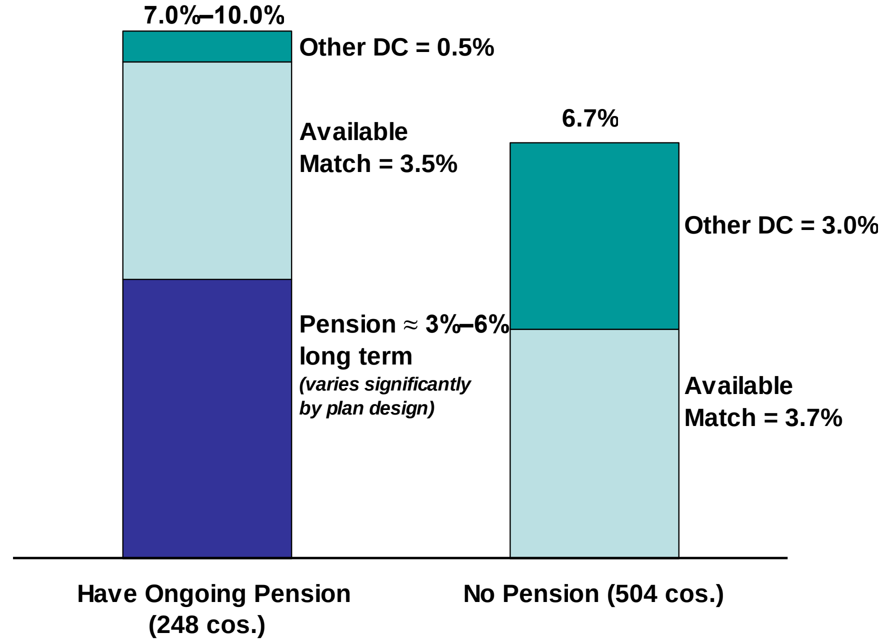
Retirement Plan Design Trends

Prevalence—Types of Retirement Plans



Source: Hewitt SpecSummary™ among Salaried retirement plans through July 2010

Spending on Retirement Benefits by Large Employers



Source: Hewitt's 2010 SpecBook of 752 large employers' benefits for salaried new hires. Available match is maximum available. Five-year average contributions were used when amount is variable. Estimated current costs for pension plans range from 3.0% to 6.0% (4.5% midpoint used).

Retirement System Successes & Failures: Different Perspectives

Successes

- Social Security benefits
- Many retirees doing well—often with DB income
- 401(k) plans
  - Account balances
  - Auto-enrollment and new defaults
- Large plans well funded before the crisis
- PPA strengthened system
- Benefits earned generally paid

Failures

- Coverage gaps—small ERs, part-time, job changers, etc.
- Inadequate savings
- 401(k) plans
  - Account balances
  - Using money too early
- Freezing of DB plans
- PPA punished previously well funded plans in crisis
- Too many lump sums
- Inadequate response to demographic change
- Social Security funding gap

401(k) Plans Today:
Big Differences in Perspective

- Heavier reliance on default options
- Growth of auto-enrollment, life cycle funds in DC
- Advocates
  - Big success/contribution to retirement security
  - % of participants taking hardship withdrawals under 2%
- Voices of Critics
  - Too many people have been left out of the system
  - Too much risk and exposure to market swings
  - Lump sums at retirement
  - Leakage
  - Critical of investment options, expense disclosures
  - Tax benefits go largely to more affluent

What People Know and Do

- US savings rates are low
- People save much more when they have access to employer plan
- Many gaps in knowledge about retirement
  - Few think long term
  - Assets vs. expectations: out of step
  - Problems with math literacy, investment knowledge
  - Little focus on systematic risk management
- Major method of managing risks
  - Reduce spending
  - Little focus on risk management products
- Much changes during retirement, without pre-planning

Retirement Income Adequacy—Recent Research

Retirement Income Adequacy at Large Companies: The Real Deal 2010

- 84 companies representing cross section of industries
- 2.1 million active employees eligible for 401(k) plan
- Focus on full career contributors
  - Hired by age 35
  - Allows for measurement of a full career of retirement benefits
- Multiple perspectives on how to calculate "retirement income adequacy"
- Savings rates and account balances down slightly since 2008 study

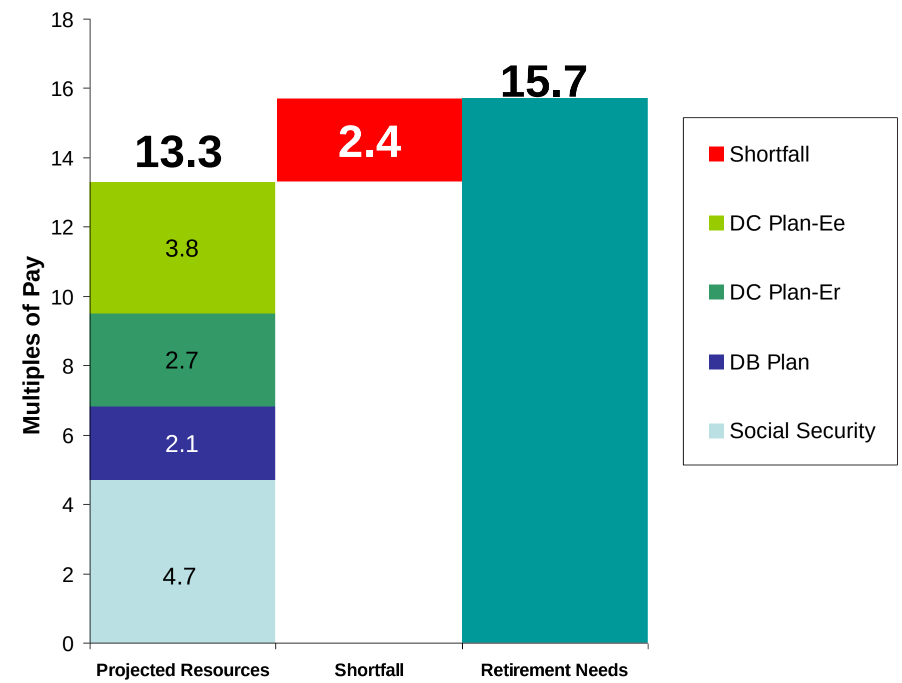
Averages:	
Age	**39**
Service	**12**
2009 Pay	**$71,200**
Savings Rate	**7.3%**
Employer Contribution Rate	**5.0%**
DC Account Balance	**$70,500**
Percent Escalating	**7%**

Source: Hewitt Retirement Income Adequacy at Large Companies: The Real Deal 2010

Only 1 in 5 Employees on Track

- **Projected retirement resources fall short of future needs by 2.4x pay on average at age 65.**
  - Need DC resources approximately 11 times pay after Social Security to maintain standard of living including retiree medical.
  - Increased savings (12%+) or later retirement (age 67) can reduce or eliminate shortfall.
  - Shortfall grows to 4.3x pay for DC-Only employees (no pension).
  - 1 in 5 (18%) of workers estimated to be on track for adequate retirement resources.

