

EMERGING INVESTMENT ISSUES

MARCH 2, 2020



Session Topics

(1) State-specific regulatory changes – Investment opportunities?

(2) Purpose-driven & social investing - What that means for pools?

(3) AI/machine learning processes – Impact to pools and capital markets?



State-specific regulatory changes...

(1)

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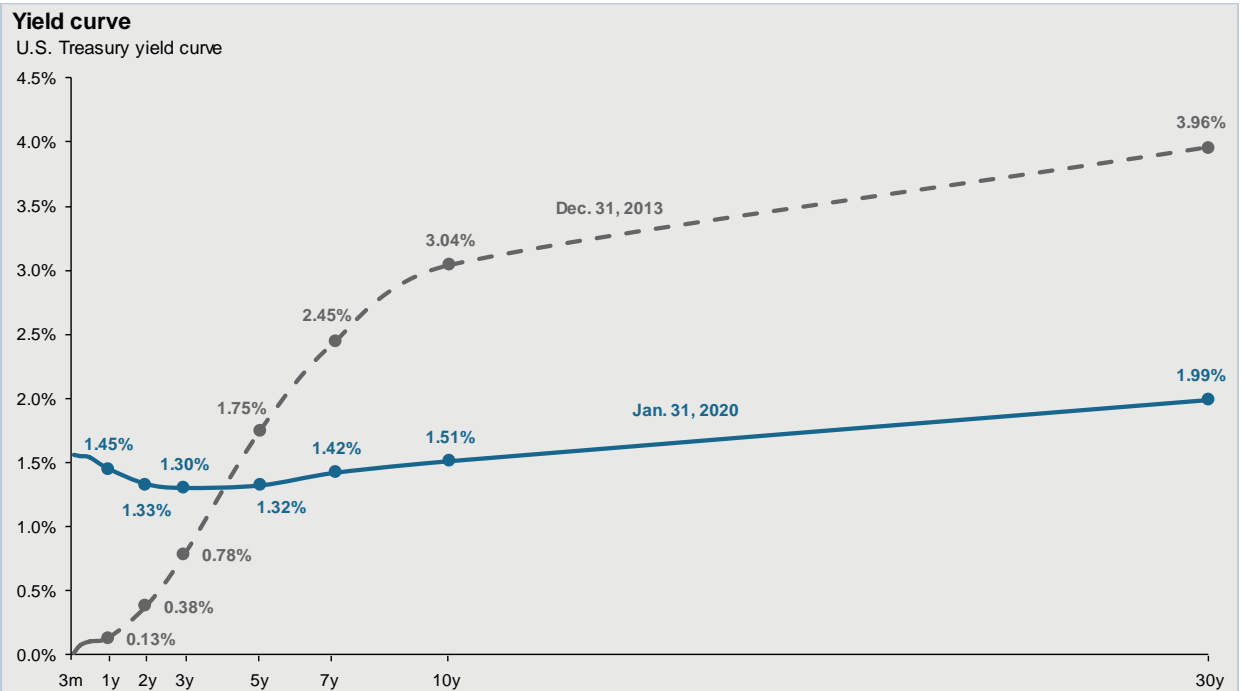
Risk Pool Investment Environment

