‘Past As Prologue’ Project Kickoff

- We continue to study the best way to select – and deliver to – a discount rate that is ‘right’ for San Jose
- If we do that with skill (and get lucky) the plan should be around 100% funded (on average)
- ...but our plan is not 100% funded today – not even close
- ...which means we either didn’t select a DR right in the past, or failed to meet it, or got unlucky, or some combination

- There may (or may not be) something to be learned by looking at our history to try to see if we can get better at selecting a DR, delivering to a DR, or preparing ourselves for bad (and good) luck

How Should We Set Our Discount Rate?

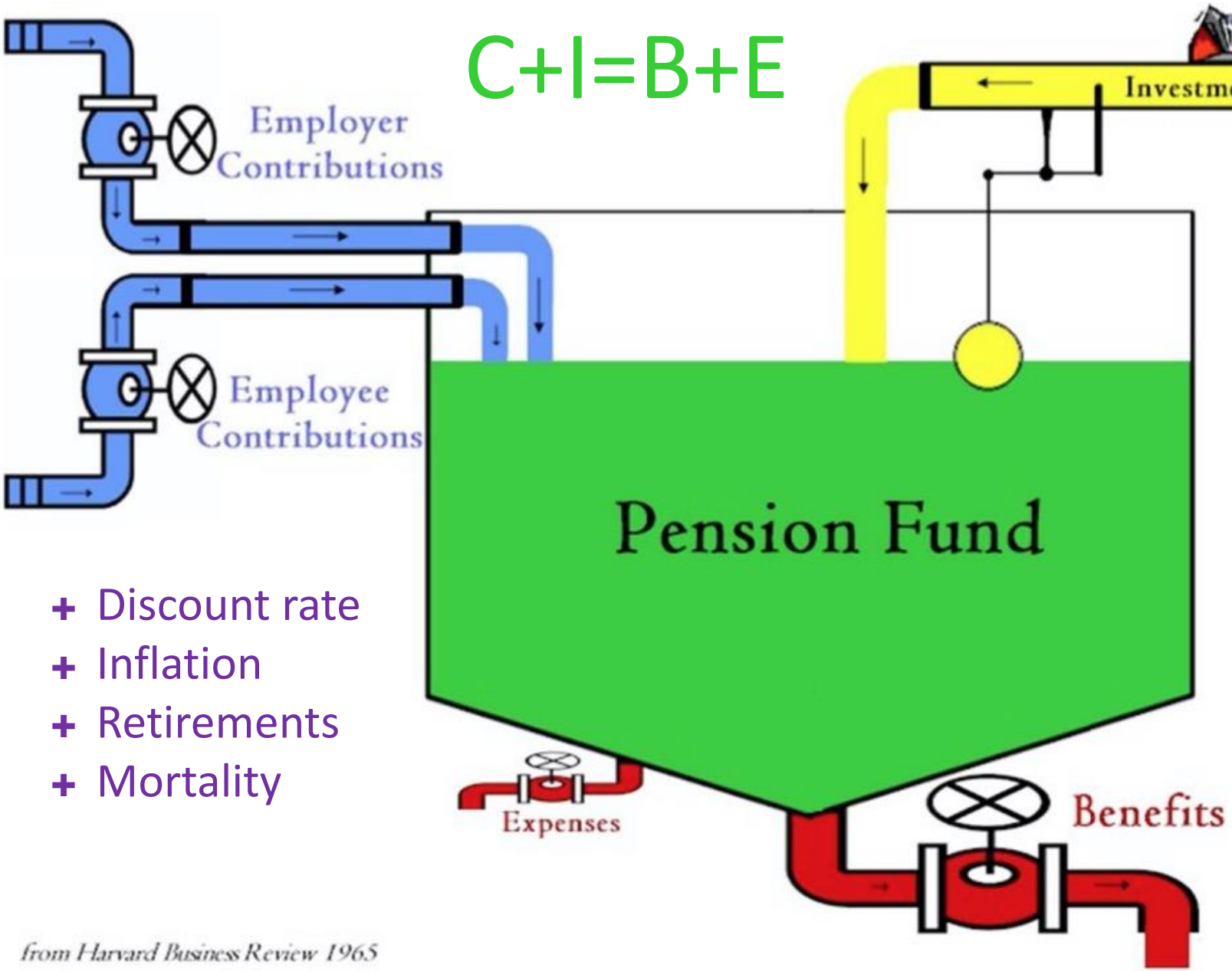
- Select an appropriate level of risk for our plan
  - 'on a curve' – what are similar plans selecting?
  - 'absolute' – what's the 'right' level of risk for our unique city?
- Select an asset allocation strategy to match that risk
- Select an expected return for that asset allocation strategy
- Select the discount rate for assets based on all the above