Projected Retirement Resources Versus Needs

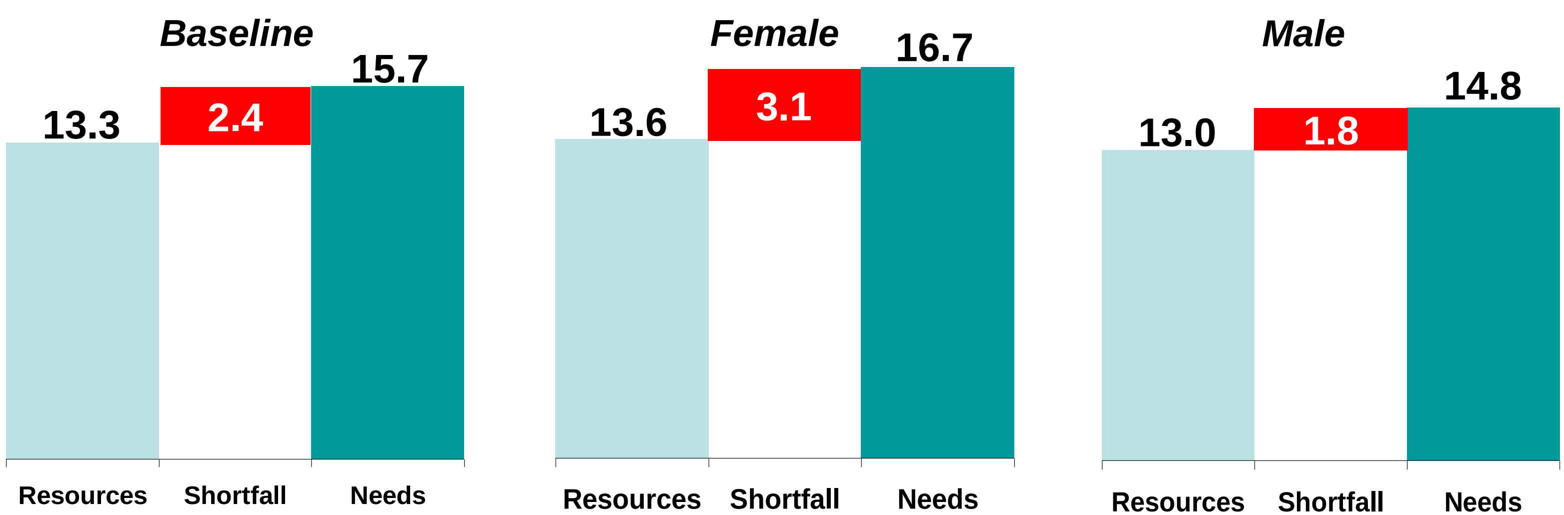


Source: Hewitt Retirement Income Adequacy at Large Companies: The Real Deal 2010

Explore Savings Patterns and Needs by Gender

- Women are expected to live longer than men and therefore need to save more for retirement.
- Women are generally paid less and have saved less to date for retirement than men.
- Further, women are more likely to be conservatively invested and take withdrawals.

Averages	Females	Males
Participation Rate	75%	75%
Savings Rate	6.8%	7.8%
Account Balance to Date	$53,000	$85,000
Age	38	39
Service	12	13
Pay	$61,000	$79,000
Life Expectancy Age	86	84



Results shown are multiples of pay at age 65 retirement.
Source: Hewitt Retirement Income Adequacy at Large Companies—The Real Deal 2010

Decisions on the Path to Security

Early and Mid-Career

- Participate in the plan?
- How much to save
- How to invest
- Don’t take money out of plan
- Disability coverage
- Emergency fund to weather challenges

Near and at Retirement

- When to retire
- How should my money be distributed?
- Where should I live?
- When should I claim Social Security?
- Should I continue working on a limited basis?
- Health care and long-term care financing strategy?
- Buy an annuity?

Risks

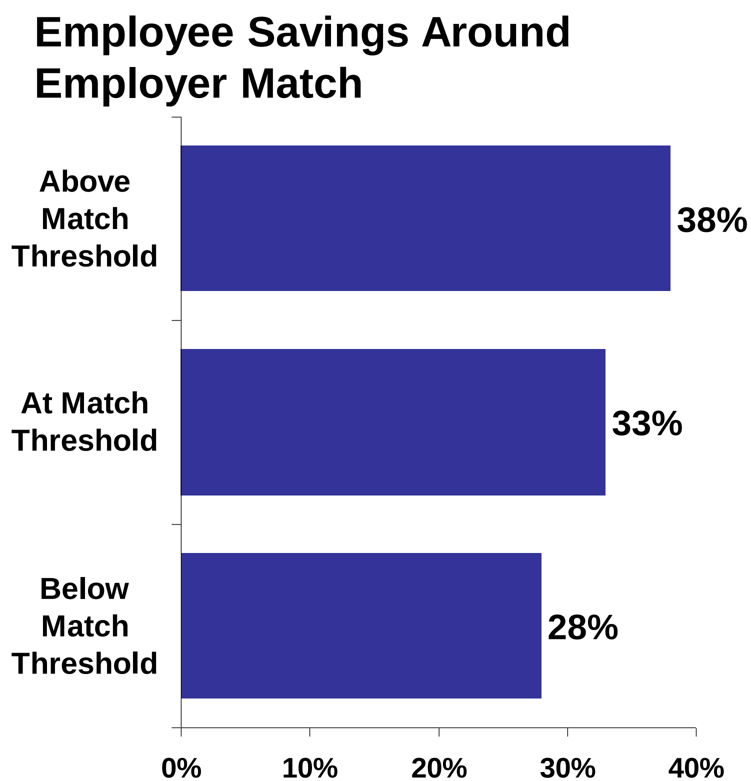
Analysis of Risks—Treatment of Risks Different Types of Retirement Plans

