



Yale SCHOOL OF MANAGEMENT

# Can We Improve Pension Choices?

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# Pension choices

- Contributions
- Allocation across asset classes
- Choice of funds within asset classes

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# Economic theory on optimal savings rate

## Trade-offs

- Each additional krona of spending brings less pleasure than the prior krona of spending
- Earlier pleasure is more valuable than later pleasure
- Investment returns are positive on average

# Economic theory on optimal savings rate

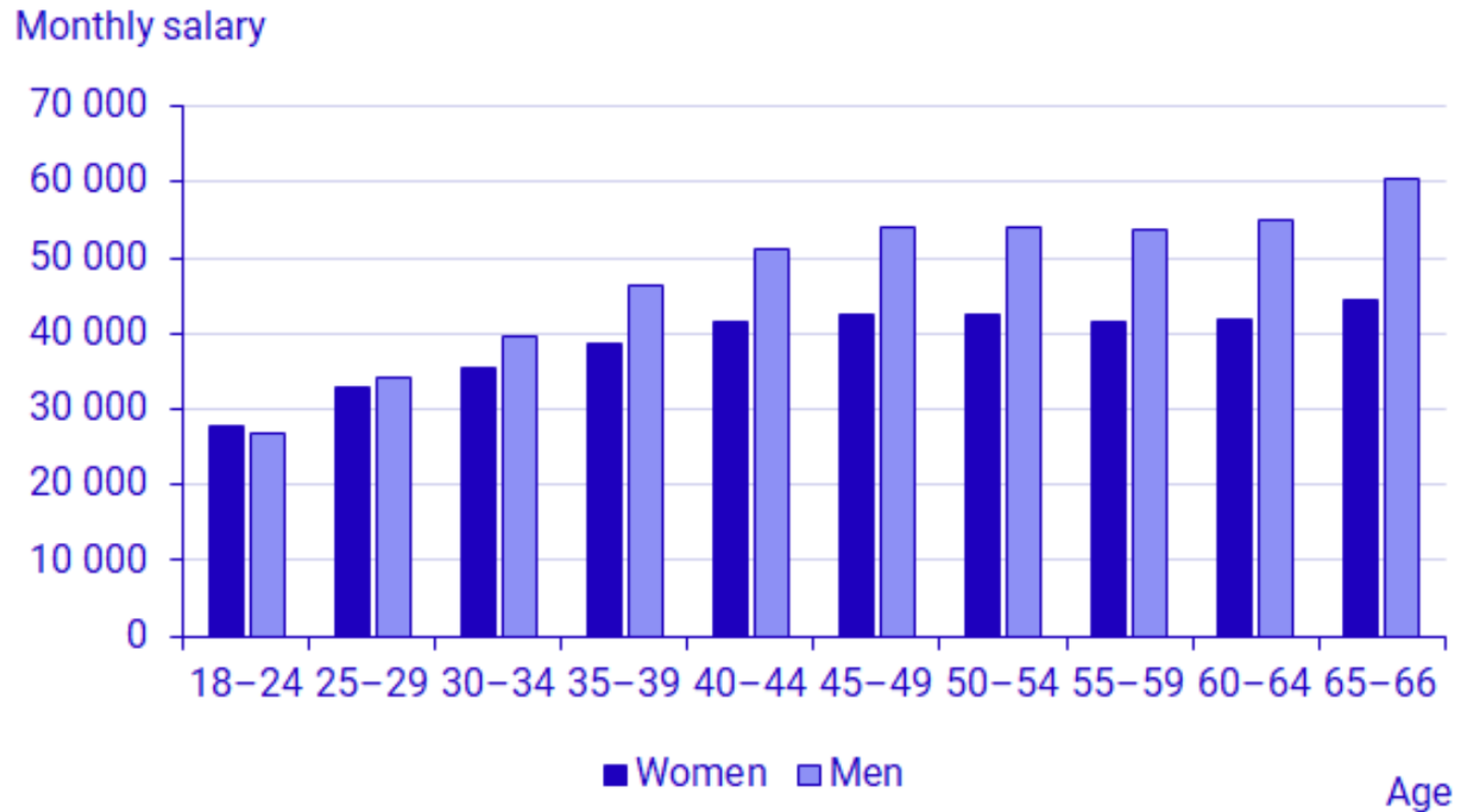
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Theory of optimal *consumption* path  
Optimal savings = income – optimal consumption