UNCONSTRAINED



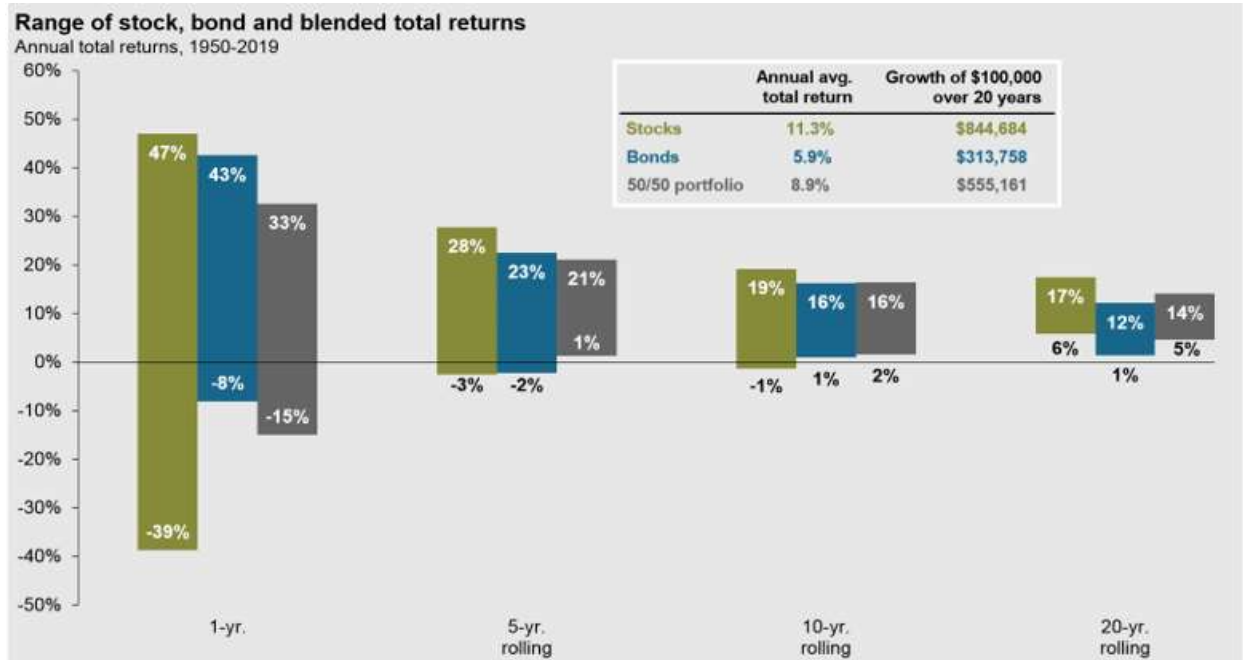
CONSTRAINED





Market yields

Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.



Time, diversification & the volatility of returns

Source: JP Morgan Asset Management

Investment Opportunities?

- 1) Unconstrained risk pools
- 2) Constrained risk pools
 - ☐ Captive formation
 - ☐ Regulatory changes for specified liabilities

Case Study -

- ☐ Mr. Bob Haynes, Deputy Executive Director
- ☐ Change In law added investment flexibility



Purpose-driven & social investing What that means for pools?

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Making sense of the ESG landscape



Environmental



Social



Governance

Carbon emissions	Diversity & workplace policies	Board structure
Energy efficiency	Labor standards	Board composition
Water scarcity	Supply chain management	Executive compensation
Waste management	Product safety and usefulness	Political contributions & lobbying
Pollution mitigation	Customer privacy	Bribery and corruption policies & oversight
	Community impact	Strategic sustainability oversight

ESG criteria sample

FIGURE 1: SNAPSHOT OF GLOBAL SUSTAINABLE INVESTING ASSETS, 2016–2018

Region	2016	2018
Europe	\$ 12,040	\$ 14,075
United States	\$ 8,723	\$ 11,995
Japan	\$ 474	\$ 2,180
Canada	\$ 1,086	\$ 1,699
Australia/New Zealand	\$ 516	\$ 734
TOTAL	\$ 22,838	\$ 30,683

ESG market size (in billions \$USD)

