Developments in Pensions: A US Perspective

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©Olivia S. Mitchell
The Wharton School
mitchelo@wharton.upenn.edu

Global Pension Plan Assets

	US$ trillion	%GDP
US	13,963	105
Japan	3,084	69
UK	2,338	99
Canada	1,027	81
Netherlands	873	132
Australia	743	100
Switzerland	565	148
Germany	312	11
France	158	7
Ireland	112	51
Hong Kong	62	33
Total	**23,237**	**81**

http://www.watsonwyatt.com/research/deliverPDF.asp?catalog=GPAS&r=x.pdf

Two Main Pension Types:

➢ Defined Benefit (DB):

Benefit formula promised

e.g. B_t =2%*(Final Pay)*(Years Service)

Ex: Brazil, US large corporate and govt, many Euro national systems

➢ Defined Contribution (DC):

Contribution amount specified:

e.g. C_t=6%*current pay

Ex: US 401(k) plans, Chile, Australia,

→Hybrid (Cash Balance) combine both…

Defining Pension Funding

Assets = Liabilities

<u>DC case:</u>

- Plan Assets = Current Account Balance

<u>DB case</u>:

- Plan Assets = EPV of Promised Benefits

→ Reporting and accounting rules play key role

Why Did US DB Plans Underfund?

- US Pensions
  - ✓ Assets = plan investments (legally not sponsor's!)
  - ✓ Liabilities = EPV accrued retirement benefits

➢ EPV benefits

$$= B_0 + B_1/(1+r) + \ldots + B_{89}/(1+r)^{89} + B_{90}/(1+r)^{90}$$

→Assumptions needed *re* turnover, wage growth, mortality, and discount rate

➢ Plan can be overfunded (A>L) or underfunded (A<L).

➢ *Sometimes*: If sponsor bankrupt and A<L, retirees get no benefits (e.g. Qantas in Australia)

The Murk of Pension Accounting

- What's reported:

Net Periodic Pension Cost - Expected Plan ROR

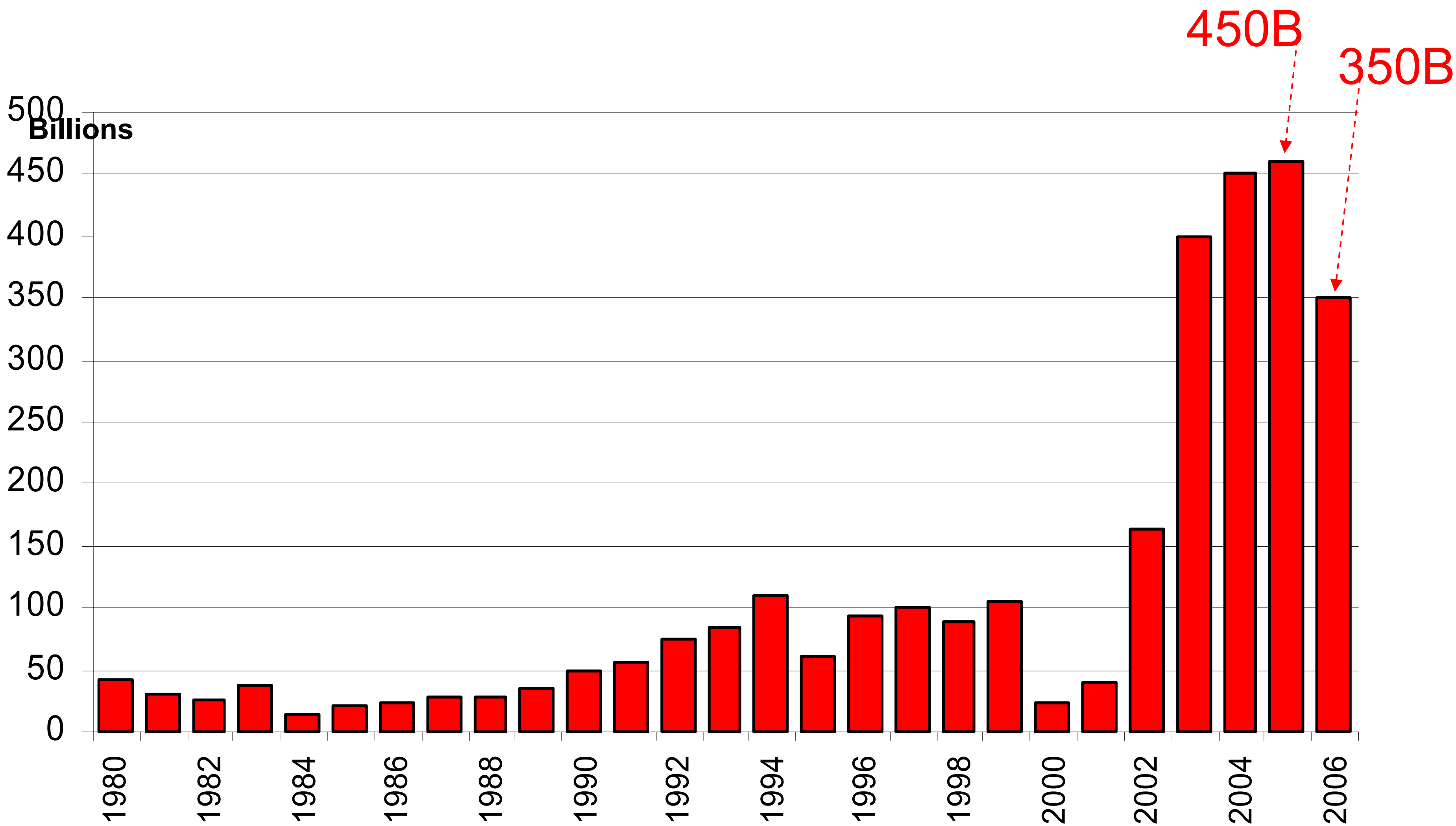
Where:

- Net Periodic Pension Cost = Annual Accrued pension cost (Normal cost, Past Service Cost, + other including plan amendments)

  → Must *assume* salary growth, turnover, mortality, and discount rate

- Expected return on plan assets = market value of assets (*smoothed* over 5 yrs) * *expected* ROR

US Corporate DB Underfunding:



PBGC 2007

Legal environment: Employee Retirement Income Security Act (ERISA 1974)

The Rules:

- Contributions should cover annual "normal cost."
- Past underfunding amortized over 30 yrs.
- Plan sponsor (corporation) liable for plan investments.

Pension Benefit Guaranty Corp (PBGC):

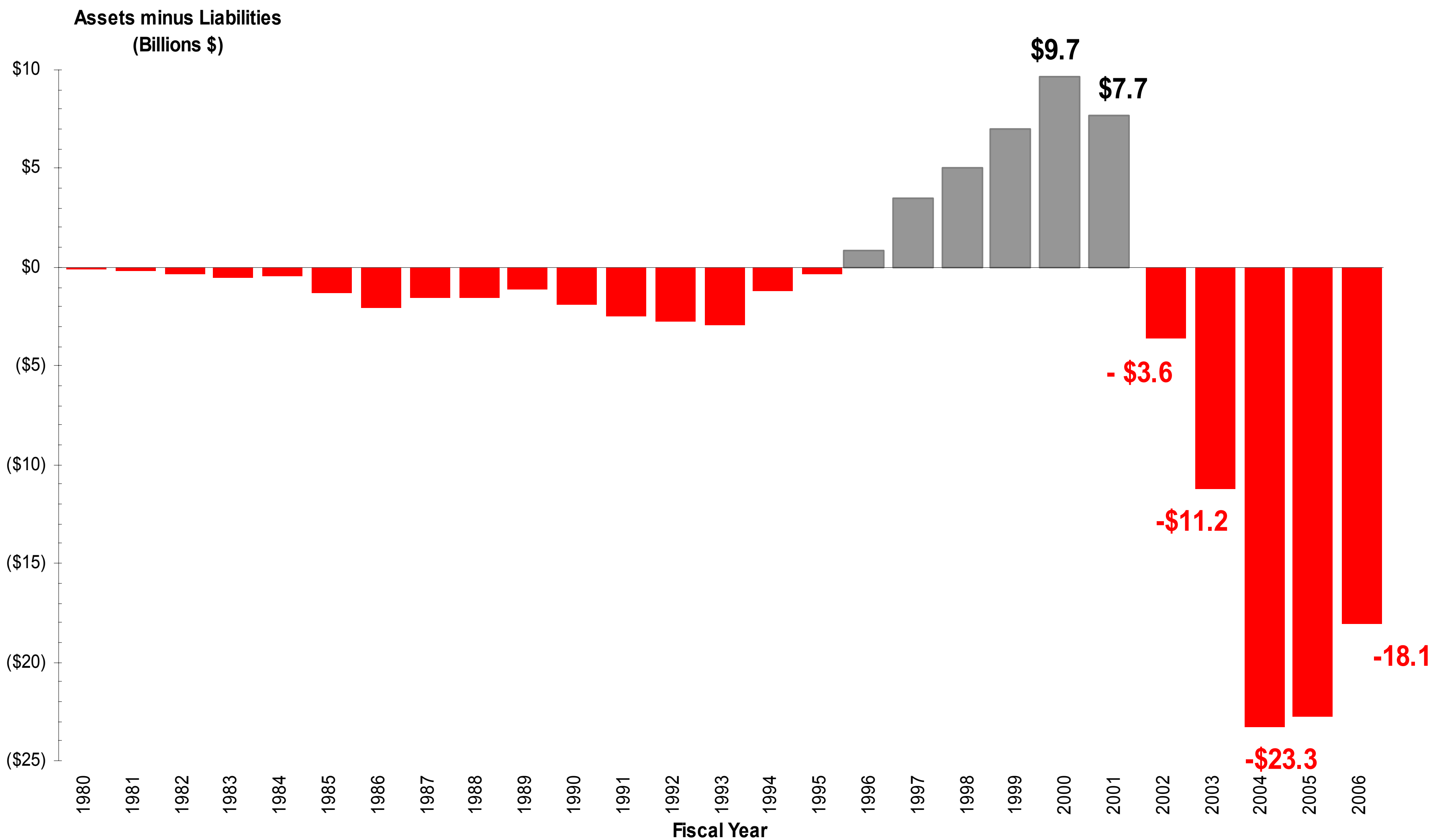
- Mandatory gov't DB reinsurance
- Premium tied to funding BUT
  - Not to firm bankruptcy risk
  - Not to pension A/L mismatch

