State and local pension pressure compounded by coronavirus shock

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Pre-coronavirus pension risks higher than years preceding the Great Recession

Larger unfunded liabilities
- 2019: $4.1 trillion (19% of US GDP)
- 2007: $1.6 trillion (11% of US GDP)

Similar scale of asset risk
- 2019 assets: $4.8 trillion (22% of US GDP) (62% corporate equities)
- 2007 assets: $3.3 trillion (23% of US GDP) (56% corporate equities)

Higher annual costs
- Contributions relative to revenues at or near historical peaks for many…
- …but often do not “tread water” under reported discount rates

Weaker cash flow
- Negative non-investment cash flow (NICF) will constrain asset accumulation without higher contributions

Less pension “smoothing” capacity
Government contribution decisions in coming years will be a differentiating factor impacting pension risk

Pension systems with significantly negative NICF are most susceptible

- Example large US public retirement system, with ~ -4% NICF, 11 year asset/benefit coverage in 2019
  - 24% probability of depletion by 2045, based on current (baseline) statutory contribution rate
  - 39% probability of depletion by 2045, if three-year contribution moratorium, followed by return to baseline

- Asset depletion presents additional risks
  - “PAYGO jump” cost increase
  - No ability to spare gov’t budget without benefit impairment
  - May also lose active employee contributions to an insolvent retirement system

Source: Moody’s Investors Service

Asset / benefit coverage, 25\% – 75\% confidence band
Lower for longer interest rates mean higher risk to providers of guaranteed annuities

» Boyd, et al:
  - Benefit contingencies provide governments some downside protection...
  - …but materiality of risk-reduction is limited
  - COLA changes provide liability savings potential, often a focal point of litigation

» Costrell & McGee
  - Lower near-term contributions & volatile investments → higher risk of unexpectedly high future contributions
  - “Expected contribution” weighted composite acknowledges solvency risk not always visible in governmental pension accounting