# Average monthly salary by age, 2022

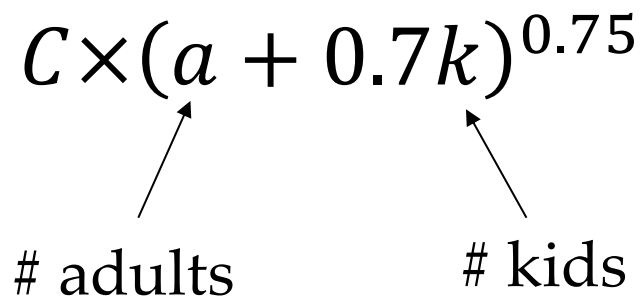


# Adjusting spending for household size

*Approximation:* To achieve per-capita living standard of a one-person household spending  $C$  kr, need to spend

$$C \times (a + 0.7k)^{0.75}$$

# adults                  # kids



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*Example:* Single person spending 300,000 kr lives as well as 2 adult 2 kid household spending

$$300,000 \times (2 + 0.7 \times 2)^{0.75} = 300,000 \times 2.5 \text{ kr}$$



# Tension

Economic theory generally prescribes a savings rate that

- *Increases* on average with age
- *Decreases* with number of children

Swedish pension contributions don't vary in this way

# Why lay personal finance advice recommends constant savings rate

- Compound interest is powerful
- Need to build discipline of saving

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# How risk averse are you?

*Upper limit of what economists typically think is reasonable:*

Indifferent between

- 50% chance of 512,000 kr, 50% chance of 1,024,000 kr
- 553,000 kr for sure

Need 85% potential upside return to compensate you for -7% downside return

# Standard economic models recommend aggressive portfolio

Even for such an extremely cautious individual, in a U.S. labor market, assuming only 4% average stock return above safe asset

- 100% stock allocation through your 50s
- Because your human capital is like a bond

# Default AP7 Såfa fund

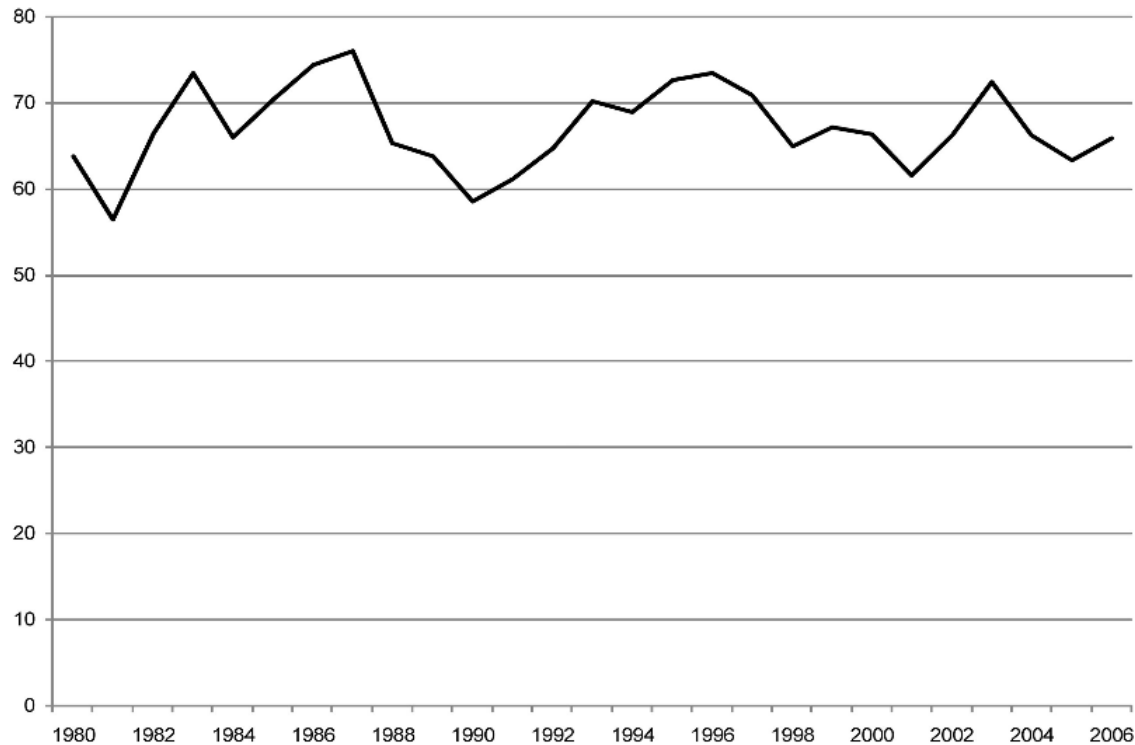
- 125% equities through age 55
- Equity exposure declines gradually from age 55 to 75
  - Age 75+ exposure: 42% equities
- Overall risk in household's portfolio is still rather low
  - Premium pension is small relative to other pensions