Type of Risk	Social Security Current System	Traditional DB Final Average Pay Formula	Traditional DB Career Average Pay Formula	Hybrid DB Cash Balance	Defined Contribution Plan
Investment Risk	Plan, but largely NA	Plan Sponsor	Plan Sponsor	Plan Sponsor	Participant
Pre-retirement Inflation Risk	System	Plan Sponsor, to the extent that pay changes track inflation	Participant (but Plan Sponsor may absorb part through updates)	Participant (but Plan Sponsor may absorb part through method of crediting interest)	Participant
Post-retirement Inflation Risk	System	Usually participant, except in public sector plans	Usually participant, except in public sector plans	Usually participant (because most benefits are paid as a lump sum)	Participant
Post-retirement mortality risk	System—for individual and spouse	Sponsor if benefit paid out as life income, Participant if benefit paid as lump sum	Sponsor if benefit paid out as life income, Participant if benefit paid as lump sum	Usually participant (because benefits often are paid as lump sum)	Participant

Responding to Change:
Reasons Why DC Money May Not be Sufficient

- Level of savings
- Leakage
  - Loans
  - Distributions
  - Other contingencies—death or disability
- Early retirement
- Investment strategy
- Outliving resources
- Job changes

Level of Savings:
Many Employees Don't Take Full Advantage of Match



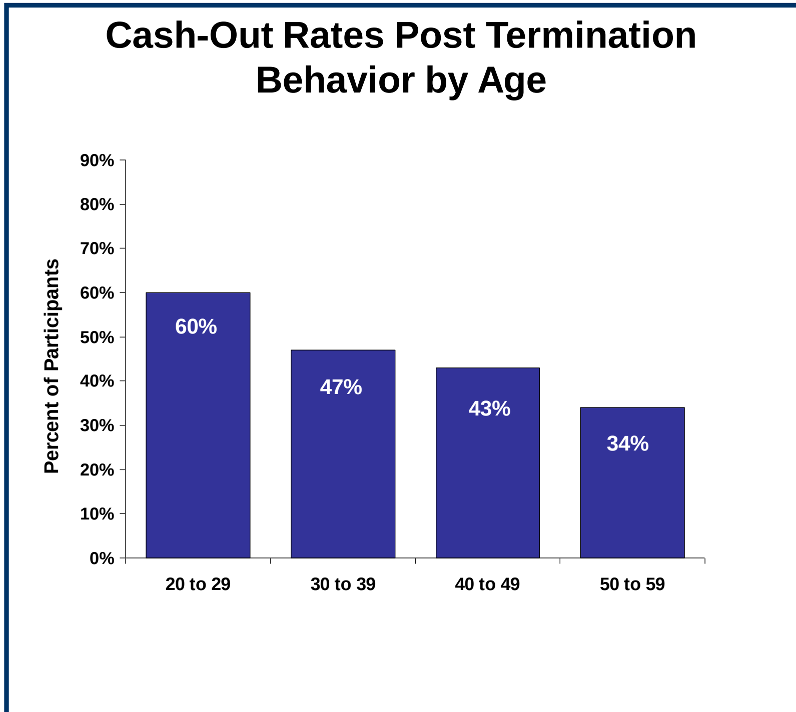
Source: Hewitt 2010 Universe Benchmarks

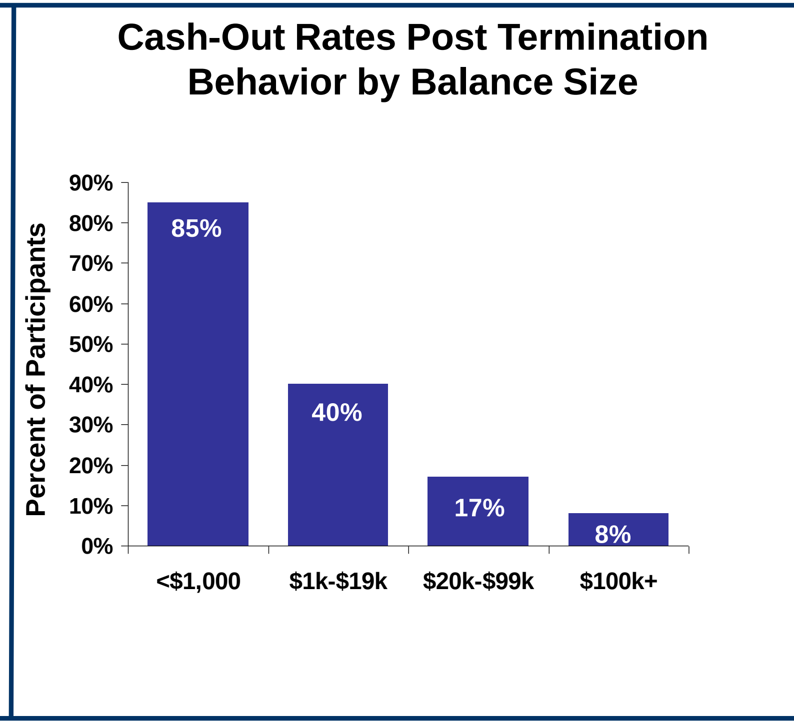
- Those who are contributing, continue to save less than needed to obtain the full company match.
  - Especially problematic among younger workers—41% of participants in their 20s did not receive the full employer match.
  - Also notable, match threshold is a large influencer of participant savings behavior.

Cash-outs Can Undo All the "Right" Behavior

Even if participants do everything else "right", cash-outs can undo everything

- Post-termination, 46% of workers cash-out their balance (25% roll the balance over; 29% leave assets in the plan).

