2024 EBRI–Milken Institute Retirement Symposium
Planning for Innovation & Impact
Welcome and Introductions

Barb Marder
President and CEO, EBRI

Michael Piwowar
Executive Vice President, MI Finance, Milken Institute
Thank you to our Sponsors!
Generative AI and Large Language Models: Opportunities, Risks, and its Use in Finance

Sri Krishnamurthty
CEO, QuantUniversity
ChatGPT, Generative AI and Large Language Models: Opportunities and Risks in Finance

Presented By:
Sri Krishnamurthy, CFA, CAP
sri@quantuniversity.com

01/23/2024
EBRI-Milken Institute 2024 Retirement Symposium
Washington D.C.
My life with ChatGPT in three examples!
Prepare a letter for a potential high net-worth investor who is interested in leveraging your investment advisory services.

The investor is planning to retire in 10 years and has two kids ready to go to college in 2 and 3 years.

He has a chronic health condition that requires significant medical expenditure on short notice and he needs to plan enough liquidity in his portfolio.

List out the data points you would want your client to bring to the meeting.

Start the letter by summarizing how the market did in 2023 (research the web for this information).
Investment Advisory Services:
Engagement Letter

Dear [Investor's Name],

I trust this letter finds you well. As we look forward to discussing how our investment advisory services can be tailored to your unique financial goals and needs, I would like to provide a brief overview of the market dynamics we witnessed in 2023.

The past year has shown a positive trend in the S&P 500, despite various challenges. The index rose from the beginning of the year, with significant growth towards the end, and the 10-year U.S. Treasury Yield reflected the changing economic landscape with its varied movements.

For our upcoming meeting, it would be beneficial for you to bring the following data points:
1. A detailed overview of your current investment portfolio.
2. Statements of your investment accounts for at least the last three years.
4. Records of your medical expenditures and any forecasts of future healthcare costs.
5. Your latest tax returns to understand your current financial standing better.
6. Any documentation pertaining to your retirement accounts and pensions.
7. Your estate planning documents, if available.

This information will enable us to construct a comprehensive and dynamic investment strategy that considers your upcoming retirement, your children's education, and the liquidity necessary for unforeseen medical expenses.

I look forward to our meeting and am committed to helping you navigate these important financial decisions.

Warm regards,

[Your Name]
[Your Title]
[Your Contact Information]
Review the agenda of the EBRI-MILKEN symposium (https://www.ebri.org/retirementsymposium # agenda) and prepare a letter of invitation summarizing the key themes and 3 three reasons why someone in the industry should attend it.

Export this letter into WORD format
You

Review the agenda of the EBRI-MILKEN CONFERENCE (https://www.ebri.org/reunionsymposium#Agenda) and prepare a letter of invitation summarizing the key themes and three reasons why someone in the industry should attend. Export this letter into WORD format.

ChatGPT

The EBRI-Milken Institute 2024 Retirement Symposium features an extensive agenda focused on several key themes:

1. The impact of Generative AI and Large Language Models on finance.
2. Innovations in FinTech and their role in enhancing financial security and retirement planning.
3. Discussions on employee financial wellness from the perspective of plan sponsors.
4. Insights from the C-suites on retirement and financial planning.
5. Presentations on recent research by EBRI and the Milken Institute.
6. Policy updates from Capitol Hill staff discussions on U.S. Social Security policy issues.
7. The importance of financial fluency and equity in saving for all.

For more detailed information, you can visit the event's agenda page here.

I'll now prepare a letter of invitation summarizing these themes and providing three reasons why someone in the industry should attend. After drafting the letter, I will export it into a WORD format.

Invitation to the EBRI-Milken Institute 2024 Retirement Symposium

Dear [Recipient Name],

I am delighted to invite you to the EBRI-Milken Institute 2024 Retirement Symposium, a premier event that brings together thought leaders and experts in the field of retirement and financial planning.

The symposium will cover several key themes, including the impact of Generative AI and Large Language Models in finance, the latest innovations in FinTech for retirement planning, and insights on employee financial wellness from renowned plan sponsors. Additionally, the event features a C-suite view on these topics, along with important policy updates from Capitol Hill staff and discussions on U.S. Social Security policy.

Attending this symposium will offer you unparalleled benefits:

1. Networking Opportunities: Engage with industry leaders and peers to build valuable connections.
2. Insightful Knowledge: Gain insights from top experts and stay ahead of the latest trends and research.
3. Practical Solutions: Discover innovative strategies to enhance your professional practice in retirement planning.