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# Active vs. passive management

Aggregate active U.S. equity fund underperformance per year



0.67% per year on average

**Figure 3. The difference between the actual and passive costs of investing, in basis points, 1980–2006.**

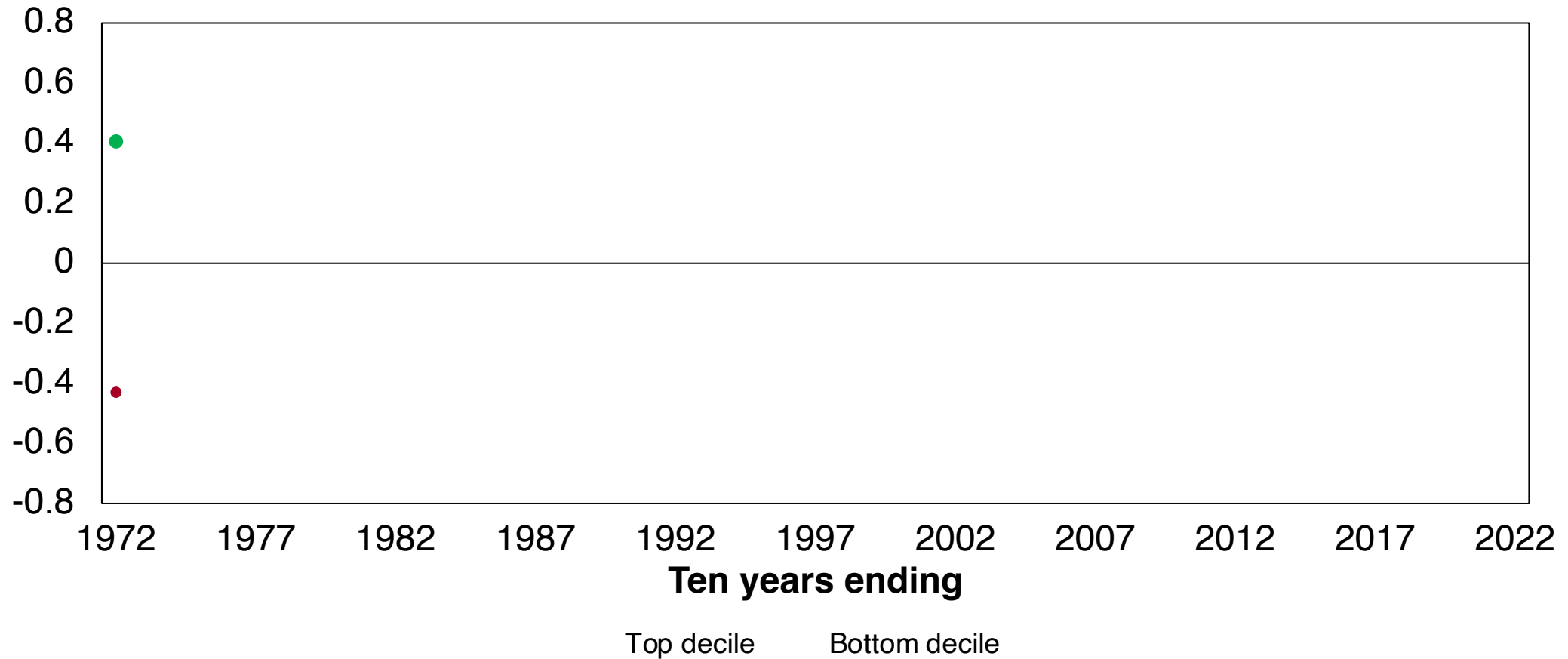


# Past performance and future returns

- Each January, sort U.S. active equity funds by past year's return