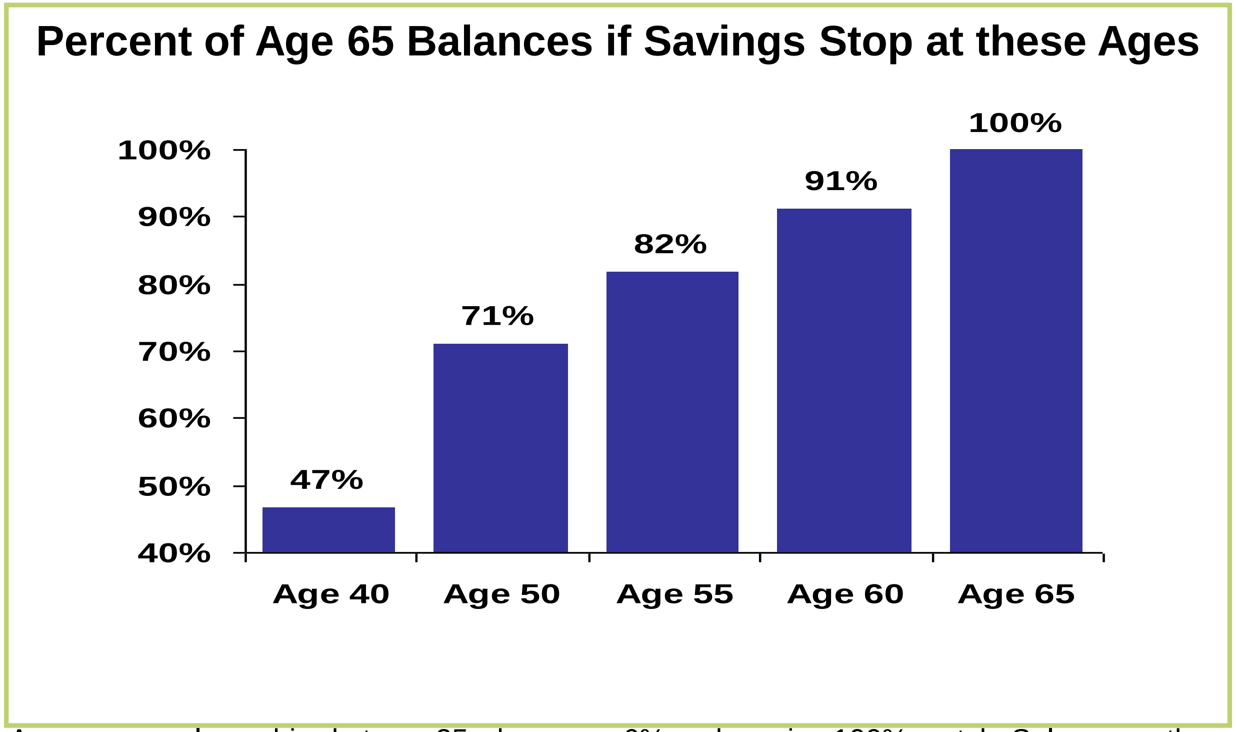




Source: Hewitt The Erosion of Retirement, 2009

Not Making it to Expected Retirement

- Stopping savings earlier than expected has sizable impact on retirement income
  - Possible causes disability, death, or early retirement



Assumes employee hired at age 25 who saves 6% and receive 100% match. Salary growth of 5% and investment returns of 7%.

Managing Disability Risk in a DC World

- Topic not well explored
- Traditional programs assume traditional retirement at 65
- Big problem if disabled, paid out DC benefit and then no retirement security
- Challenges
  - Building retirement security while disabled
  - Making disability and phased retirement work well together
  - Not spending DC money too early
  - Adapting to later retirement ages
- Need a national discussion of this topic

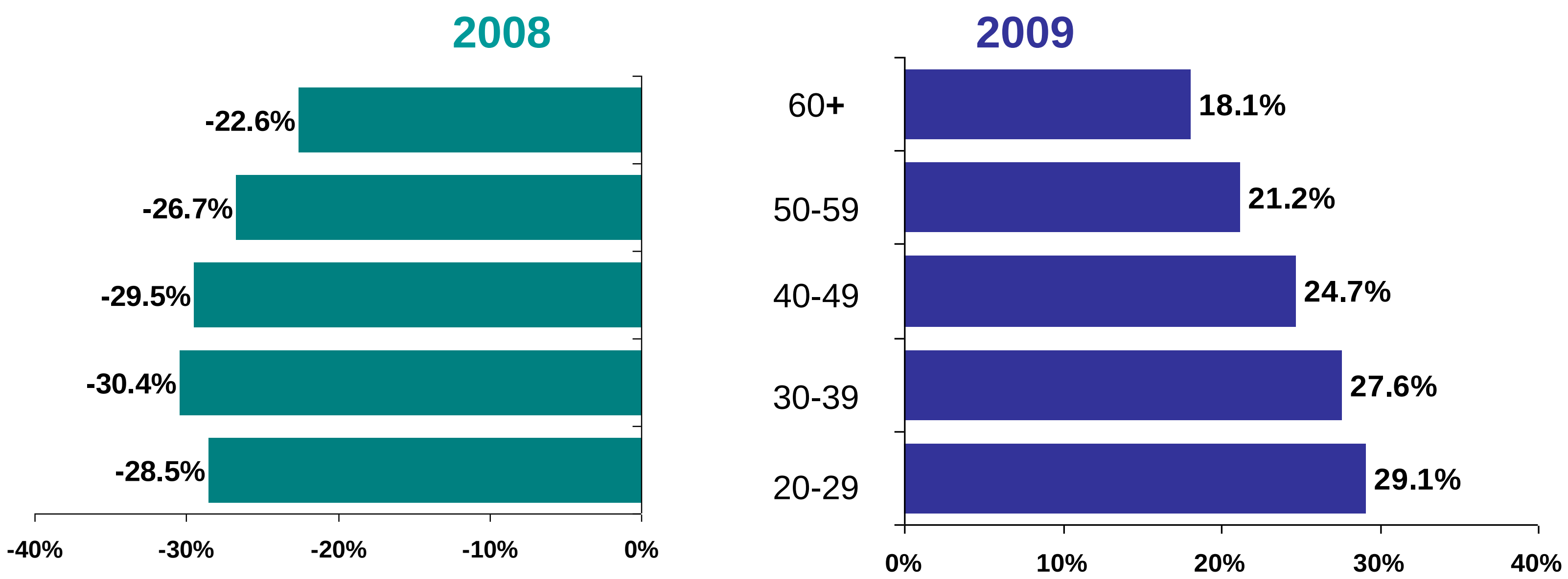
Focusing on investment risk

- First priority – save enough
- Second – invest well over long term
- Research, concerns and new ideas
  - Markets more volatile than often assumed
  - Post-retirement is different from pre-retirement
  - Options can be structured to reduce downside risk
- Choice is good, but…..