Source: 2018 GLOBAL SUSTAINABLE INVESTMENT REVIEW

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1. **NEGATIVE/EXCLUSIONARY SCREENING:** the exclusion from a fund or portfolio of certain sectors, companies or practices based on specific ESG criteria;
2. **POSITIVE/BEST-IN-CLASS SCREENING:** investment in sectors, companies or projects selected for positive ESG performance relative to industry peers;
3. **NORMS-BASED SCREENING:** screening of investments against minimum standards of business practice based on international norms, such as those issued by the OECD, ILO, UN and UNICEF;
4. **ESG INTEGRATION:** the systematic and explicit inclusion by investment managers of environmental, social and governance factors into financial analysis;
5. **SUSTAINABILITY THEMED INVESTING:** investment in themes or assets specifically related to sustainability (for example clean energy, green technology or sustainable agriculture);
6. **IMPACT/COMMUNITY INVESTING:** targeted investments aimed at solving social or environmental problems, and including community investing, where capital is specifically directed to traditionally underserved individuals or communities, as well as financing that is provided to businesses with a clear social or environmental purpose; and
7. **CORPORATE ENGAGEMENT AND SHAREHOLDER ACTION:** the use of shareholder power to influence corporate behavior, including through direct corporate engagement (i.e., communicating with senior management and/or boards of companies), filing or co-filing shareholder proposals, and proxy voting that is guided by comprehensive ESG guidelines.

Strategy definitions of sustainable investment

Source: Global Sustainable Investment Alliance (GSIA)



Global growth of sustainable investing strategies 2016 - 2018

Source: Global Sustainable Investment Alliance (GSIA)

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Myth: *They Underperform*



Facts:

- > Sustainable investing does not compromise performance.
- > In fact, sustainable investing demonstrates lower risks, with 20% smaller downside deviation over time than traditional funds.

Myth: *They're Expensive*



Facts:

- > This myth began when the first version of sustainable funds was run by small asset managers charging high fees.
- > At the end of 2017, when comparing expense ratios of sustainable open-end funds to their peers, the expense ratio was evenly distributed from low to high.
- > More than 40 sustainable ETFs have expense ratios less than 50 basis points; in fact, 13 charge between 9 and 20 basis points.

Myth: *Limited Options*



Facts:

- > More than 500 funds are available to investors.
- > As of midyear 2019, there are 279 sustainable funds open to U.S. investors.
- > Another 247 funds recently added ESG criteria to their prospectuses.

Busting myths about sustainable funds

Source: Morningstar, Morgan Stanley Institute for Sustainable Investing

Consideration for risk pools

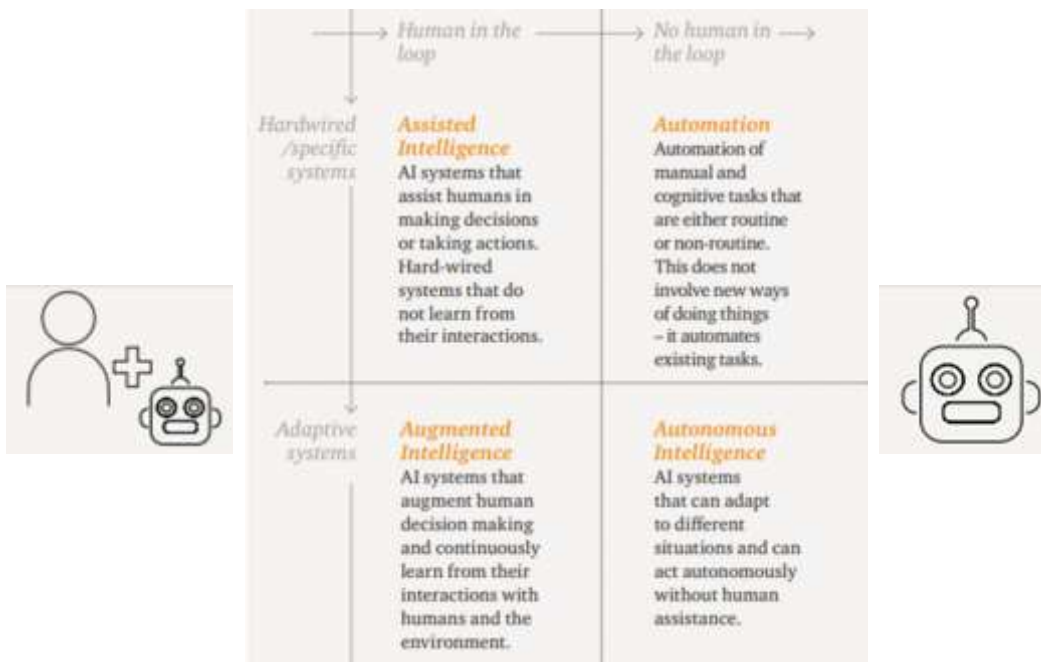
- 1) Risk pools are already “impact investors” given their purpose.
- 2) How does your current portfolio align with ESG investment definitions?
- 3) How might an ESG portfolio overlay impact your current allocation? Perception from your members?