- *Winner portfolio*: Equal allocation to each fund in the top 10% of past-year return
- *Loser portfolio*: Equal allocation each fund in the bottom 10% of past-year return

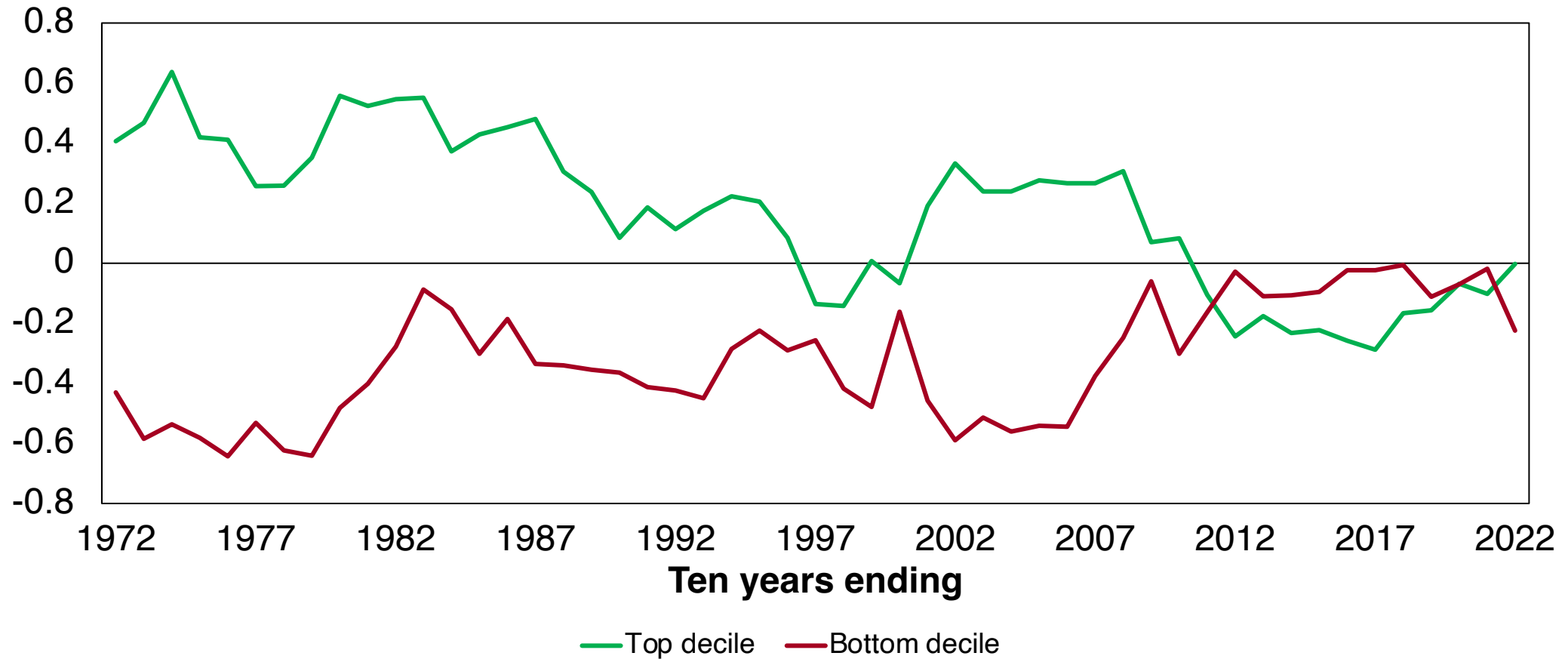
# Past performance and future returns

One-factor monthly alphas estimated using portfolio's rolling 10-year past returns