Market Volatility: What a Difference a Year Makes

Rates of returns rebounded substantially in 2009, following record losses. Nearly two-thirds of accounts gained more than 20%. Participants with highest losses experienced highest gains.

Median Rate of Return—by Age



Universe Median Rate of Return = -28.3%

Universe Median Rate of Return = 24.3%

Source: Hewitt 2010 Universe Benchmarks

Thinking about Investment Issues

Research tells us

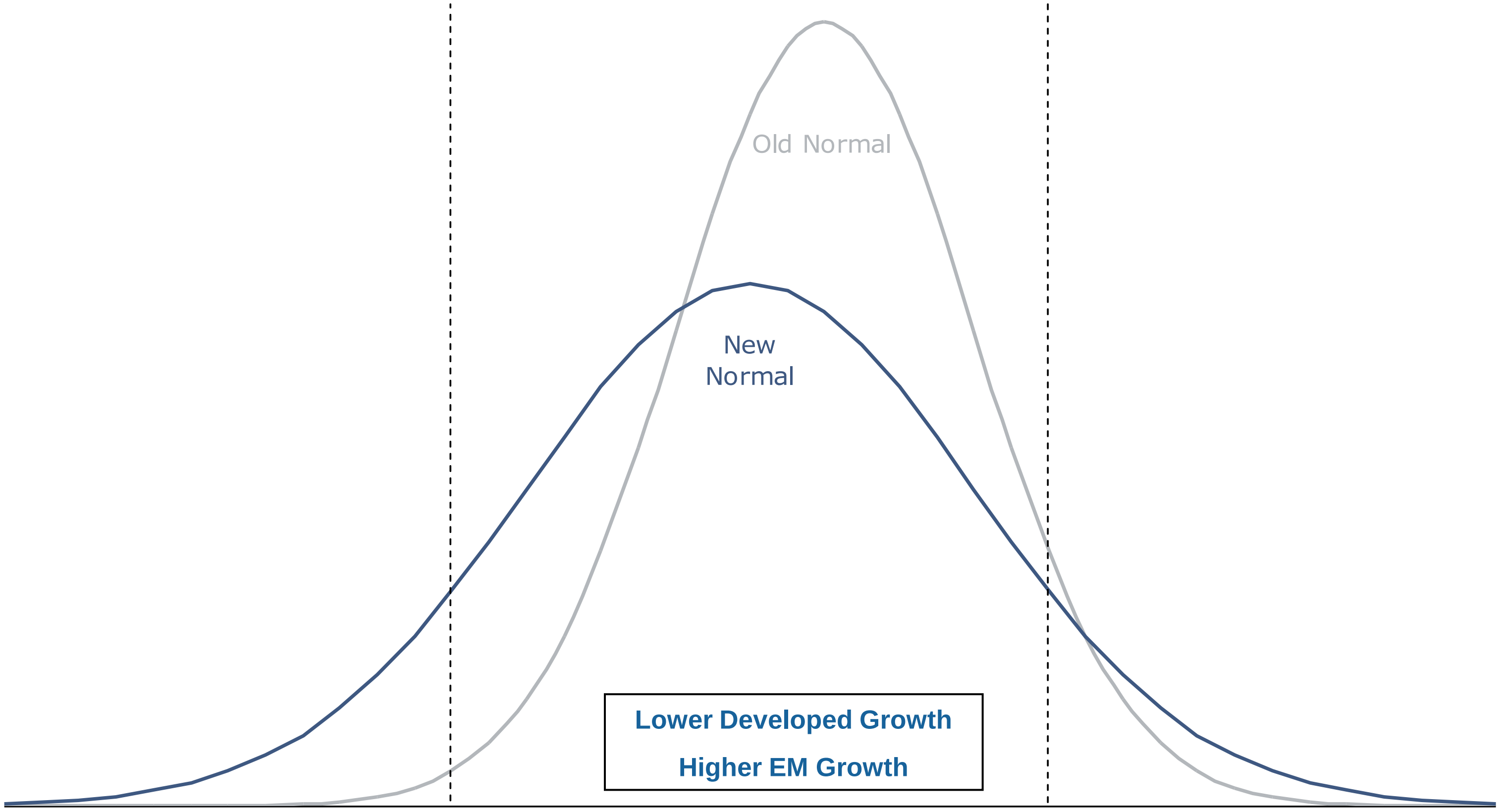
- More volatility recently
- Long term—greater chance of black swan than implied by normal distribution
- Very long term—equities out perform, but with bad periods
- New normal—different distribution with fatter tails
- Individuals don’t understand risk well

Strategies

- Plan sponsor: pick good default options, educate
- Providers: redefining options to reduce risk—trade some return for better downside potential
- Example: target-date funds with tail hedging
- Individuals: more need to think about post-retirement—income potential