→Moral hazard for distressed firms

- Benefits capped

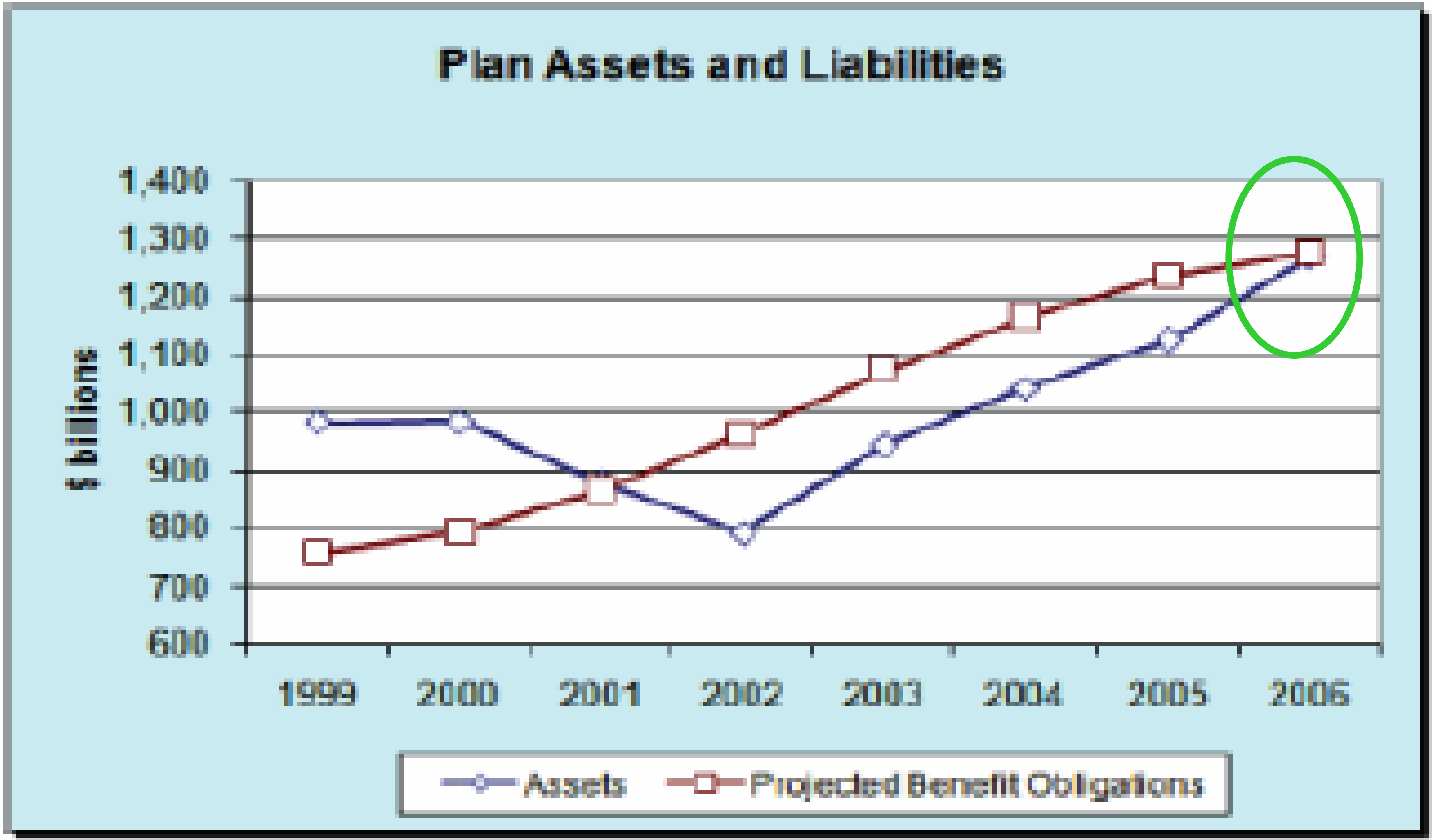
  $49,500 at age 65 (2007) prorated -- 55% less ($22,275) at age 55