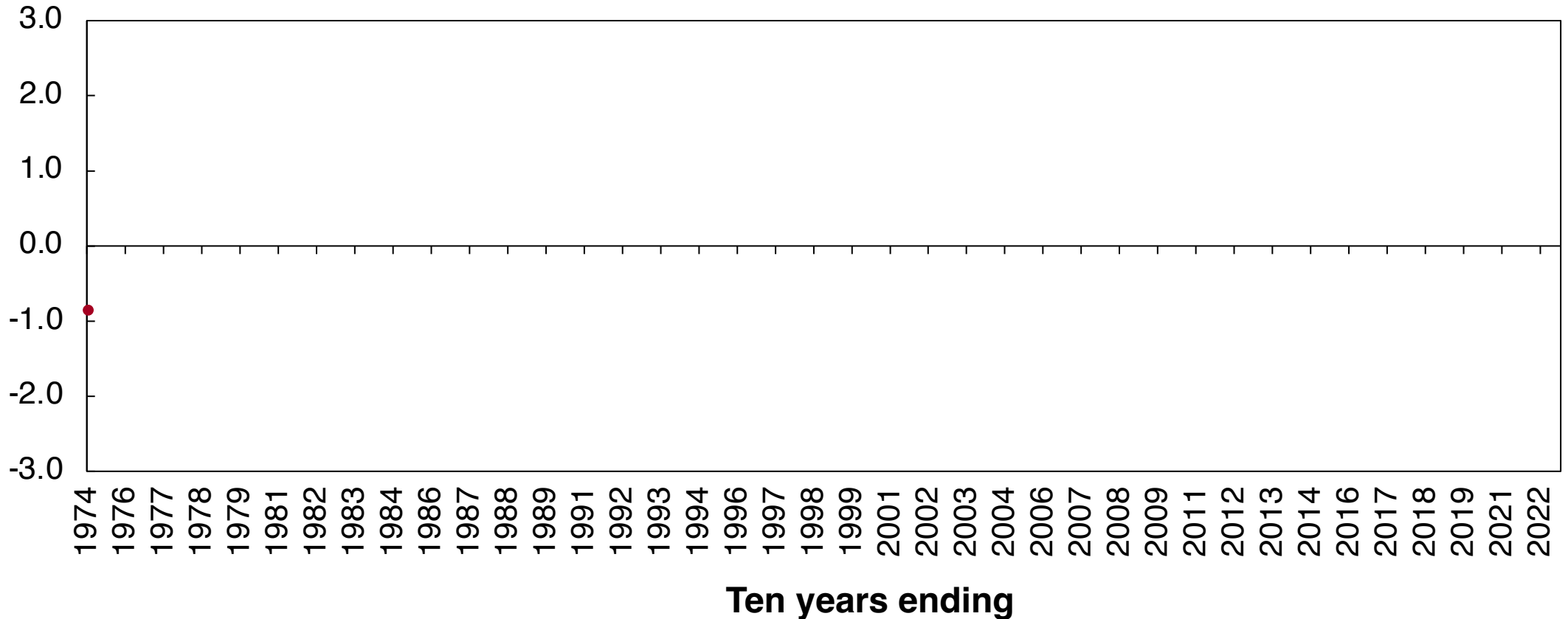
# Past performance and future returns

One-factor monthly alphas estimated using portfolio's rolling 10-year past returns