Your participation will be a valuable addition to the symposium, offering a unique perspective and contributing to the depth of the discussions. For further details about the event, please visit the symposium’s website.

We sincerely hope you will be able to join us for this enriching experience and look forward to your positive response.

Warm regards,

Your Name
Your Position
Your Contact Information
Being dad!

- Helping a 6th grader prepare for a quiz – in a car!
Sure, I can create a quiz on electromagnetic radiation for you. Here we go:

1. What is electromagnetic radiation?
   a. A type of sound wave
   b. Energy that travels in waves with electric and magnetic properties
   c. Only visible light
2. Which of these is NOT a type of electromagnetic wave?
   a. X-ray
   b. Sound wave
   c. Infrared light
3. What do we call the range of all types of electromagnetic waves?
   a. The electromagnetic spectrum
   b. The energy rainbow
   c. The wave collection
4. Which electromagnetic waves are used for cooking in microwave ovens?
   a. Radio waves
   b. Microwaves
   c. Ultraviolet waves
5. What type of electromagnetic radiation is used in hospitals to see inside the body?
   a. Gamma rays
   b. X-rays
   c. Infrared light
6. What is the difference between wavelengths and frequencies of electromagnetic waves?
   a. Wavelength is the color of the wave, frequency is the speed
   b. Wavelength is the distance between waves, frequency is how many waves pass a point in a certain time
   c. Wavelength and frequency are the same thing
7. Which type of electromagnetic wave has the longest wavelength?
   a. Gamma rays
   b. Radio waves
   c. Ultraviolet light
8. Which part of the electromagnetic spectrum can humans see with their eyes?
   a. Infrared light
   b. Visible light
   c. Radio waves
The upcoming AI and LLM revolution
Market impact at the speed of light!

Am considering taking Tesla private at $420. Funding secured.

Shareholders could either sell at 420 or hold shares & go private

Catherine Kang • Event-Driven Feeds | Bloomberg for Enterprise
2d • Edited

Elon Musk announced on Twitter today that he is considering taking Tesla private at $420/share.

Original tweet on Bloomberg Event-Driven Feeds:
Elon Musk: Am considering taking Tesla private at $420. Funding secured.

Bloomberg newsroom headline:
*MUSK: AM CONSIDERING TAKING TESLA PRIVATE AT $420
08/07/2018 12:48:40.650 ET

Please message me to learn more about how our Bloomberg newsroom verified and curated Twitter feed can benefit your trading.

Market Impact:
Interest in Machine Learning and AI Continues to Grow

Goldman Sachs hunts AI experts for all-important quant team

US bank is building its vast strats department by hiring a new generation of machine learning and artificial intelligence specialists

JPMorgan's latest hire proves the bank is serious about artificial intelligence

by Julia Horowitz @juliahorowitz
May 3, 2018: 7:48 PM ET

BlackRock bulks up research into artificial intelligence

World's biggest investment group to create AI lab in Palo Alto

Robin Wigglesworth in New York and Chris Flood in London FEBRUARY 19, 2018

BlackRock is setting up a new centre dedicated to research in ...
Machine Learning & AI in Finance: A Paradigm Shift

- Stochastic Models
- Factor Models
- Optimization
- Risk Factors
- P/Q Quants
- Derivative pricing
- Trading Strategies
- Simulations
- Distribution fitting
- Real-time analytics
- Predictive analytics
- Machine Learning
- RPA
- NLP
- Deep Learning
- Computer Vision
- Graph Analytics
- Chatbots
- Sentiment Analysis
- Alternative Data
The Machine Learning and AI Workflow

Data Scraping/Ingestion → Data Exploration → Data Cleansing and Processing → Feature Engineering

Robotic Process Automation (RPA) (Microservices, Pipelines)

Risk Management/Compliance (All stages)

Model Deployment/Inference → Model Selection → Model Evaluation & Tuning

Sw: Web/Rest API
Sw: GPU, Cloud
Monitoring
Auto ML
Model Validation
Interpretability
Hyper-parameter tuning
Parameter Grids

Data Engineer, Dev Ops Engineer

Modeling
- Supervised
  - Regression
  - KNN
  - Decision Trees
  - Naive Bayes
  - Neural Networks
  - Ensembles

- Unsupervised
  - Clustering
  - PCA
  - Autoencoder

Sw: Web/Rest API
Sw: GPU, Cloud
Monitoring

Risk Management/Compliance (All stages)

Data Scientist/Quants

Analysts & Decision Makers

Software/Web Engineer

Software/Web Engineer

Data Engineer, Dev Ops Engineer

Sw: Web/Rest API
Sw: GPU, Cloud
Monitoring
Auto ML
Model Validation
Interpretability
Hyper-parameter tuning
Parameter Grids
Enter ChatGPT

Introducing ChatGPT

We’ve trained a model called ChatGPT which interacts in a conversational way. The dialogue format makes it possible for ChatGPT to answer followup questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests.

