Purpose

• Recap some of the content that was presented at the 2017 Public Pension Funding Forum.
• Share with you some of the research we have been engaged in since then.
• Discuss some of the future research we plan to undertake.
Recap of the 2017 Forum Content
2017 State Pension Landscape
Types of Pension Attacks

Converting defined benefit pension to:
- 401(k)
- Hybrid
- Cash Balance

Smaller changes like:
- Increasing retirement age
- Increasing years for average salary
- Opt-out provisions for entities or individuals
Tracking Anti-Pension Activities

- Laura and John Arnold Foundation
- Reason Foundation
- ALEC/Heritage Working Group
- Retirement Security Initiative (RSI)
- Pew Charitable Trusts
Opportunities for Pension Funds in the Age of Trumponomics: Infrastructure Investments

Presented by Allan Emkin

September 11, 2017
INFRASTRUCTURE INITIATIVES UNDER PRESIDENT TRUMP

- President Trump’s $1 trillion infrastructure plan remains unveiled – likely to be pushed to next year
  - The plan seeks $200 billion in federal spending and $800 billion from private investors over the course of 10 years
  - An effort to boost private investment, increasing state and city-level public private partnership ("PPP" or "P3") projects
    - P3s currently account for less than 5% of infrastructure investment in the U.S.

- States continue to pass P3 legislation
  - 35 states, the District of Columbia and one U.S. territory have now passed P3 legislation

- Executive order issued to establish an infrastructure advisory council – with a focus across all infrastructure sectors
  - Required overhaul of tax codes needed, tax reform likely to come first, along with the finalization of the federal budget

- Meanwhile, as local municipalities await more details on federal funding, less bonds are being issued for infrastructure projects
  - Municipal deals to fund projects are down 19.4% compared to last year, outpacing the drop in the U.S. bond market with total issuance down 13.1%
  - Deals coming to market are priced high

- Initial news of the infrastructure plan is already drawing interest from global investors
  - Will U.S. institutional investors follow?

Source: Bloomberg, Meridiam, U.S. Department of Transportation, Thomson Reuters
Potential New Federal Policy Tools to Encourage Pension Fund Investment in Public Infrastructure

National Conference on Public Employee Retirement Systems

Public Pension Forum       San Francisco
September 11, 2017

David Seltzer
Could Pension Investment play a role?

Or are U.S. Pension Funds and U.S. Public Infrastructure “2 ships passing in the night”?

Project Sponsors: 
Seeking Low-cost Tax-Exempt Financing

Pension Funds: 
Seeking Competitive Taxable Yields
II. Tax Code Incentive: Monetizing Tax Credits attached to Debt or Equity Investment

*Why might Policy makers prefer using tax code measures instead of grants? More complicated, but—*

- Avoids appropriations and the highly-constrained Discretionary Budget spending caps.

- The fiscal cost—*Tax Expenditures*—is spread over a 10-year window in the Mandatory Budget, and should be easier to absorb.

- Required private co-investment serves as a litmus test of financial feasibility.

- Philosophically & politically, many Members of Congress perceive tax credits as a form of “reducing tax burden.”
Version A: With Tax-Advantaged Debt:

Step 1: Assume a Pension Fund pays $10 million/year in retirement benefits to annuitants, netting out 10% federal income tax withholding due to Treasury.
Pension Funds and Public Infrastructure: Bound together on a common course?
Funding Public Pensions
Where did we go wrong?
… and are you sure?

Tom Sgouros
Brown University
Visualize a pension system
http://sgouros.com/haas-jmf/piggy/

The circles at the top of the graphic represent age classes of a pension system, with 20-year-old new hires at the left and the elderly retired shuffling off this mortal coil at the right. The translucent circles are payments, with premium payments flowing down into the pension fund and benefit payments going back up. The reddish coins falling into the piggy bank are premium payments and the orange coins are investment income. The funding ratio is shown to the right, but you can also tell from how full the piggy bank looks. If you hold your mouse over one of the age class circles, you can see some information about that class. The population used here is a sample of a much larger population, so the age classes will seem small.