# Expense ratios and future returns

**Increase in one-factor alpha associated with 1 unit increase in expense ratio, 10-year moving average**



Alphas estimated using most recent 36 months of returns

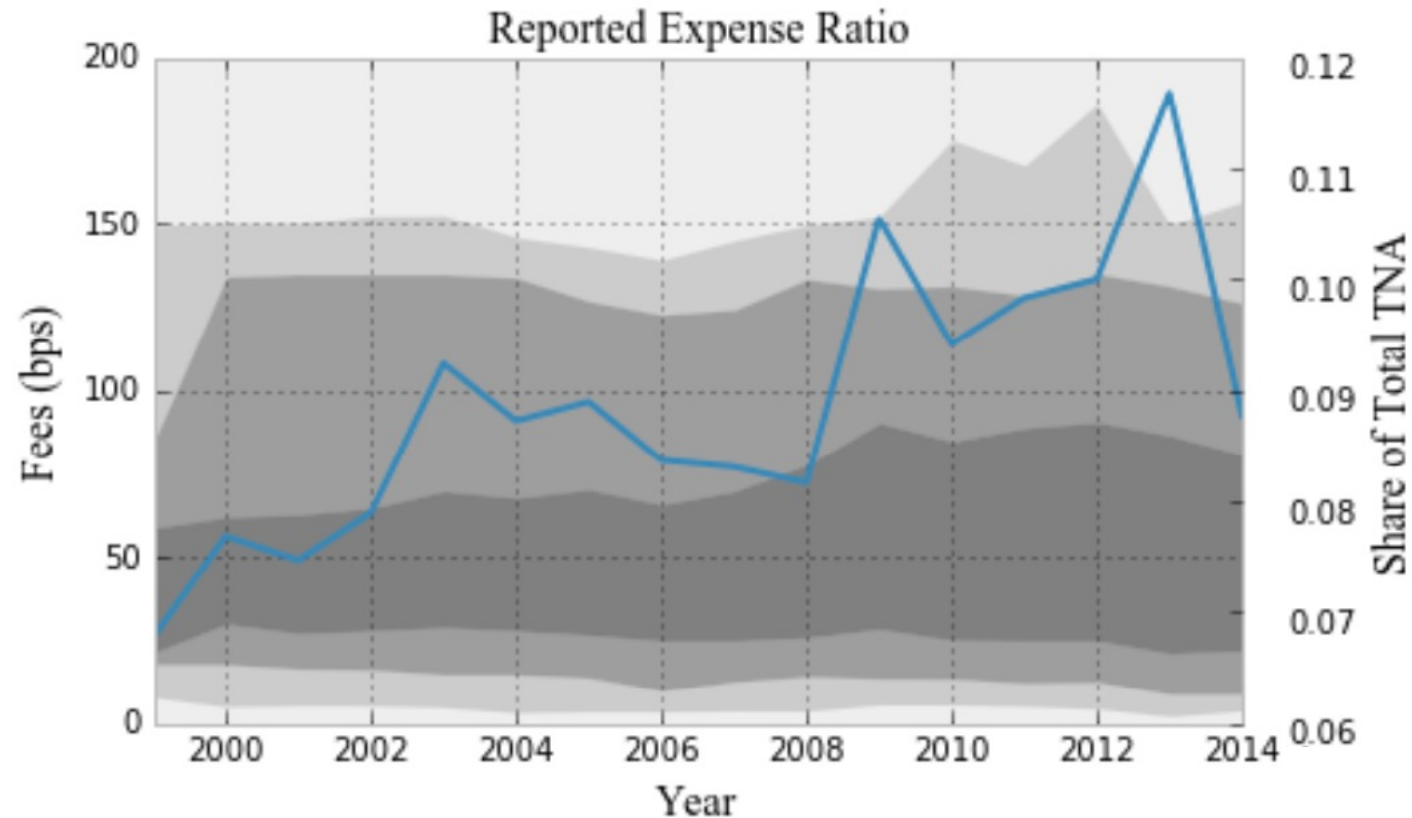
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# Fee dispersion among S&P 500 index funds