- Select a (possibly different) discount rate for liabilities
  - what are the steps to do that?
- Set a single discount rate based on those two rates

Let's Take a Step Back — How Did We Get Here?

- Public pensions used to be 'pay as you go'
  - That changed about 50 years ago to 'capital funded'
    - that means public pensions need to put away money today for someone who may not retire for decades to come
      - ...and that puts pension systems deep, deep in the weeds of the business of forecasting
- Forecasting is in our Mission Statement:
  - *Our mission is to ensure prompt, professional delivery of services and benefits to our members, and to collect, invest, and expend system assets in a prudent, fair, and timely manner*
- How can we do the best we can at forecasting?
  - ...is there anything we can learn from our predecessors – at San Jose and beyond – in how they forecast pension funds so we can do better at forecasting next time?
  - *"You cannot manage what you cannot measure"*

Not As Daunting As It Sounds



- + Discount rate
- + Inflation
- + Retirements
- + Mortality

from Harvard Business Review 1965

Just That Simple … And Just That Hard

- Forecast Investment Earnings and Benefits Expenses
- Estimate Plan Expenses (a small, very stable liability)
- The first 2 alone mostly forecast future Pension Fund assets, but these also have a significant impact on that forecast:
  - Discount rate
  - Inflation
  - Retirements
  - Mortality
- If the assets are forecast to dwindle, then we need to call for
  - Employer Contributions, and
  - Employee Contributions
  - …fortunately, the forecasting of those two is straightforward based on the above since they just ‘plug the hole’ (they’re outputs)

The Questions Are Obvious

- What did we forecast would happen?
  - what assumptions did we base that forecast on?
- What actually happened?
- Anything to learn?
  - source of error (selecting, delivering, or getting lucky):
    - endogenous vs exogenous
    - luck vs skill
    - common vs uncommon
- If so, how do we do better?

Why Bother?

- Two reasons:
  - so we can forecast better next time
  - to inform how we select our discount rate(s)
    - assets
    - liabilities

A Concrete Plan

1) Gather data and verify it
   - actuals and forecast
     - where forecast data no longer exists, estimate what it was (liabilities)
2) Answer the questions we asked before:
   - what did we forecast would happen?
     - what assumptions did we base that forecast on?
   - what actually happened?
3) Anything to learn?
     - source of error?
   - if so, what should we do differently?
4) Should we modify how we select our discount rate for assets?
5) Should we modify how we select our discount rate for liabilities?
6) Create and implement a timeline for rigorously setting our discount rate based on both assets and liabilities

A Concrete Plan (cont'd)

1) Gather data and verify it – share everything
   - what are the historic 'actuals' for the 10 'water tank' variables?
     - going back to plan inception
     - investment earnings, pension fund, employer contributions, employee contributions, benefits, expenses, discount rate, inflation, mortality, retirements
   - in each historical year, what did we forecast for those 10 variables?
     - going back to plan inception
       - ...and forecast for every year going forward since the year the forecast was made
     - where data no longer exists, estimate what it was (liabilities)
2) Answer the questions we asked before:
   - what did we forecast would happen?
   - what actually happened?
     - what was the impact of that 'miss' on the plan?