PBGC Net Position: Single-Employer Plans



Lately, DB Funding Picture Improving:

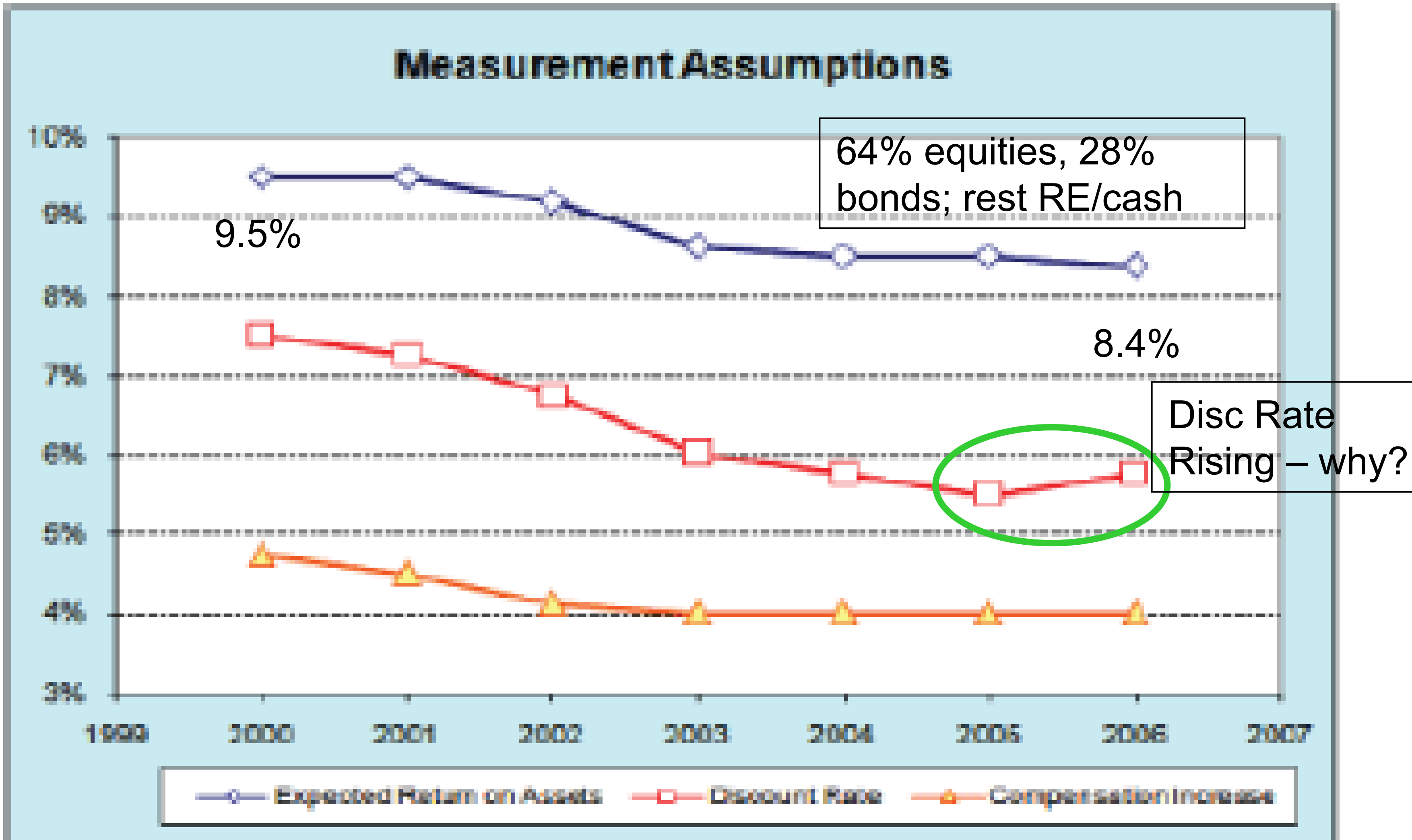
Milliman DB Survey 100 Largest Corporate Plans ('07)