What you see here is a model system, built using financial, mortality, and member data sampled from the CalSTRS system, as of 2013, with a much lower asset level for illustration purposes. It tries to incorporate the uncertainty and randomness of the real world, though does not attempt to incorporate real-world investment results. Obviously, no model can capture all the complexity of a real system, but there is a fully-functional, actuarially sound model behind this graphic display that can be applied to the demographics and financial circumstances of any specific pension system.

Click on the image to pause the animation. Contact tom@ this web site for more information.
**Visualize a pension system**

The circles at the top of the graphic represent age classes of a pension system, with 20-year-old new hires at the left and the elderly retired shuffling off this mortal coil at the right. The translucent circles are payments, with premium payments flowing down into the pension fund and benefit payments going back up. The reddish coins falling into the piggy bank are premium payments and the orange coins are investment income. The funding ratio is shown to the right, but you can also tell from how full the piggy bank looks. If you hold your mouse over one of the age class circles, you can see some information about that class. The population used here is a sample of a much larger population, so the age classes will seem small.

What you see here is a model system, built using financial, mortality, and member data sampled from the CaSTRS system, as of 2013, with a much lower asset level for illustration purposes. It tries to incorporate the uncertainty and randomness of the real world, though does not attempt to incorporate real-world investment results. Obviously, no model can capture all the complexity of a real system, but there is a fully-functional.
### Pension Fund Modeling

#### Year 2030

<table>
<thead>
<tr>
<th>Year</th>
<th>Balance 1/1</th>
<th>Premiums</th>
<th>Benefits</th>
<th>Income</th>
<th>Balance 12/1</th>
<th>Full Funding</th>
<th>Funding ratio</th>
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</thead>
<tbody>
<tr>
<td>2030</td>
<td>5,400</td>
<td>764</td>
<td>829</td>
<td>-1056</td>
<td>5,198</td>
<td>12,307</td>
<td>42.7%</td>
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<tr>
<td>Year</td>
<td>Balance 1/1</td>
<td>Premiums</td>
<td>Benefits</td>
<td>Income</td>
<td>Balance 12/31</td>
<td>Full Funding</td>
<td>Funding ratio</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>----------</td>
<td>----------</td>
<td>--------</td>
<td>---------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>2013</td>
<td>6,400</td>
<td>764</td>
<td>889</td>
<td>570</td>
<td>5,783</td>
<td>5,807</td>
<td>45.1</td>
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<tr>
<td>2014</td>
<td>5,783</td>
<td>753</td>
<td>899</td>
<td>770</td>
<td>5,783</td>
<td>5,823</td>
<td>47.7</td>
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<tr>
<td>2015</td>
<td>5,783</td>
<td>561</td>
<td>632</td>
<td>688</td>
<td>5,290</td>
<td>5,370</td>
<td>47.7</td>
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<td>2016</td>
<td>6,290</td>
<td>793</td>
<td>936</td>
<td>364</td>
<td>5,742</td>
<td>5,718</td>
<td>47.7</td>
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<td>2017</td>
<td>6,478</td>
<td>781</td>
<td>964</td>
<td>227</td>
<td>6,092</td>
<td>6,201</td>
<td>45.8</td>
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<tr>
<td>2018</td>
<td>6,903</td>
<td>767</td>
<td>978</td>
<td>14</td>
<td>6,304</td>
<td>6,407</td>
<td>42.8</td>
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<tr>
<td>2019</td>
<td>6,304</td>
<td>779</td>
<td>980</td>
<td>338</td>
<td>6,428</td>
<td>6,520</td>
<td>42.2</td>
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<tr>
<td>2020</td>
<td>6,428</td>
<td>793</td>
<td>989</td>
<td>917</td>
<td>7,156</td>
<td>7,226</td>
<td>55.5</td>
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<td>2021</td>
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<td>799</td>
<td>987</td>
<td>634</td>
<td>7,928</td>
<td>8,059</td>
<td>46.1</td>
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<tr>
<td>2022</td>
<td>7,505</td>
<td>804</td>
<td>999</td>
<td>1,020</td>
<td>8,450</td>
<td>8,518</td>
<td>44.3</td>
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<tr>
<td>2023</td>
<td>7,450</td>
<td>811</td>
<td>992</td>
<td>592</td>
<td>7,942</td>
<td>8,087</td>
<td>45.3</td>
</tr>
<tr>
<td>2024</td>
<td>7,942</td>
<td>815</td>
<td>990</td>
<td>1,556</td>
<td>8,255</td>
<td>8,477</td>
<td>48.1</td>
</tr>
<tr>
<td>2025</td>
<td>8,265</td>
<td>824</td>
<td>994</td>
<td>1,150</td>
<td>9,164</td>
<td>9,337</td>
<td>45.1</td>
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<tr>
<td>2026</td>
<td>9,199</td>
<td>835</td>
<td>993</td>
<td>22</td>
<td>9,063</td>
<td>9,228</td>
<td>47.7</td>
</tr>
<tr>
<td>2027</td>
<td>9,063</td>
<td>835</td>
<td>1,066</td>
<td>8,714</td>
<td>19,363</td>
<td>19,463</td>
<td>43.9</td>
</tr>
<tr>
<td>2028</td>
<td>8,714</td>
<td>839</td>
<td>1,026</td>
<td>8,723</td>
<td>20,347</td>
<td>20,407</td>
<td>43.5</td>
</tr>
</tbody>
</table>
What would a real solution be?