Ref: https://openai.com/blog/chatgpt
The ChatGPT craze!

Can I put pineapple on pizza?

Yes, you can. It’s a matter of personal preference.
The prompt craze!

Midjourney, ChatGPT, DALL·E, Stable Diffusion & more Prompt Marketplace

Search 100,000+ top AI prompts. Produce better outputs, save on time & API costs, sell your own prompts.

Find a prompt  Sell a prompt
The hottest new programming language is English
OpenAI is not the only company!
Regulators catching up


Regulators catching up

https://www.washingtonpost.com/technology/2023/05/04/white-house-ai-ceos-meeting/
Companies are updating policies!
Standards bodies are soliciting information

Biden-Harris Administration Announces New NIST Public Working Group on AI

The group will build on NIST’s Risk Management Framework to tackle risks of rapidly advancing generative AI.

June 22, 2023

But innovation continues in the financial sector!

Morgan Stanley Wealth Management Announces Key Milestone in Innovation Journey with OpenAI

Mar 14, 2023

- Wealth Management division developing internal-facing service that leverages OpenAI technology and Morgan Stanley’s vast intellectual capital to deliver relevant content and insights into the hands of Financial Advisors in seconds, helping drive efficiency and scale
- Morgan Stanley currently OpenAI’s only strategic client in wealth management
- OpenAI relationship comes on the heels of several Artificial Intelligence (AI) projects initiated in recent years

Ref:
https://www.bloomberg.com/company/press/bloomberggpt-50-billion-parameter-llm-tuned-
finance/

Introducing BloombergGPT, Bloomberg’s 50-billion parameter large language model, purpose-built from scratch for finance

March 20, 2023

BloombergGPT outperforms similarly-sized open models on financial NLP tasks by significant margins – without sacrificing performance on general LLM benchmarks
The Fundamentals
A **foundation model** is a large artificial intelligence model trained on a vast quantity of unlabeled data at scale (usually by self-supervised learning) resulting in a model that can be adapted to a wide range of downstream tasks.

Ref: https://en.wikipedia.org/wiki/Foundation_models
A large language model (LLM) is a language model consisting of a neural network with many parameters (typically billions of weights or more), trained on large quantities of unlabeled text using self-supervised learning.

LLMs emerged around 2018 and perform well at a wide variety of tasks.

This has shifted the focus of natural language processing research away from the previous paradigm of training specialized supervised models for specific tasks.

Ref: [https://en.wikipedia.org/wiki/Large_language_model](https://en.wikipedia.org/wiki/Large_language_model)
Generative AI

A generative artificial intelligence or generative AI is a type of AI system capable of generating text, images, or other media in response to prompts.

Generative AI systems use generative models such as large language models to statistically sample new data based on the training data set that was used to create them.

Ref: https://en.wikipedia.org/wiki/Generative_artificial_intelligence
What is the GPT in ChatGPT?

- **Generative pre-trained transformers (GPT)** refer to a kind of *artificial intelligence* and a family of large *language models*.

- The subfield was initially pioneered through technological developments by *OpenAI* and associated offerings (e.g., *ChatGPT, API* services).

- GPT models can be directed to various natural language processing (NLP) tasks such as *text generation, language translation*, and *text classification*.

Examples
Some examples:

1. Retrieval Augmented Generation
2. Custom GPTs
   1. BloombergGPT
   2. IndexGPT
   3. DocLLM
3. Virtual Financial Assistants
4. Class
Morgan Stanley Wealth Management Announces Key Milestone in Innovation Journey with OpenAI

Mar 14, 2023

- Wealth Management division developing internal-facing service that leverages OpenAI technology and Morgan Stanley's vast intellectual capital to deliver relevant content and insights into the hands of Financial Advisors in seconds, helping drive efficiency and scale

- Morgan Stanley currently OpenAI's only strategic client in wealth management

- OpenAI relationship comes on the heels of several Artificial Intelligence (AI) projects initiated in recent years

Retrieval Augmented Generation (RAG)

1. Scrape a website
2. Chunk it into 500 character strings
3. Compute the Embeddings for all the chunks
4. Get the question from a user
5. Compute embeddings for the question
6. Find embeddings that are “similar” to the embeddings under consideration
7. Pass the question and the text chunks with similar embeddings to the GPT-5 model to get back a response
2. CustomGPTs: BloombergGPT