Artificial intelligence & investing What that means for pools?

(3)

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Types of AI systems

Source: PwC Financial Services

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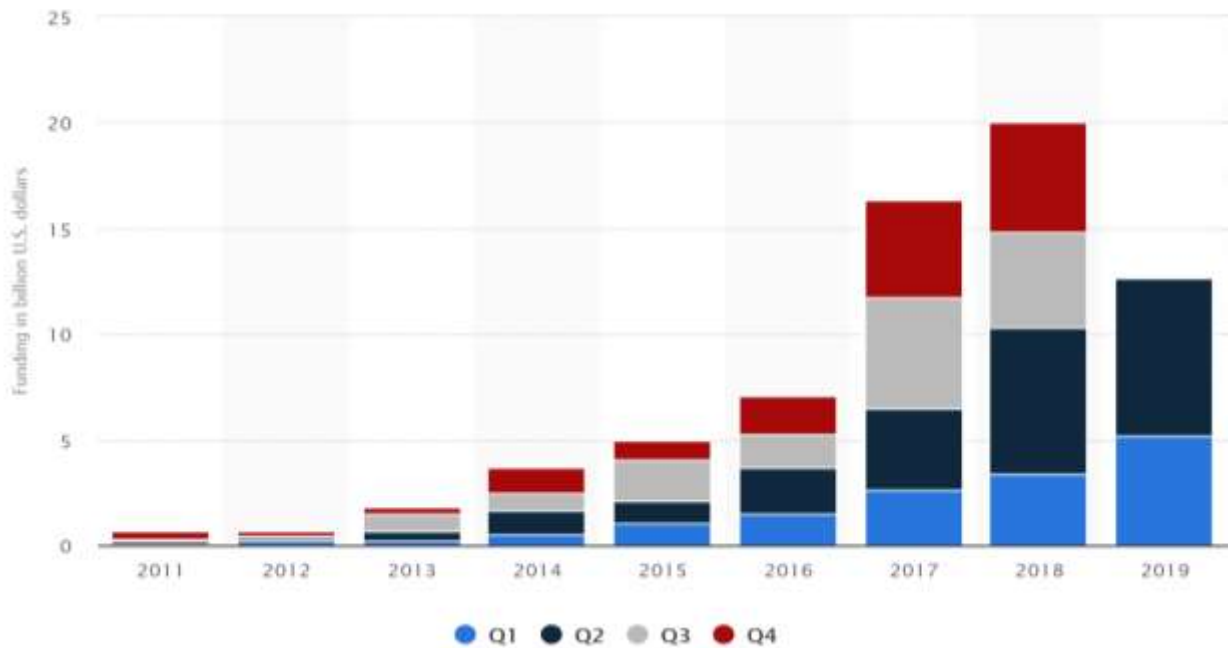