- Align accounting and incentives.
- Acknowledge inflows as a source of strength.
- Find better methods of enforcing fiscal discipline.
Does A DC Plan For New Hires Save Money?

September 11, 2017

Gene Kalwarski, FSA, CEO
CASE Studies

Governmental & Military
COPERS
means
City of Phoenix Employees Retirement System

by acronymsandlbs.com

SDCERS
San Diego City Employees' Retirement System
COPERS - Maintains Tiers I & II

![Graph showing Actuarial Liability, Actuarial Assets, and Market Assets over time. The graph displays the valuation years from 2013 to 2033 and the fiscal years ending from 2014 to 2034. The x-axis represents the fiscal year ending, and the y-axis represents the valuation year. The graph includes bars for City DB Cont, City DC Cont, T1 DB Cont, T2 DB Cont, and the 2013 Val City Cont.]
COPERS - Tier II & New Hires in DC Plan
## SDCERS - Cost Impact of Closing DB Plan to New Hires

<table>
<thead>
<tr>
<th>Item</th>
<th>Nominal Dollars</th>
<th>Inflation Adjstd**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Change in existing Defined Benefit Plan costs*</td>
<td>($1,538.8)</td>
<td>($714.8)</td>
</tr>
<tr>
<td>2. Added New Plan (401k) costs</td>
<td>1,383.9</td>
<td>687.8</td>
</tr>
<tr>
<td>3. New death and disability plan costs</td>
<td>216.8</td>
<td>107.5</td>
</tr>
<tr>
<td>4. Impact from Police Plan changes</td>
<td>(48.5)</td>
<td>(24.0)</td>
</tr>
<tr>
<td>5. Net (savings)/costs due to all the above</td>
<td><strong>$13.5</strong></td>
<td><strong>$56.4</strong></td>
</tr>
</tbody>
</table>

* includes change in both cost of accruals and UAL payments

** adjusts nominal dollars numbers to today's dollars based on 3.75% inflation
Does the DB to DC Switch Save Money?

NCPERS 2017 Public Pension Funding Forum
September 11, 2017

Mark A. Hovey, CEO
SDCERS
Proposition B Passed in 2012

- Citizen initiative for defined contribution plan
  - For new general members, firefighters, lifeguards
  - Police officers continue to enter defined benefit plan
- Challenged in courts
  - Appellate court upheld Prop B
  - California Supreme Court has agreed to review
What did Prop B Promise Taxpayers?