http://www.milliman.com/expertise/employee-benefits/products-tools/pension-funding-study/ March2007

But Pension Assumptions Still Aggressive:

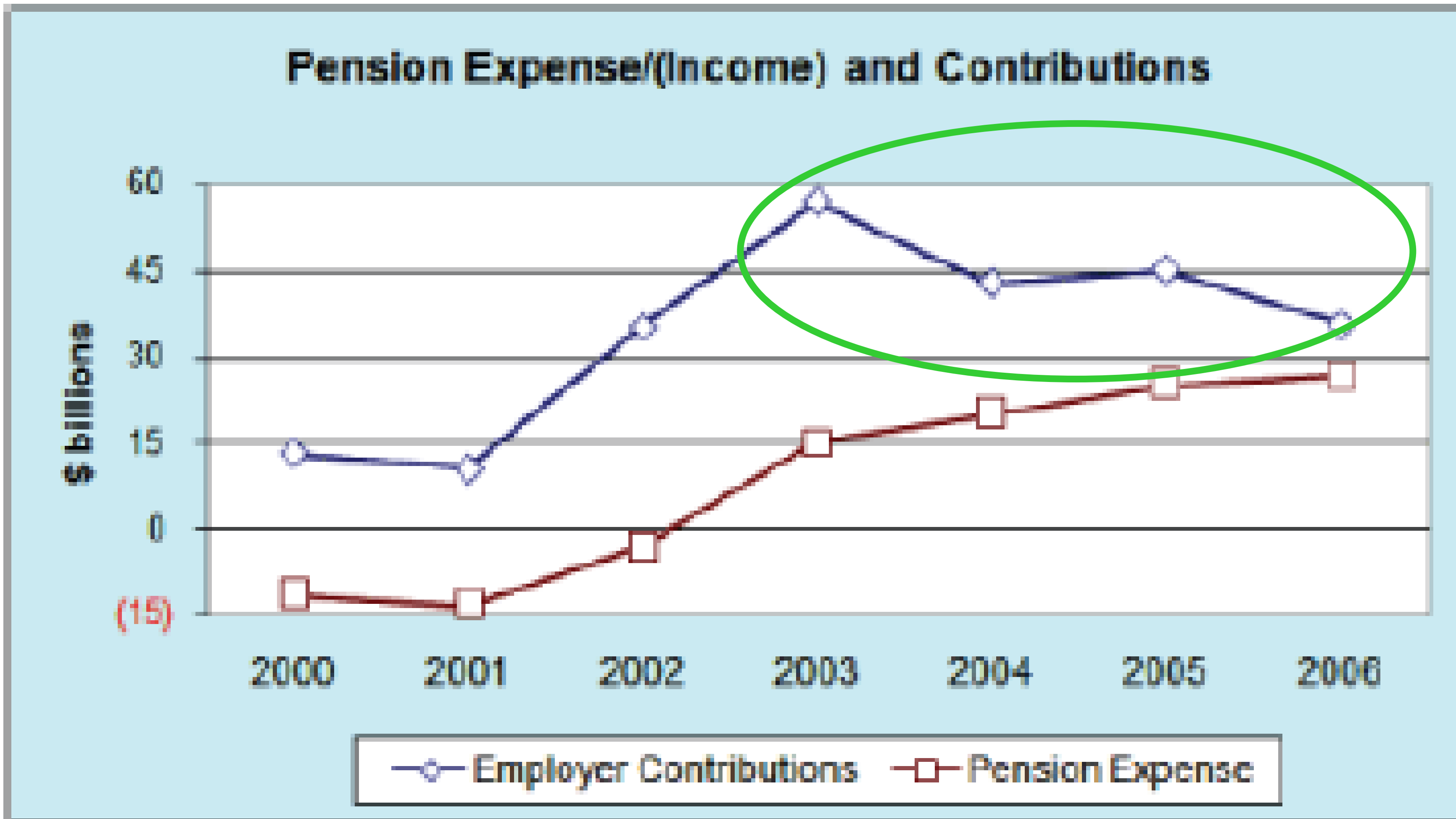
Milliman DB Survey 100 Largest Corporate Plans ('07)