Introducing BloombergGPT, Bloomberg’s 50-billion parameter large language model, purpose-built from scratch for finance

March 30, 2023

BloombergGPT outperforms similarly-sized open models on financial NLP tasks by significant margins — without sacrificing performance on general LLM benchmarks

Ref:
2. CustomGPTs: IndexGPT

FINANCE

JPMorgan is developing a ChatGPT-like A.I. service that gives investment advice

PUBLISHED THU, MAY 25 2023 AT 5:50 PM EDT | UPDATED THU, MAY 25 2023 AT 6:03 EDT

Hugh Son @HUGH_SON

• JPMorgan Chase is developing a ChatGPT-like software service that leans on a disruptive form of artificial intelligence to select investments for customers, CNBC has learned.

• The company applied to trademark a product called IndexGPT earlier this month, according to a filing from the New York-based bank.

Ref:
2. DocLLM

JPMorgan Introduces DocLLM for Better Multimodal Document Understanding

The model may enable more automated document processing and analysis for financial institutions and other document-intensive businesses going forward.

Ref:
https://www.magenative.com/article/jpmorgan-introduces-docllm-for-better-multimodal-document-understanding/
3. Virtual Financial Assistant

Erica® is here for you, your life and your goals

Spend, save and plan smarter with Erica, your virtual financial assistant.

Ref: https://promotions.bankofamerica.com/consumer/ericabyyourside?cm_mmc=OLB-Mobile-Banking-_Google-PS_-bofa_eric-_Brand_Erica&gclid=Cj0KCQiAwbitBhDIARIsABfYILw8GzhARumSdttO9KH2S44wdf-RBCyTnHgKJQ7vng4Ml67E5m8aA1lIcALw_wcB&gclsrc=aw.ds
4. Possibilities!

3. **Personalized Healthcare Recommendations System**
   - Focus on personalized medicine and AI-driven recommendations.
   - Tech Stack: Airflow, FastAPI, Pinecone, OpenAI, Streamlit, Snowflake, PostgreSQL, Docker.
   - Github: [https://linkd.in/eurSn-bs](https://linkd.in/eurSn-bs)

4. **StyleLink: Personalized Fashion Discovery Platform**
   - Enhances online shopping with image recognition and NLP.
   - Tech Stack: Airflow, FastAPI, Langchain, Pinecone, OpenAI, Streamlit, MySQL, Docker.
   - Github: [https://linkd.in/eB4kN57w](https://linkd.in/eB4kN57w)

5. **Shakespearify - Shakespeare Play Illustration**
   - Adapts Shakespearean works for modern digital media.
   - Tech Stack: Airflow, FastAPI, Langchain, Stable Diffusion, OpenAI, Streamlit, Docker.
   - Github: [https://linkd.in/e6pBnPvd](https://linkd.in/e6pBnPvd)

6. **YelpoBot Explorer**
The Risks
The ATLAS Matrix below shows the progression of tactics used in attacks as columns from left to right, with ML techniques belonging to each tactic below. & indicates an adaptation from ATT&CK. Click on links to learn more about each item, or view ATLAS tactics and techniques using the links at the top navigation bar.

Ref:
https://atlas.mitre.org/matrices/ATLAS/
OWASP Top 10 for LLM

**Ref:** https://owasp.org/www-project-top-10-for-large-language-model-applications/
Insights from the QuantUniversity-Truera roundtable

1. LLMs in financial institutions are preferred for information retrieval, contextual search, and operational automation, with caution in client-facing applications due to reliability concerns.

2. Information retrieval use case emphasized with human-in-the-loop to ensure answer adequacy.

3. Risks like accuracy, hallucinations, and security issues identified with LLMs, especially concerns on mathematical abilities and misuse potential.

4. Managing LLM risks entails robust controls, unsupervised LLM use restrictions, and robust MRM controls, with confidence in information retrieval risk management.