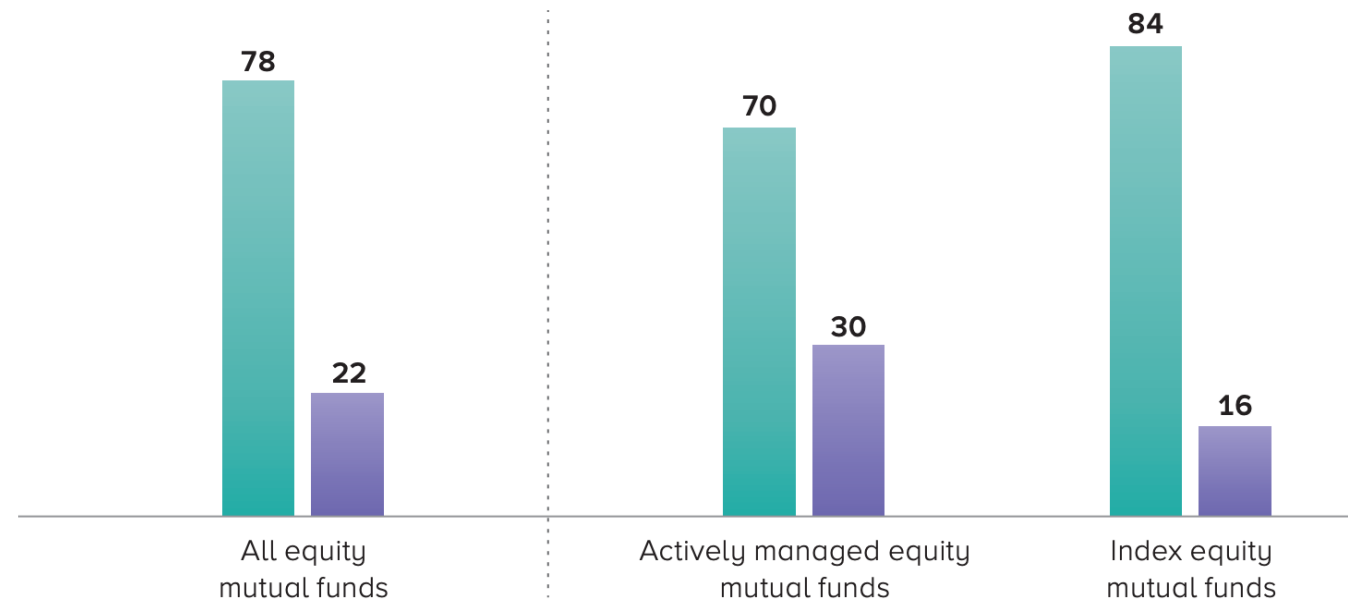
Shaded areas indicate 25th to 75th percentiles (darkest gray), 10th to 90th percentiles (medium gray), 1st to 99th percentiles (light gray). Blue line is fraction of total mutual fund net assets represented by S&P 500 index funds. Source: Cooper, Halling, and Yang, 2018. "The persistence of fee dispersion among mutual funds." Working paper.

# Assets do trend towards cheaper funds

## Total Net Assets Are Concentrated in Lower-Cost Mutual Funds

Percentage of total net assets, 2021

- Mutual funds with expense ratios in the lowest quartile
- Mutual funds with expense ratios in the upper three quartiles



Note: Data exclude mutual funds available as investment choices in variable annuities.

Sources: Investment Company Institute and Morningstar



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# 401(k) retirement savings plan sponsors' duty to employees

- Investment menu must be constructed solely in the best interest of the employees
- Menu must be “prudent” and allow diversification “so as to minimize the risk of large losses”
- Pay only “reasonable plan expenses”

# 401(k) excessive fee lawsuits

“From 2019 to mid-2022, according to one count, over 200 class action lawsuits were brought against 401k plans, their fiduciaries, and their sponsors. During that same period, companies spent over \$150M to settle such suits.”

—*Jay Sabin, Brach Eichler LLC*



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# Summary

- Pension contribution rates that adjust with age and household size?
- More risk in pension investments?
- More restrictions in allowable pension investment funds?