- Five-year freeze on pensionable wages that would save $1 billion over 30 years
- Defined contribution plan for new hires that would cost $13 million more than DB
  - City’s DC contribution > City’s DB normal cost
  - General employee and City each contribute 9.2%
  - Safety contribution higher, at 11%, including OT
- No Social Security (same as before)
Where has Prop B Missed the Mark?

- Recruiting can be more challenging
  - Public sector candidates don’t get DB reciprocity
  - Private sector candidates expect higher wages
- Retention issued a mixed bag
  + Immediate DC vesting
    (vs. 10-year with DB)
  - Higher turnover (no hook)
Corporate Welfare vs. Pension Obligations

Greg LeRoy ~ Good Jobs First

National Conference on Public Employee Retirement Systems
Public Pension Funding Forum
September 11, 2017 ~ San Francisco
>$70 Billion per Year!

- Property Tax Abatements
- Tax Increment Financing (TIF) Districts
- Corporate Income Tax Credits
- Personal Income Tax Diversions
- Sales Tax Exemptions & Diversions
- Tax-free Loans
- Enterprise Zones
- Training Grants
- Dedicated Infrastructure
Sales & Use Tax Solution
DMA provides solutions to assist with sales and use tax.

One big reason for Louisiana's massive budget gap? State paying more in tax credits than collecting

BY TYLER BRIDGES | TBRIDGES@THEADVOCATE.COM
Feb. 18, 2016; 7:45
Duck Dynasty
$330,000
per episode

Fracking
$1.2 Billion
in five years

$7.5 Million
per job

$70,000,000 for 2 stores
in New Orleans area's richest parish

$251 Million
last year

How our taxpayers subsidize the rich and famous
Giveaway/Pension Ratios

- Louisiana ~4:1
- Florida & Oklahoma ~3:1
- Michigan, Colorado, Arizona & Calif. ~2:1
- North Carolina 4:3
- Missouri & Montana >1:1
- Kentucky ~1:1
- Alabama, Oregon & Texas ~2:3
The Add-Back Gimmick: Shifting Louisiana Income To No-Tax States

- Delaware PIC Company
- Louisiana Corporation

PIC makes Dividend payment To West Coast Parent

Payment for trademark (deducted as expense)

Parent makes Dividend payment To Louisiana Company. Dividend Is tax free.
The Big Squeeze
How Money Managers’ Fees Crush State Budgets and Workers’ Retirement Hopes

Elizabeth Parisian, AFT
Alternative investments

- Hedge funds
- Private equity
- Co-mingled real assets

What do these have in common?
- Fee structure
How much are pension funds really paying?

12 public pension funds: Estimated alternative investment fees, five most recent fiscal years

- Estimated hedge fund fees
- Estimated private equity fees
- Estimated co-mingled real assets fees
Our findings

- The 12 pension funds in our study would have saved $3.8 billion per year in alternatives fees over the last 5 years.

- The average pension fund in our study would have saved an estimated $317 million per year by cutting alternatives fees in half, or $1.6 billion over the last five fiscal years.

- The average pension fund will save an estimated $1.8 billion five years after adopting 0.9 and 9, $8 billion after 15 years, and $30 billion after 30 years.
Money Management
How Can you Beat the Winners
Consider Internal Changes

How can you reduce your pension deficits?

- Increase Contributions ✗
- Decrease Benefits ✗
- Improve Governance ✓
- Increase Investment Returns ✓
- Decrease Operating Costs ✓
Oklahoma Pension Systems

Distributed By Keep Oklahoma’s Promises, a coalition of educators, public safety professionals and concerned citizens.
Title: Pensions; creating the Pension Improvement Act; creating the Pensions Improvement Revolving Fund.