http://www.milliman.com/expertise/employee-benefits/products-tools/pension-funding-study/ March2007

And Pension Contributions Falling:

Milliman DB Survey 100 Largest Corporate Plans ('07)



http://www.milliman.com/expertise/employee-benefits/products-tools/pension-funding-study/ March2007

Pension Protection Act (PPA) of 2006: DB changes

✓ More Funding

- 100% funded by 2010; "at risk" firms must fund faster
- Mortality tables updated; discount rate tied to corporate bond yield curve
- Assets now smoothed only 2 yrs and closer to mkt value
- 7 years to amortize underfunding
- Higher max funding in good times

✓ Benefit Restrictions

- No new benefits if plan too underfunded;
- Lump Sums must use corporate yield curve:
  - → If funding <60%, no LS
  - → Prorated if 60-80%.
- In service distributions ≥ 62 permitted

More changes under PPA

- PBGC Financing
  - ✓ DB flat premium up ($19→30/ee/yr)
  - ✓ Variable premium to depend on underfunding and bankruptcy risk (by 2015)
  - ✓ Excise tax on exiting bankruptcy

- Special ‘deals’
  - Airlines: 17 years (not 7) and higher discount rate (8.85) irrespective of asset earnings
  - Others: auto companies, defense contractors

→All phased in over 20-30 years

What about DC plans? (401(k), etc)

- 401(k)'s popular:
  - ER sets max salary deferral (tax-qualified) and ER match
  - EE decides how much to save (may be 0?)
  - ER sets investment menu including ER stock; 12-17 funds usually offered
  - EE selects investment allocation

- Assets = Liabilities

(by definition)
  - EEs bear investment risk
  - No PBGC guarantee if market drops

DC plan design concerns:

Rational investors should:

- Balance expected returns and risk.
- Make independent judgments.
- Hold diversified portfolios: ≥ 30 stocks.
- Pay close attention to investment fees & charges.

What do people *actually* do?

DC plans in the real world:

- Inertia (behavioral finance)
- Choice overload
  - Focus on “the top of the list”
  - Employees select “median” portfolio *vs* own
- Hold too much company stock
- Overlook administrative expenses

Benartzi/Thaler, Iyengar et al., Mitchell/Utkus

Participant lawsuits a growing issue

- *Educate stakeholders*:
  - ✓Expected risk and return
  - ✓Actual performance
  - ✓Expenses
  - ✓Retirement targets

- *Frequency and form of reporting,*
  - ✓*to whom?* Employer? Employees? Govt?
  - ✓Accounting standards are changing in wake of Enron

PPA: Key DC Changes

- Auto-enrollment:
  - Contribution 3, 4, 5, 6% years 1-4
  - Employer 100% match to 3% of pay

    [or default of 100% on 1% to 50% on 5%]

  → Still TBA: Default investment – probably Target Maturity.
- Advice:
  - Insurer, registered invst co, bank, or reg. broker dealer can give advice
  - **IF** fee not dependent on investment choices OR have nonpartisan model certified by 3rd party

Conclusions:

- US DB plans still in trouble:
  - Must fund more;
  - Terminations/freezes likely;
  - PBGC rules still allow ‘put’ to govt; special deals troublesome
  - Stakeholders still have too little transparency
  - Everyone’s interested now! SEC, FASB, rating firms.