Look at our article

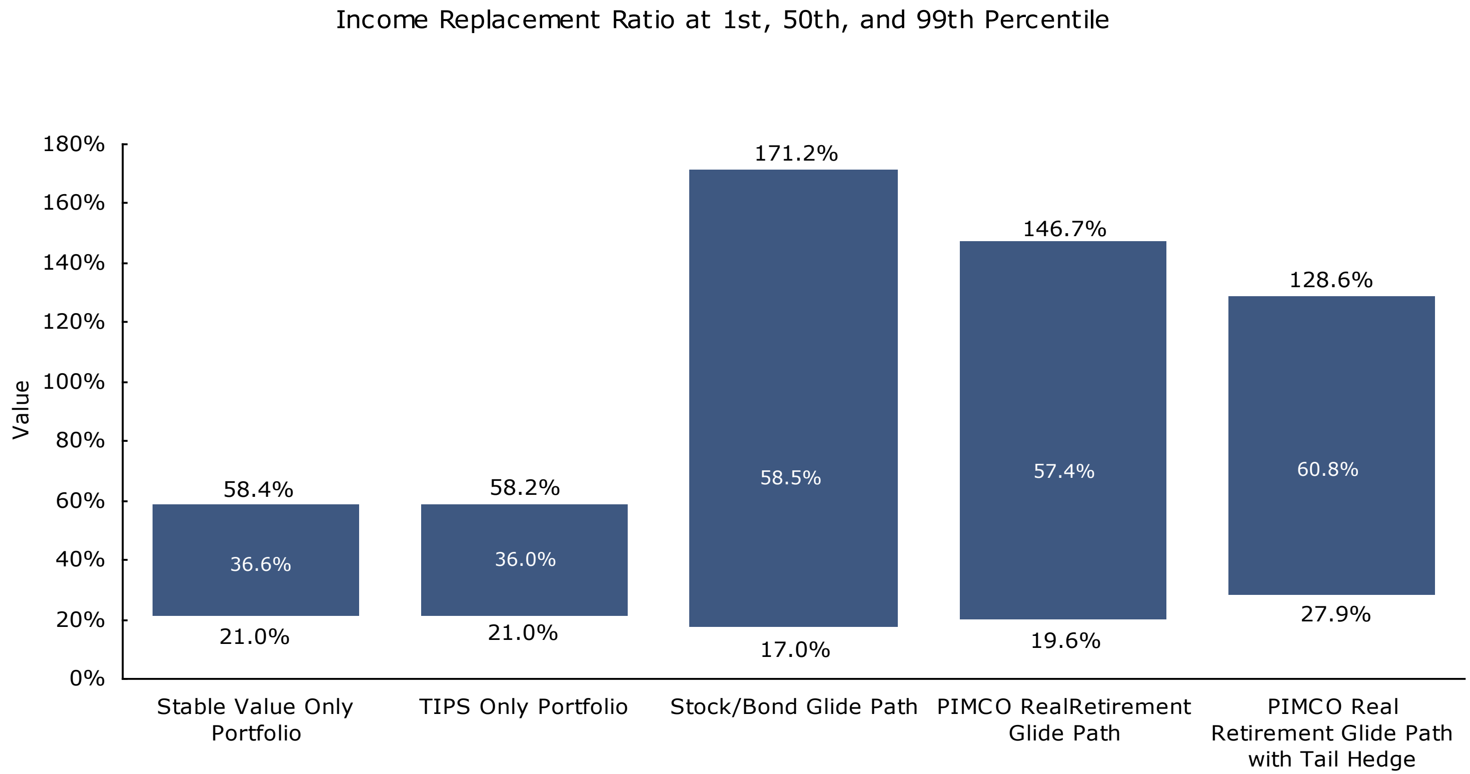
New Normal: Wider Range of Outcomes as Risks Become More Distributed



This secular period of changing risks and opportunities leads to new ideas and options

Source: adapted from PIMCO graph – as presented at the 2010 Society of Actuaries annual meeting

An Example of the New Ideas:
Estimated DC Account Value at Retirement Age Given "New Normal" Return Assumptions



SOURCE: PIMCO
Hypothetical example for illustrative purposes only.
Stable Value Only Portfolio is represented by the Hueler Stable Value Index;
TIPS Only Portfolio is represented by the Barclays Capital U.S. TIPS Index.
Source: 2010 Society of Actuaries annual meeting presentation

Assumptions:
Starting salary - $50,000
Real wage increase – 1%
Savings rate – 6%-9.8% over 40 years
Employer match – 3.5%

.

How Do Participants Invest?

- Premixed funds have become largest asset holding of participants in 401(k) plans
  - 24.7% in pre-mixed funds
  - 17.1% in stable value funds
  - 15.3% in large cap US equity
- Increase in premixed fund investments can be partially attributed to use of target-date funds as default option upon auto enrollment
- Employees still have significant amounts in company stock
  - Where offered, 18.6% of balances are in company stock
  - Percentage of employees with more than 50% of balances in company stock is 12.7%

Source: Hewitt 2010 Universe Benchmarks

Post-retirement Focus:
Drivers of Payout Decisions

- Nudges and default options
- Options in benefits plans
- Required minimum distribution rules
- Overall asset level
- Basic needs vs. Social Security and pension income
- Advice from planners and advisors
- Actions taken by peers
- Taxes and ability to keep funds tax deferred
- Risk management decisions
- Financial products in market
- Family issues
- Expertise in managing investments
- Expense levels in options

What Happed to DC Accounts at Retirement

Type of Option	% Choosing
Multiple dispositions	9%
Lump sum, spent all	7%
Lump sum, spent some, reinvested some	11%
Lump sum, reinvested all	34%
Deferred distribution of entire balance	16%
Installment payments	6%
Annuitized entire balance	18%

Source: Exhibit V in paper; from Defined Contribution Choices at Retirement, 2008, Investment Company Institute

Examples of monthly income from institutional annuity purchase

Joint Life -- $100,000 purchase
Male and Female Both Age 65

Insurance carrier quotes	Monthly Income	Income with 10 year guarantee added
Highest income	$521	$520
Middle of the range	501	500
Lowest income	470	469

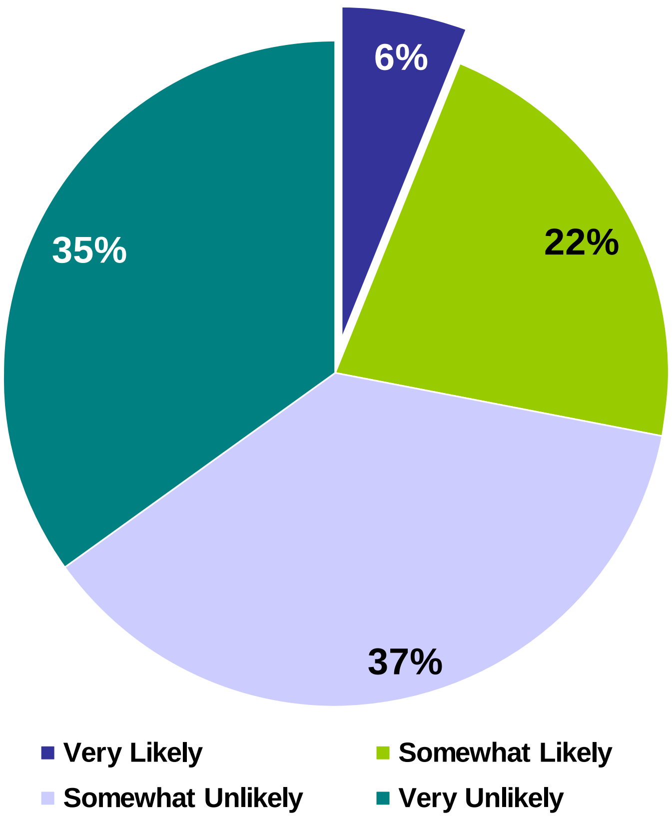
Monthly income from systematic withdrawal– 4% -- $333/mo
Chance of failure -- ????
New research recommends 2% as safe in today's environment