5. LLMs affect job roles notably for data scientists and coders, heralding significant changes in job functions and data science democratization.
What will you build with Generative AI?
Sri Krishnamurthy, CFA Founder and CEO
QuantUniversity

- Founder of www.QuantUniversity.com
- Advisory and Consultancy for Financial Analytics
- Prior Experience at MathWorks, Citigroup and Endeca and 25+ financial services and energy customers.
- Columnist for the Wilmott Magazine
- Author of forthcoming book “AI Risk Management (Wiley)”
- Charted Financial Analyst and Certified Analytics Professional
- Teaches Data Science and Fintech related topics at Northeastern University, Boston
Thank you!

sri@quantuniversity.com

www.QuantUniversity.com
Thank you to our Sponsors!
Plan Sponsor View — Supporting Employee Financial Wellness

Josh Jessup
GM Global Retirement & Financial Wellness, Delta Air Lines

Chantel Sheaks
Vice President, Retirement Policy, US Chamber of Commerce

Justin Roberts
Principal, Global Financial Health, Amazon

Alison Mintzer
Head of ISS Media, PLANSPONSOR
Thank you to our Sponsors!
Employee discount programs, basic money management tools, and financial investment education are the most offered benefits. Few are currently offering debt or short-term loan benefits.

## Financial Wellbeing Benefits Offered

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Offer</th>
<th>Plan to offer</th>
<th>Not planning to offer</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee discount programs/partnerships</td>
<td>60%</td>
<td>27%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Basic money management tools</td>
<td>55%</td>
<td>27%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Financial investment/investing education, seminars, or webinars</td>
<td>55%</td>
<td>27%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Financial planning education, seminars or webinars</td>
<td>53%</td>
<td>30%</td>
<td>14%</td>
<td>3%</td>
</tr>
<tr>
<td>Tuition reimbursement and/or assistance</td>
<td>50%</td>
<td>38%</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Personalized financial counseling, coaching, or planning</td>
<td>44%</td>
<td>38%</td>
<td>20%</td>
<td>4%</td>
</tr>
<tr>
<td>Impact of inflation on retirement planning education, seminars, or webinars</td>
<td>42%</td>
<td>35%</td>
<td>20%</td>
<td>4%</td>
</tr>
<tr>
<td>Personalized credit/debt counseling, coaching, or planning</td>
<td>38%</td>
<td>38%</td>
<td>19%</td>
<td>4%</td>
</tr>
<tr>
<td>Emergency fund/Employee hardship assistance</td>
<td>38%</td>
<td>38%</td>
<td>19%</td>
<td>4%</td>
</tr>
<tr>
<td>Incentives/gamification around savings and financial actions</td>
<td>37%</td>
<td>22%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Bank-at-work partnership with a bank or credit union</td>
<td>36%</td>
<td>33%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Payroll advance loans through the employer</td>
<td>35%</td>
<td>31%</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>Child/elder caregiving benefits</td>
<td>34%</td>
<td>37%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Student loan debt assistance</td>
<td>34%</td>
<td>33%</td>
<td>29%</td>
<td>4%</td>
</tr>
<tr>
<td>Short-term loans through payroll deduction</td>
<td>32%</td>
<td>34%</td>
<td>34%</td>
<td>13%</td>
</tr>
<tr>
<td>Debt management services</td>
<td>28%</td>
<td>38%</td>
<td>28%</td>
<td></td>
</tr>
</tbody>
</table>

Q15. Does your company offer or plan to offer any of the following financial wellbeing or debt assistance benefits to employees? (n=252)
Q20. Which of the following does your company offer to help employees with personal financial challenges? (n=252)
Lunchtime Session: C-Suite View

Ken Mungan
Chairman, Milliman

Ed Murphy
President and CEO, Empower

Jon Kessler
President and CEO, HealthEquity

Stephanie Dhue
Senior Producer, CNBC
Research Presentations: Discussions of EBRI and Milken Institute Research

Craig Copeland
Director, Wealth Benefits Research, EBRI

Cheryl Evans
Director, Lifetime Financial Security, MI Finance, Milken Institute
A Shared Mission

Milken Institute

Nonpartisan, nonprofit, action-oriented think tank

Accelerating - measurable progress on the path to a meaningful life.

Focusing on - financial, physical, mental, and environmental health.

 Bringing together - the best ideas and innovative resources to develop blueprints for tackling some of our most critical global issues through the lens of what's pressing now and what's coming next.

MI Finance

Focuses on using finance as a force for good

Conducts research and constructs programs designed to facilitate the smooth and efficient operation of the financial markets – to help ensure that they are fair and available to those who need them when they need them.

Program areas:

MI Finance fulfills its goals by developing work products and supporting work that is:

- Thoughtful
- Intentional
- Impactful
- Creative
- Collaborative
- Results-Oriented
- Knowledge-Based
- Future-Focused
Strategies

- Agile and Forward-Looking
- Convene Policy Makers
- Convene Leaders In Finance and Business
- Convene Academics and other Experts
- Research

- Public Dialogue
- Working Groups
- Advisory Councils
- Events
- Media and Social Media Outreach
Making the Case for Change: Some Statistics

The world’s population is becoming older while longevity is increasing.