Description: Creates the Pension Improvement Act; creates a new revolving fund for the retirement systems of the State of Oklahoma to be designated the Oklahoma Pension Improvement Revolving Fund.
Needs a funding mechanism
future legislation

- Pensions Improvement
  Revolving Fund
Pension funding forum

The Kansas Story
Investment market declines in 2008

- The Trust Fund had a -28.5% rate of return on a market value basis
- Substantial negative impact on KPERS’ long-term funded status
- 12% decline in funded ratio to 59%
- $2.7 billion increase in unfunded actuarial liability to $8.3 billion
- School group fell out of actuarial balance, which means the statutory rate would not equal the actuarial rate by the end of the amortization period for the unfunded actuarial liability (2033)
2012 HB 2333 Provided State contributions from the Expanded Lottery Act Revenue Fund (ELARF) with the purpose of making additional payments toward the State/School Group UAL

- Scheduled to begin in FY2014
- Was expected to continue until the State/School Group is 80% funded
- In practice, contributions from the ELARF have been used to supplement State General Fund expenditures for State-paid employer contributions for School Group

* KPERS has received (FY2014-FY2018) $181.9 million in ELARF proceeds that the legislature has instead used to fund ongoing, annual contributions
2012 HB2333 also required 80% of proceeds from the Sale of Surplus Real property be applied to the UAL

- There have been multiple exceptions made to this provision
- In response to an efficiency study commissioned by the Legislature, 2016 legislation required State agencies to identify all surplus real estate and established a moratorium on the 80% provision
Legislative response

2015 Legislature approved $1.0 billion in Pension Obligation Bonds (the entire $1.0 billion was credited to the KPERS State/School unfunded actuarial liability)

2016 Legislature delayed $115 million payment to KPERS with a promise it would be replenished (with interest) the following year
Pension Obligation Bonds
Overview & Considerations

Presented by:
Jill Jaworski
Managing Director

September 12, 2017
POB Considerations

- There are numerous factors that must be evaluated and weighed when considering a POB that will have a direct impact on the outcome of the funding strategy.
  - Issuance timing
  - Issuer debt load and capacity
  - Investment of POB proceeds
  - Rating levels and overall impact
  - Covenant risk mitigation strategies
Pension Obligation Bonds (POB) Proposal in Colorado

ADAM Franklin, General Counsel
September 12, 2017
Colorado PERA Funding Facts

- Instrumentality of the State, founded on August 1, 1931
- Substitute for Social Security
- Five Division trust funds: State, School, Judicial, Denver Public Schools, Local Government
  - State: 58 year amortization period
  - School: 78 year amortization period
- Base employer contribution rate: 10.15 percent
- Employee contribution rate: 8 percent
- Additional contributions remitted by employer
  - Amortization Equalization Disbursement (AED)
  - Supplemental Amortization Equalization Disbursement (SAED)
  - Total: 10 percent
- Total contributions remitted by employers
  - 20.15 percent
2015 POB Proposal Basic Structure

• Fixed rate revenue bonds would be issued and proceeds would be deposited in PERA’s State and School Division trust funds
• Securitize AED and SAED contributions
• AED and SAED contributions remitted by PERA employers would be used to pay the debt service on the bonds
  ◦ Special reserve funds created to receive AED and SAED contributions
  ◦ PERA remits amount to entity that issued bonds to cover debt service obligations
  ◦ Excess amount in special reserve funds not used to pay debt service would be transferred to PERA State and School Division trust funds
Observations on Pension Bonds

Dan Doonan
Senior Pension Specialist
National Education Association
Collective Bargaining and Member Advocacy

September 12, 2017
Observations on Pension Bonds

Dan Doonan
Senior Pension Specialist
National Education Association
Collective Bargaining and Member Advocacy