Annuity quote in August, 2011

Current State of DC Income Market

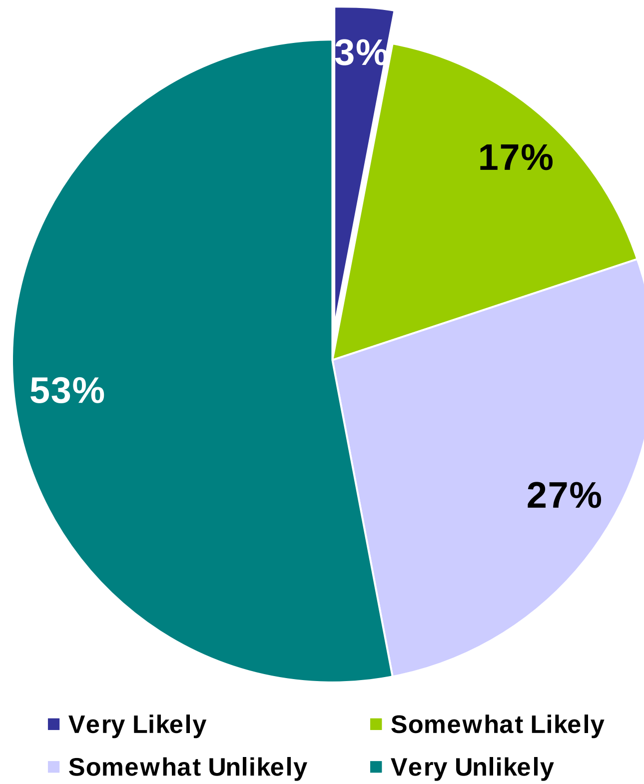
14% of sponsors offer annuities *outside* the plan.

Among others, likelihood of adding:



2% of sponsors offer annuities *within* the plan.

Among others, likelihood of adding:



Source: Hewitt 2010 Hot Topics in Retirement

Moving Forward

How Employers Can Improve Their DC Plans…

Consider Evolving DC Design to Outcome Orientation

- Pump up savings rates via escalation or match restructure
- Help participants understand a higher savings need in the “New Normal”
- Evaluate “risk factors” or what drives volatility in asset allocation
- Add diversifying assets (e.g., TIPS, Commodities, REITS, global bonds)
- Add tactical asset allocation and tail-risk hedging
- Seek best-in-class active managers with demonstrated skill

Creating a Better Future

- Make it easier to continue DB plans
- Strengthening DC plan results – in the current policy environment
- Possible changes in policy – DC focused
- Addressing issues outside of the plan
- Ideas for product developers/might require policy changes

These initiatives can't be effective without building awareness and literacy for retirement planning and saving

Strengthening DC Plan Results

- Improving participation
- Improving amount saved
- Enhanced investment risk management
- Limiting leakage from the system
- Offering access to an array of distribution options

Possible Changes in Policy

- Distribution period
- Easier safe harbors
- Changes in QJSA requirements for DC plans
- Loans and hardship withdrawals
- Addressing people without plans
  - Administration proposals for auto-IRAs
  - Possible extension of tax credits to lower income

Recommendations to Reduce Leakage
Some Policy Recommendations

Modify Loan Rules
- Make loans portable
- Extend repayment requirement
- Encourage plan sponsors to allow repayment after termination

Adjust Hardship Provisions
- Allow participants to recontribute monies
- Limit to 6 safe harbor reasons
- Restrict availability of other in-service withdrawals (to post 59-1/2)

Limit Cashouts
- Limit access to monies until age 59-1/2
- Extend hardship withdrawals for earlier needs
- Greater educational resources to help Americans understand impact

Ideas for Plan Sponsors
- Provide education and modeling tools
- Utilize safe harbor and hardship withdrawals
- Add loan fees to deter behavior
- Consider encouraging asset retention post-termination

Addressing Issues Outside of The Plan

- Disability
  - Need strong coverage including some protection for people who stop saving due to disability mid-career
  - Don’t use accumulated funds before retirement
- Distribution period
  - Long term thinking is key
  - Focus on couple/survivor benefits
  - Many people have multiple jobs
  - Organized systems of distribution important, but may not involve employer
- Distribution period – with policy changes
  - New defaults
  - More presentation of options/information linked to income

Ideas For Product Developers

- Deferred annuities for disabled participants that would provide retirement income lost during periods of disability
- Investment risk management techniques

Ideas for Individuals

- More planning is very important
- Pay attention to time horizon
- Think about retiring later
- What investment strategy best fits needed
- Purchase of life income— maybe deferred to 85

Moving to the Future

- Increase risk focus
- Comment from financial planner – “*If our clients lose a job or become disabled and we did not help them explore and plan for the risk, how will we feel about it*?”
- We will be increasingly on our own
- Family as risk pooler will again grow in importance

Appendix

Defining Retirement Income Adequacy
Approach used in The Real Deal study

Retirement Resources

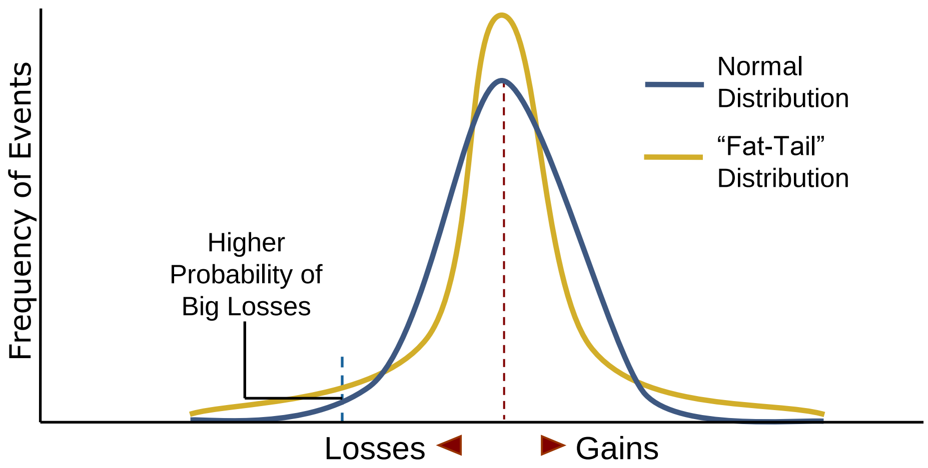
- Single sum value of amounts projected to be available to employees at retirement
  - Defined Contribution
    - Actual balances, contribution elections (including escalation) and current plan provisions
  - Defined Benefit
    - Current plan provisions (reflecting changes in past 5 years)
  - Social Security