- By the year 2030, more people worldwide will be over the age of 60 than under 10.
- In 2024, 25% of American workers will be 55+ years, and by 2024, Americans 65+ will number 80 million.
- Those aged 65 in OECD countries can expect to live another 19.7 years.

Women and people of color face an even greater threshold for retirement preparedness.

- Women are at greater risk of not achieving a financially secure retirement than men due to gender wage gaps and caregiving responsibilities.
- Women, on average, have saved 30% less than men, and women live five years longer than men.
- The racial retirement gap is real, and employers pay people of color almost 15% less than their white counterparts.

Health Care is a significant expense for which many have not planned.

- The average couple age 65 in 2021 will likely need $300,000 to cover healthcare expenses in retirement.
- Most Americans have not planned for long-term care, and over 70% of those aged 65 will need to pay for long-term care.
The Pandemic set many back in their ability to plan.

- Many Americans decreased their retirement savings during the pandemic.
- In early 2021, more than 14 million Americans stopped making monthly retirement contributions and others reduced their contributions or withdrew retirement funds during the pandemic.

The average American does not have adequate savings to support retirement.

- 25% of all US households have no retirement savings at all.
- 61% of retirees said they wish they had planned better for the financial aspects of retirement.
- 53% of those working for companies with 50 or fewer employees have no employer retirement savings plan.

Education on Retirement savings products is key.

- Financial literacy positively affects involvement with pensions and the quality of pension and retirement-related decisions.
- Those with a financial plan are 2 ½ times more likely to save enough money for retirement.
Lifetime Financial Security Defined:

**Shifting the Retirement Paradigm: Moving Towards Lifetime Financial Security**

1. Having the financial ability to pay recurring monthly expenses.
2. Having the funds to pay for adequate housing.
3. Having the ability to absorb a financial shock (e.g., job loss or unexpected expense, such as a major car or home repair).
4. Setting and meeting both short-term and long-term financial goals.
5. Having a tax-deferred savings plan to save for the end of your traditional work life.
7. Being comfortable with the lifestyle you live and can afford.
Connections

- Inclusive Capitalism
- Financial Innovation
- New Strategies for Longer Work Lives
- Global Pension Strategies
- FinTech Applications
- Financial Education
- Public Policy Making
Ensuring a Safe, Secure Retirement is Within Reach for All

Focus Areas:

- Retirement investment vehicles for all
- Financial education focused on planning for a financially secure future
- Retirement savings gap affecting women
- The racial wealth gap and its impact on retirement savings
- Increasing awareness of and vehicles to fund medical costs for older Americans
- Changes to tax provisions and other savings plan changes to increase retirement funds
- Tech and other innovative options to engage younger people to save for the future
- Engaging with employers to facilitate longer work lives due to longevity
- Access to long-term care insurance
Cheryl Evans, JD, LLM
Director, Lifetime Financial Security Program
MI Finance
cevans@milkeninstitute.org
+1 646 988-9972
Retirement Security Projection Model: Assessing the Impact of SECURE on Retirement Security

EBRI-Milken Institute Retirement Symposium
January 23, 2024
Retirement Security Projection Model (RSPM®) — Introduction

• Originally developed in the late 1990s to determine the number and percentage of individuals who would qualify for Medicaid in select states.

• RSPM was expanded to a national model, with the first results released in 2003.

• Given its origin, along with accounting for investment risk and longevity risk, it also includes the risk of long-term health care costs through a stochastic simulation model.

• Uses all retirement plan income/assets (including current law Social Security benefits) plus home equity to compare against average deterministic costs in retirement plus stochastic long-term health care costs to see if each individual ages 35-64 has sufficient income to cover the simulated expenses throughout retirement.
Output Metrics

- **Retirement Readiness Rating (RRR)** — share of individuals projected to *not* run short of money in retirement

- **Average/Aggregate Retirement Savings Shortfalls (RSS-)** — average or total amount of money by which individuals run short of covering the projected expenses in retirement

- **Average/Aggregate Retirement Savings Surpluses (RSS+)** — average or total amount of money above what is needed to cover all projected expenses in retirement

- **Retirement Savings Net Outcomes (RSNO)** — the net outcome for all households (RSS+ minus RSS-)
RSPM Updates and SECURE 2.0

A recent prior update added Health Savings Accounts (HSAs) as a source of retirement income under a grant from the TIAA Institute that was released this summer. HSAs will continue to be a source of retirement income in RSPM.