September 12, 2017
Addressing Timing Risk

**Diversification of Timing**

1. **Legislation Design:** Series of smaller bonds
   - Some increase in transaction costs

2. **Investment Strategy:** Gradually move lump sum into equities
   - Sacrifice some returns – 5 year ramp into equities would lower expected returns over 30-years slightly

   *If focus is reducing next year’s ARC, be cautious*
Conclusions

1. POB’s are a tool, not a replacement to funding discipline

2. When borrowing costs are low, POB’s are likely to be successful

3. Timing is important; Mixed track record
   ➢ Can somewhat mitigate risk by ‘diversifying timing’

4. Pay attention to bond maturities to increase the likelihood of “Success”
### Historical Plan Performance vs. Index

<table>
<thead>
<tr>
<th></th>
<th>Median Plan Performance</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSB (1991)</td>
<td>13.4%</td>
<td>13.5%</td>
</tr>
<tr>
<td>BHB (1995)</td>
<td>9.0%</td>
<td>10.1%</td>
</tr>
<tr>
<td>PFMAM (2015)</td>
<td>9.1%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>
Active and Passive Management

- Most active managers do not consistently add value
- Passive management helps reduce overall investment costs

Percentage of Active Funds Outperformed by Index

<table>
<thead>
<tr>
<th></th>
<th>One Year</th>
<th>Three Years</th>
<th>Five Years</th>
<th>Ten Years</th>
<th>Fifteen Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Equity</td>
<td>60.49%</td>
<td>92.91%</td>
<td>85.82%</td>
<td>82.87%</td>
<td>82.23%</td>
</tr>
<tr>
<td>Non-U.S. Equity</td>
<td>84.94%</td>
<td>71.09%</td>
<td>66.95%</td>
<td>83.89%</td>
<td>89.36%</td>
</tr>
<tr>
<td>EM Equities</td>
<td>83.90%</td>
<td>83.56%</td>
<td>74.73%</td>
<td>85.71%</td>
<td>89.89%</td>
</tr>
<tr>
<td>High Yield</td>
<td>94.17%</td>
<td>90.91%</td>
<td>88.04%</td>
<td>96.60%</td>
<td>95.92%</td>
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<tr>
<td>EM Debt</td>
<td>39.19%</td>
<td>82.54%</td>
<td>86.44%</td>
<td>76.19%</td>
<td>76.00%</td>
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Source: S&P, as of December 31, 2016
Demographic-Based Investing for Public Pension Plans

2017 Public Pension Funding Forum

Presented by:
David R. Wilson, CFA

September 12, 2017
## Pension Time Horizon May Be Frontloaded

<table>
<thead>
<tr>
<th>Time Period</th>
<th>% of Pension Liability</th>
</tr>
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<tbody>
<tr>
<td>0-10 years</td>
<td>43%</td>
</tr>
<tr>
<td>10-20 years</td>
<td>30%</td>
</tr>
<tr>
<td>20-30 years</td>
<td>17%</td>
</tr>
<tr>
<td>30-40 years</td>
<td>8%</td>
</tr>
<tr>
<td>40+ years</td>
<td>2%</td>
</tr>
</tbody>
</table>

*Sample plan based on 7.6% discounting.*

*FOR INSTITUTIONAL INVESTOR USE ONLY. NOT FOR PUBLIC DISTRIBUTION.*
Benefits of Demographic-Based Investing (DBI)

- Focuses on creating the cash flow to pay benefits
- Brings assets & liabilities together in a single risk framework
- Adapts level of risk to plan demographics
- Risk is reduced as plan population ages because:
  - Investment time horizon decreases
  - Impact of negative returns increases with negative cash flow
  - Plan assets & liability are larger relative to revenue base — “demographic leveraging”
  - Liquidity becomes more important
Factor-based investing

- What is factor-based investing?
  - Like DNA, a factor is a primary characteristic of a portfolio that explains its behavior over long periods of time.