Machine learning process

Source: TechTarget

Some machine learning history

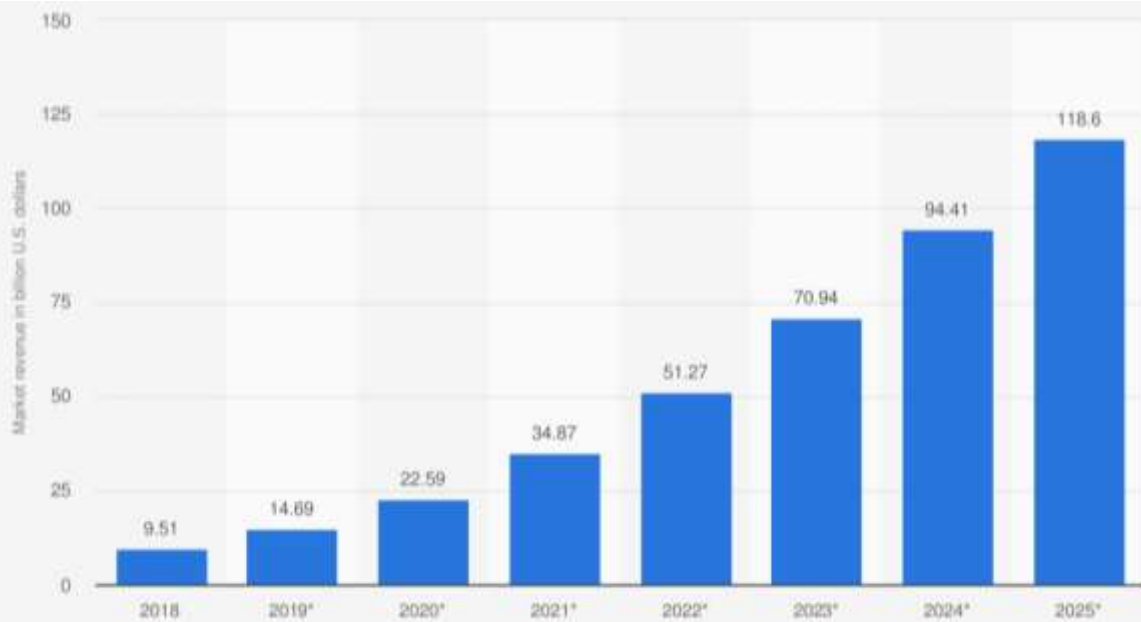
- ❑ 1679 – Binary code (basis for current machine language)
- ❑ 1847 – Boolean logic
- ❑ 1936 – Alan Turing proposes universal machine that could decipher and execute a set of instructions...his published proof is considered the basis of computer science.
- ❑ 1959 – First Artificial Neural Network applied to real world problem: removing echoes from phone lines
- ❑ 1997 – IBM Deep Blue beat Garry Kasparov
- ❑ 2014 – Google's AlphaGo defeat human in Go, the world's most difficult board game.
- ❑ 2019 – Amazon controls 70% of the market share for virtual assistants in the U.S.



Artificial intelligence startup funding worldwide

Source: Venture Scanner

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Expected global AI software market revenues

Source: Tractica

Key Benefits of AI

- 1) Predictive Power
- 2) Accuracy
- 3) Efficiency
- 4) Scalability

Key Risks/Challenges of AI

- 1) Data management
- 2) Potential surprises
- 3) A winner-take-all environment
- 4) Not enough transparency

Portfolio management and client enablement:

- **Automated insight:** reading earnings transcripts to assess management sentiment
- **Relationship mapping:** identifying nonintuitive relationships between securities and market indicators
- **Alternative datasets:** analyzing alternative data such as weather forecasts and container ship movements, monitoring search engines for words on specific topics to structure hedging strategies
- **Growth opportunities:** using corporate website traffic to gauge future growth along with clients' behavioral patterns
- **Client outreach:** smart client outreach and demand generation via analytics, using alternative data sources such as social media data

Front, middle, and back office efficiency:

- **Operations intelligence:** using machine learning to automate functions
- **Powering risk performance:** AI-based algorithms and machine learning to monitor for suspicious transactions, and trigger response protocols
- **Reporting and servicing:** generating reporting for clients, portfolio and risk commentary, and marketing material using natural language processing
- **On-demand reporting:** chatbots and machine learning used to respond to employee or investor queries, generating management reporting on-demand
- **Employee insights:** monitor employee conduct risk and employee morale

AI use-Cases in investment management

Source: Deloitte

Considerations for risk pools

- 1) How is your current investment manager utilizing AI?
- 2) Or, how are they acknowledging the use of AI across the investment markets?

Social acceleration: A new theory of modernity

By Hartmut Rosa

- ❑ Speed of human movement from pre-modern times to today has increased by a factor of **100...**
- ❑ The speed of communications has increased by a factor of **10,000,000...**
- ❑ And, the speed of data transmission has increased by a factor of **10,000,000,000...**

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Questions & answer session