NEW Updates
• New cohort and updated assumptions
• SECURE Provisions
  ❑ Coverage enhancements (tax credits, MEPs/PEPs, spillover effect of state-run auto-IRA plans)
  ❑ Automatic enrollment in new plans
  ❑ SAVER’s match
  ❑ Roth catch-up contributions and increases for those ages 60-63
  ❑ Indexed IRA catch-up contributions
  ❑ $1,000 emergency savings withdrawals

More provisions to be added
• Income options — immediate annuities and QLACs
• Auto portability
• Pension-linked emergency savings accounts
Aggregate Retirement Savings Shortfalls (RSS-), Surpluses (RSS+), and Net Outcomes (RSNO) — New Cohort and Updated Assumptions Compared With Old Baseline

Preliminary Findings

Baseline with HSAs

New Cohort and Updated Assumptions (New Baseline)
Retirement Readiness Ratings (RRR) — New Cohort and Updated Assumptions Compared With Old Baseline

Retirement Readiness Rating

Baseline with HSAs  New Cohort and Updated Assumptions (New baseline)

58.9%  59.9%

Source: RSPM

Preliminary Findings
Impact of Long-Term Health Care Costs, a Major Component of RSPM, on the Retirement Readiness Rating (RRR)

Accounting for long-term health care costs has a large impact on the observed retirement readiness of workers.

New Baseline: 59.9%

No Long-term Health Care Costs: 68.9%

Source: RSPM

Preliminary Findings
SECURE PROVISIONS
SECURE Provisions — SAVER’s Match With Auto-Enrollment in New Plans

Reduction in RSS-, by Age

Source: RSPM

Preliminary Findings
SECURE Provisions-Coverage Enhancements (Tax Credits, MEPs/PEPs, Spillover Effect of State Run Auto-IRA Plans)

Coverage enhancements provide some help in the retirement security gap among races — certainly, making it no worse.

Increase in RSS- and RSS+, by Race/Ethnicity

(Over $30 billion in 2021 improvement)

Source: RSPM

Preliminary Findings
Retirement Readiness Rating (RRR) — All Modeled SECURE Provisions (Full Cohort)

59.9%  
61.5%  

New Baseline  
All SECURE Provisions  

Source: RSPM

Preliminary Findings
Aggregate RSS-, Aggregate RSS+, and RSNO — Updated Assumptions Compared With Old Baseline and All Modeled SECURE Provisions

New Cohort and Updated Assumptions (New Baseline)

- $3.48

All Modeled SECURE Provisions

- $3.27

Source: RSPM

Preliminary Findings
RRR Percentage Point Improvement — All Modeled SECURE Provisions, by Age

Source: RSPM

Preliminary Findings
RRR Percentage Point Improvement — All Modeled SECURE Provisions, by Race/Ethnicity

Percentage Point Improvement in RRR

- Black: 1.7%
- Hispanic: 2.0%
- Other: 1.7%
- White: 1.5%

Source: RSPM

Preliminary Findings
Takeaways and Further Study

SECURE moves the needle forward on retirement security.

- The youngest cohorts are the most impacted, with larger improvements in the RRR and average retirement savings shortfalls, as they have longer times remaining in the labor force to benefit from the new provisions.
- The SAVER’s match with automatic enrollment has a particularly large impact on improving the likelihood of individuals to not run short of money in retirement.
- SECURE provides some help in reducing the gaps in retirement readiness among those of different races/ethnicities.
- Other provisions in SECURE have the potential to make additional improvements in retirement readiness on top of those currently modeled.

Future studies

- How can different drawdown strategies impact retirement readiness, including the use of different income options (immediate annuities and QLACs)?
- Effects of auto portability on retirement readiness through the consolidation and preservation of accounts
- Impact of pension-linked emergency savings accounts
Policy Update From Former Capitol Hill Staff

Kendra Isaacson
Principal
Mindset

Michael Piwowar
Executive Vice President, MI Finance, Milken Institute
Thoughts on U.S. Social Security Policy Issues

Kilolo Kijakazi
Deputy Commissioner, Office of Retirement and Disability Policy, U.S. Social Security Administration
Thank you to our Sponsors!
Breakout Discussions & Reports

Powering vs. Empowering Savings
How can we help employees build savings behaviors in a world of automation and defaults? How can we ensure money doesn’t leave the retirement system?

Too Many Savings Choices?
How can we ensure that emergency savings, HSA, 529, etc. do not crowd out retirement savings but maximize overall savings utility? How can we help workers make smart consumer finance decisions?