- Factor-based strategies target exposure to intuitive, well understood, well researched investment ideas such as:
  - Small Size: Smaller companies
  - Value: Inexpensive stocks
  - Momentum: Trending stocks
  - Quality: Financially healthy firms
  - Low Volatility: Lower risk stocks
Factor performance and the economic cycle

Diversifying across factors may help increase the odds that a portfolio will perform well in a variety of market conditions.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Early cycle</th>
<th>Mid cycle</th>
<th>Late cycle</th>
<th>Recession</th>
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</thead>
<tbody>
<tr>
<td>Market</td>
<td>✓</td>
<td>✓</td>
<td>✓/X</td>
<td>X</td>
</tr>
<tr>
<td>Value</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Size</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Momentum</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Low Volatility</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

✓ = tends to outperform  X = tends to underperform

Based on Analytic Investors research using 60 years of empirical data.
GROWTH PATTERNS AND CENTRIFUGAL FORCES: Saving The Parts of Globalization that We Need

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Globalization and Growth Patterns

- Global economy is characterized by flows of
  - Goods and services
  - Capital
  - Information/data/ knowledge and technology
  - People

- Today virtually every aspect of this framework is under assault or in question now, creating tremendous uncertainty about what the future holds in terms of opportunities and risks.
Key Elements in Sustainable Global Cooperation

- Restore inclusiveness to growth patterns
  - Investment in human capital
  - Enhanced social security systems
  - Income redistribution
  - Where needed, removal of obstacles to growth
- Accept that international structures can get outdated and need cooperative revision to reflect an evolving reality
- The major players are now a mix of countries at various stages of development. They will have to work together.
SAVING GLOBALIZATION
Predictions that the era of globalization will soon end are too pessimistic. To be sure, the rapid expansion of trade, rising cross-border capital flows, and, above all, the spread of new technologies have transformed the global economy. They have created difficult challenges, and countries will continue to struggle to increase growth and productivity, while reducing inequality and creating good jobs. But there are also enormous opportunities. Turning back the clock to restore the old frameworks is impossible. The challenge is to build new ones that work.

Waving the banner of protectionism and nationalism may attract popular support, at least temporarily. But history has shown that, ultimately, it may well threaten global peace and prosperity. The United States, China, and the world at large would be far better off if they could find a path to a more sustainable globalization, reforming the existing global order rather than tearing it down completely. 📅
Recent Research
Report: Public Pensions Boost Government Revenues

Study finds public pensions added $137.3 billion to state and local coffers in 2016.

According to a new study from the National Conference on Public Employee Retirement Systems (NCPERS), public pension funds contributed $137.3 billion to state and local governments in 2016.

“Our findings are a powerful rebuke to the popular argument that taxpayers cannot afford public pensions,” Michael Kahn, NCPERS’s research director said in a release. “The evidence shows that if public pensions did not exist, taxpayers not only wouldn’t save money; they would have to cover a severe annual revenue shortfall.”

The study found that pensions are net contributors to revenue in 38 states. In the other 12 states, the report said pensions were either revenue neutral, or taxpayer contributions were greatly subsidized by state and local revenues generated by public pensions.

“Due to lack of research focusing on the economic impact of public pension assets, we have developed a new model and methodology,” said the report.
Three components of the common narrative put forth by opponents of public pensions.
Have you ever heard of terms like Pension Crisis?
How about Pension Tsunami?
How about Taxpayers Can’t Afford Public Pensions?
Common Strategy Behind the Prevailing Narrative

- Manipulate assumptions to show that unfunded liability is too high.
- Compare 30-year unfunded liability to one-year (instead of 30-year) state and local revenues to paint a bleak picture.
- Argue that taxpayers cannot afford public pensions.
- Propose steps to scale back public pensions.
The prevailing Narrative overlooks the role public pensions play in the economy and revenue generation.