Retirement Needs

- Single sum amount needed to sustain pre-retirement standard of living
  - Start with pay at retirement
  - Adjust for
    - Retirement savings stop
    - Taxes decrease
  - Reflect post retirement inflation
  - Add cost of medical care during retirement, assuming trend rate greater than general inflation

Express results as multiples of pay

Greater Risk of a Market Shock or "Black Swan" – or Two, Three, Four…



Daily Change in DJIA 1916 – 2009 (23,451 Trading Days)**

Daily Change (+/-)	Normal Approximation	Actual	Factor
> 3.4%	60 days	1041 days	17
> 4.5%	6 days	388 days	65
>7%	1 in 300,000 years*	53 days	Large

Source: PIMCO, Benoit Mandelbrot. – as presented at 2010 Society of Actuaries annual meeting

Sample for illustrative purposes only.

* Assumes 252 trading days per year.

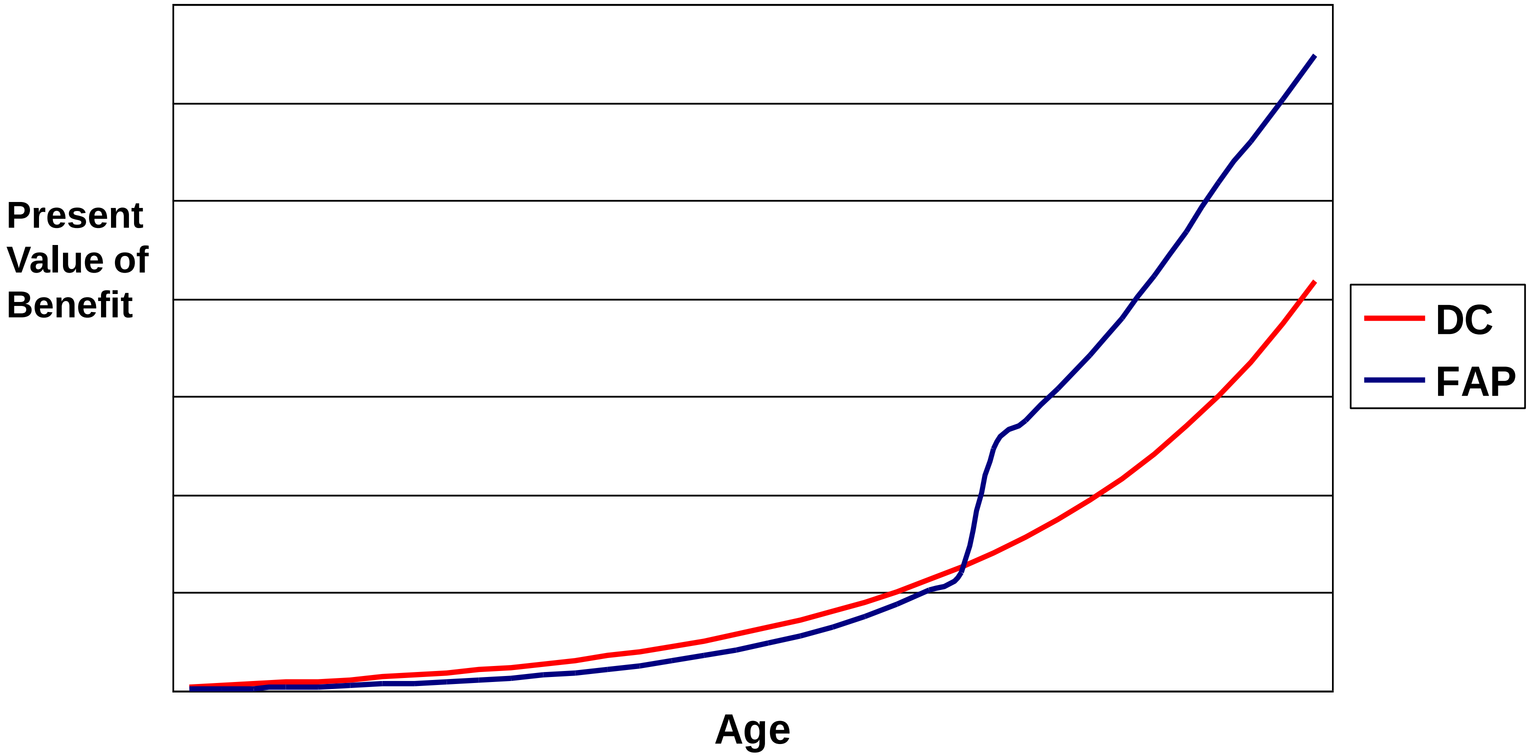
** The analysis of the final 1527 trading days (2003-2009) was conducted by PIMCO using historical data and identical methodologies as the original study conducted by Mandelbrot.

<u>Major Financial Crises since 1980</u>

1982	Mexico defaults on bonds leading to international debt crisis
1987	Black Monday, Dow drops 22.6% in one day
1989-91	United States S&L and Latin American debt crises
1992-3	European Monetary System crisis
1994-5	Mexican peso crisis, requiring $50 bn US guarantee
1997-8	Asian financial crisis, requiring $40 bn IMF bailout
1998	Russian default and LTCM
2001-2	Argentine default, dot-com bust, Sept 11 terrorist attacks
2007-9	Financial market meltdown

Job Changes

- Less impact in Defined Contribution than in FAP



- May use retirement resources between jobs (move likely in DC environment)