Behavioral Finance on Decumulation
How can we help workers and retirees make smart decisions about how to spend money in retirement? How can retirement income products guide spending behavior?

Access and Coverage — Global Learnings
What can the U.S. learn from retirement systems outside the U.S.?

Access and Coverage — Small Business
Are government mandates, state auto-IRAs, and Pooled Employer Plans working?
Financial Fluency and Equity in Saving for All: The Path to Hope and Prosperity

John Hope Bryant
CEO and Founder, Operation HOPE
Although the neighborhoods of Anacostia and Au-Tenleytown are less than 13 miles apart, the relative economic outlook of these neighboring communities is vastly different. The following data shows the remarkable financial disparity between these two communities.

<table>
<thead>
<tr>
<th></th>
<th>Anacostia 20032</th>
<th>Au-Tenleytown 20016</th>
<th>U.S. Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Credit Score</td>
<td>612</td>
<td>742</td>
<td>695</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$38,135</td>
<td>$175,534</td>
<td>$67,521</td>
</tr>
<tr>
<td>Unemployment</td>
<td>12.1%</td>
<td>3.0%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Homeownership Rates</td>
<td>26%</td>
<td>62%</td>
<td>65.8%</td>
</tr>
<tr>
<td>Median Home Value</td>
<td>$204,972</td>
<td>$973,793</td>
<td>$428,700</td>
</tr>
<tr>
<td>Property Crime (per 1K residents)</td>
<td>30.4</td>
<td>9.5</td>
<td>31.2</td>
</tr>
<tr>
<td>Violent Crime (per 1K residents)</td>
<td>17.5</td>
<td>1.1</td>
<td>4.0</td>
</tr>
<tr>
<td>HS Graduation Rate</td>
<td>72%</td>
<td>97%</td>
<td>85.3%</td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>69</td>
<td>83</td>
<td>79.1</td>
</tr>
</tbody>
</table>
**HOPE Credit Score Communities Impacts**

**HOPE Inside | Greater Washington D.C. - By the Numbers**

| **612** | Average beginning credit score for clients |
| **+41 pts** | Average increase in credit score for clients |
| **-$2,249** | Median reduction of client debt |
| **+$2,271** | Median increase in client savings |
The Delta Emergency Savings Program

A New Model for Boosting Employee Savings and Financial Wellness
Emergency Expense Preparedness
Tackling a national challenge within Delta’s walls

Our Emergency Savings Program is one of the newest ways we’re investing in our business by living up to our responsibility to care for our people. We’re hearing what a meaningful difference it’s already making—not just the funds themselves, but the confidence that comes from building skills around budgeting and saving.”

– Joanne Smith
Executive Vice President and Chief People Officer

1 in 4
57%
# The Delta Emergency Savings Program

## How it Works

1. **Financial Skills Learning**
   Employees choose from three financial coaching tracks based on where they are in their financial journey.

   **PATH #1**
   Manage Day-to-Day Saving & Spending
   with Operation HOPE
   For employees focused on short-term goals, making ends meet or making minimum debt payments.

   **PATH #2**
   Strengthen My Financial Foundation
   with Fidelity Investments
   For employees who want to learn how to prioritize their financial decisions, such as whether to buy versus rent or save versus pay down debt.

   **PATH #3**
   Focus on My Future Goals
   with Fidelity Investments
   For employees who have a solid financial foundation and want to learn how to optimize income and assets to fulfill their longer-term goals.

   Each track includes online educational modules that employees can do at their own pace, group financial sessions and one-on-one coaching sessions.

2. **Financial Skills Practice**
   Employees set up a Fidelity Cash Management Account to be used as their emergency savings fund and choose a payroll deduction amount to begin funding it.

3. **$1,000 Contribution from Delta**
   Employees earn a one-time contribution of $750 upon completing their online educational track and their first one-on-one coaching session, and an additional $250 contribution from Delta upon reaching $250 in savings from their payroll deductions.

4. **Financial Wellness Encouragement**
   From there, employees are encouraged to continue contributing to their rainy-day accounts until they have the recommended 3-6 months of expenses saved up, and to apply their new financial savviness as they build their 401(k)s for retirement.
Delta Emergency Savings Program participation, nine months in

- 29% of Eligible Employees have started the education program
- 33K+ Fidelity Cash Management Accounts opened
- 21.5K employees completed the program
- 51% are employees of color
- $21M Delta contribution incentives earned
- 3.5M minutes of financial education videos watched
- 37K financial coaching sessions attended
- $74 average payroll deduction
- $1,061 average total employee contribution to date
Thank you for attending!
Please take a few moments to share your feedback