NCPERS study shows that scaling back public pensions means taxpayers will have to pay more to get the same level of public services.
Overview of NCPERS Study

• Research Questions
• Data and Methodology
• Findings
• Conclusions
Research Question

• The research question we ask is this: Do state and local revenues generated by public pensions exceed taxpayer contributions to public pensions?
• Our Hypothesis is that they do.
• Because common sense tells us that spending of pension checks plus investment of pension assets must generate economic activity that in turn must generate state and local revenues.
• After all, we hear this argument all the time in the context of tax cuts from the same people who oppose public pensions.
Data and Methodology

• We use historical data from various sources, including Bureau of Economic Analysis, Census of Governments, Bureau of Labor Statistics. These data span over 40 years and cover all 50 states.
• We first developed an econometric model to estimate economic and revenue impact of investment of public pension fund assets controlling for other variables that also impact the economy.
• We then estimated the economic and revenue impact of spending of retiree pension checks and investment of public pension assets.
• Finally, we compared the total revenue generated by public pensions with taxpayer contributions.
Findings

- Economy grows by $1,088 for each $1,000 of investment of pension fund assets.
- This amount may seem small, but given the size of pension fund assets, $3.7 trillion in 2016, the impact on the economy and revenues is very significant.
Investment of pension fund assets contributed about $587 Billion to the economy, which in turn yielded about $125 billion in state and local revenues in 2016.
Spending of pension checks by retirees contributed $757 Billion to the economy and $151 Billion to state and local revenues in 2016.
Total contribution of pension fund assets and retiree spending to the economy and state and local revenues in 2016 was about $1.3 trillion and $277.6 Billion respectively.
Pension fund contribution of $277.6 Billion to state and local revenues far exceeded $140.3 Billion taxpayer contribution to public pensions in 2016.
State by state analysis shows that 38 states were net revenue positive. The remaining 12 states were either revenue neutral or taxpayer contribution was heavily subsidized by the revenues generated by pension funds.
## Percentage of Taxpayer Contribution Subsidized by S&L Revenues Generated by Pensions, 2016

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>62.8</td>
</tr>
<tr>
<td>Hawaii</td>
<td>92.9</td>
</tr>
<tr>
<td>Indiana</td>
<td>82.5</td>
</tr>
<tr>
<td>Kansas</td>
<td>51.8</td>
</tr>
<tr>
<td>Louisiana</td>
<td>90</td>
</tr>
<tr>
<td>Maryland</td>
<td>93.1</td>
</tr>
<tr>
<td>Nevada</td>
<td>76.5</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>71.9</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>88.9</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>94.1</td>
</tr>
<tr>
<td>Utah</td>
<td>74.1</td>
</tr>
<tr>
<td>West Virginia</td>
<td>62.4</td>
</tr>
</tbody>
</table>
Conclusions

• The narrative that taxpayers cannot afford public pensions is false. Data do not support this narrative.
• State and local revenues generated by public pensions far exceed taxpayer contributions to public pensions.
• If there were no public pensions, burden on taxpayers will increase by $137 Billion just to maintain current level of services.
• Instead of staying on the path to dismantling public pensions, policy makers should reform state and local revenue systems and close tax loopholes that siphon taxpayer money into overseas tax havens.
Future Research
Are states that have made negative pension changes over the last decade or so in a better fiscal health now?

OR were the pension changes politically and ideologically motivated?
Options to Close Funding Gap Without Dismantling Public Pensions

- Close tax loop holes
- Reform revenue structures
- Better risk management
- Better long-term investment strategies
- Well designed pension obligation bonds
- Securitization of assets, e.g., parking meters
- Monthly or Quarterly payment of ARC
- Loan to manage cash-flow
- Legal or legislative action to ensure full ARC
- Federal Reserve action – Maiden Lane for public pensions
- Dedicated revenue stream
- Stabilization fund
- Consolidation – Economies of Scale
- In kind contribution, money from sale of public land
Thank You