- US DC plans remain popular:
  - Interesting auto-enrollment & default investments;
  - New room for investment advice.

Thank you!

For more information:

- Wharton's Pension Research Council:

http://prc.wharton.upenn.edu/prc/prc.html

- Books and working papers:

http://rider.wharton.upenn.edu/~prc/publication.html

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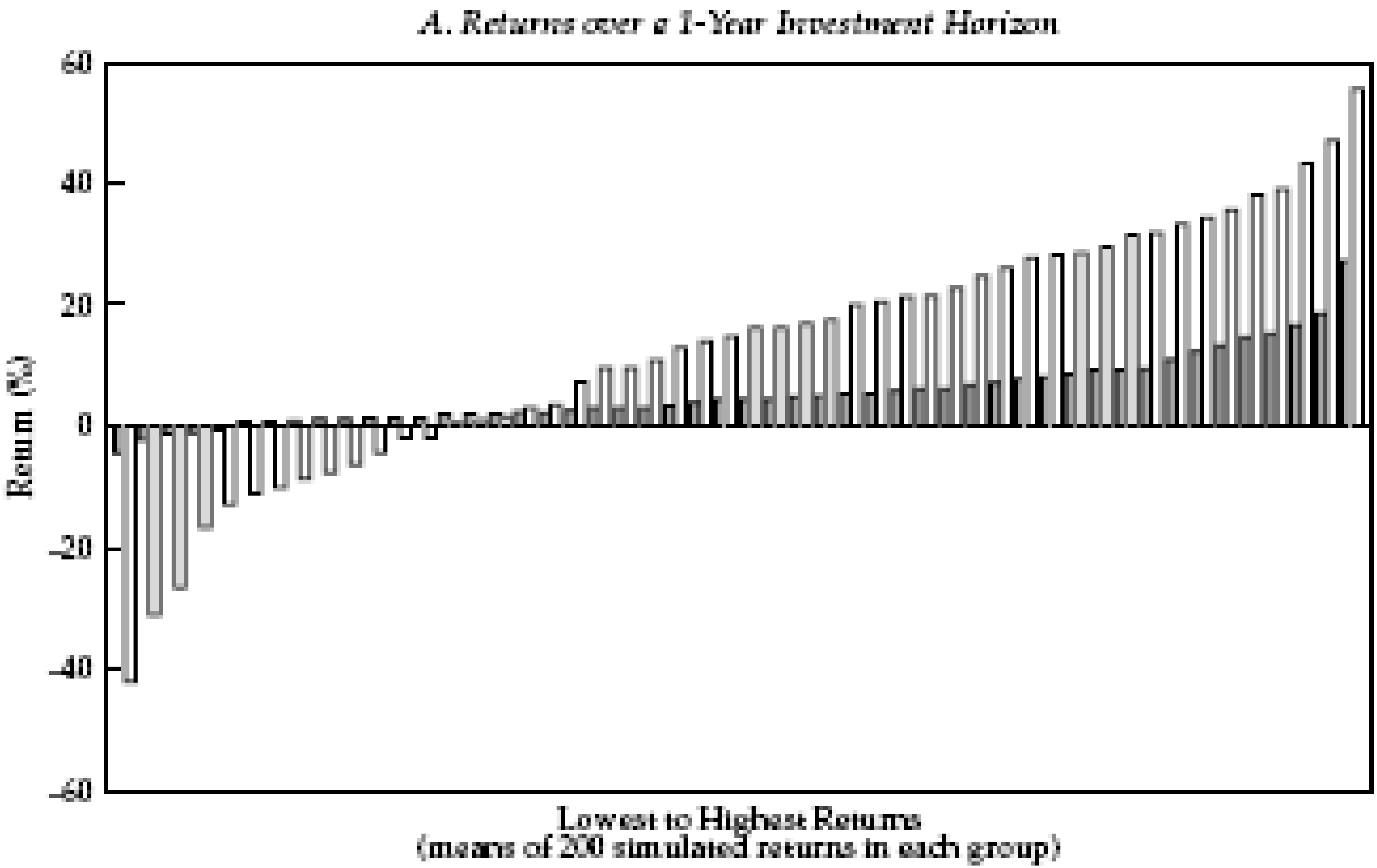
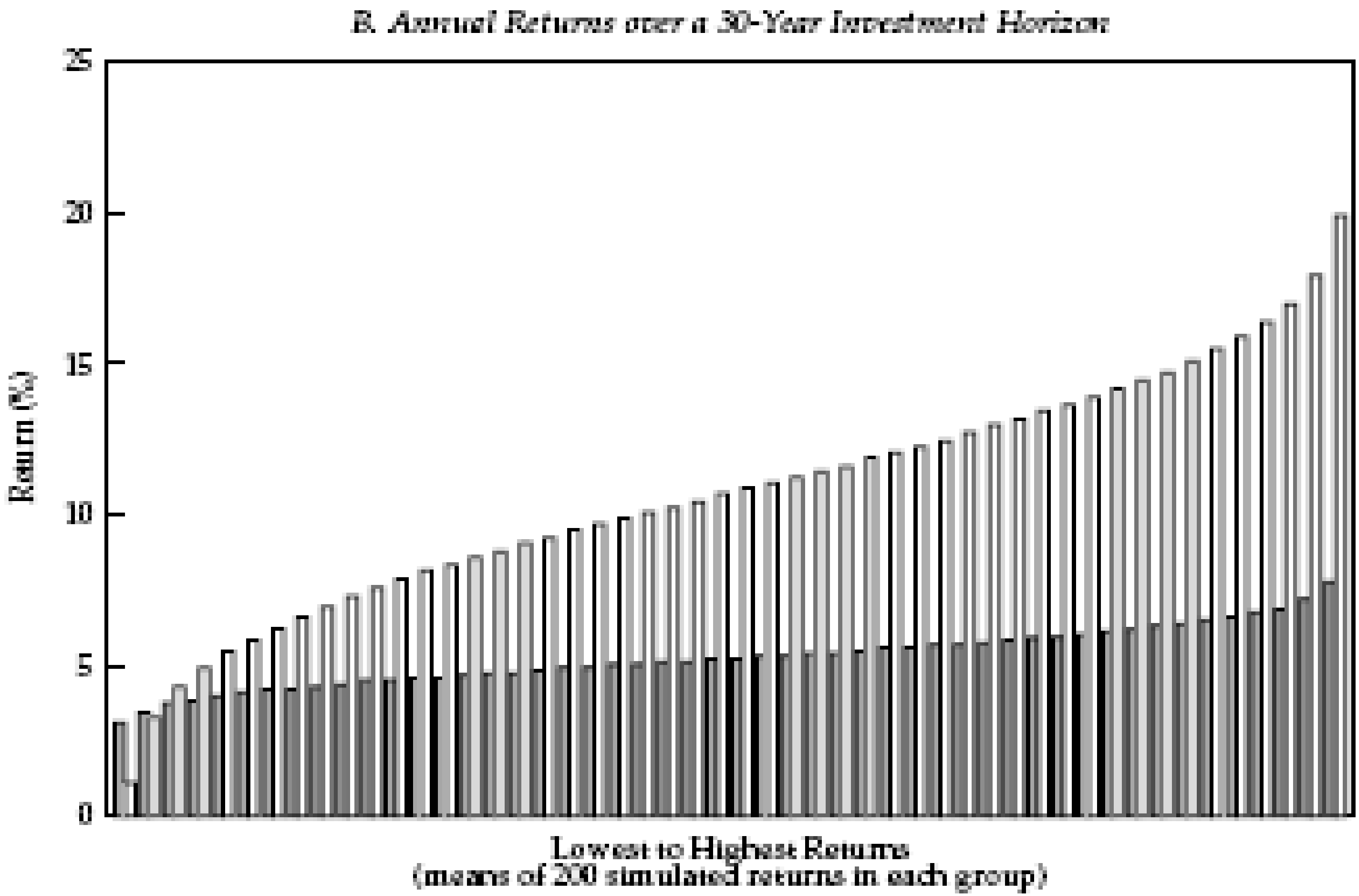
Presenting risk/return information: Fig 1

What % of assets in Fund A (clear bars) vs Fund B (dark bars)?

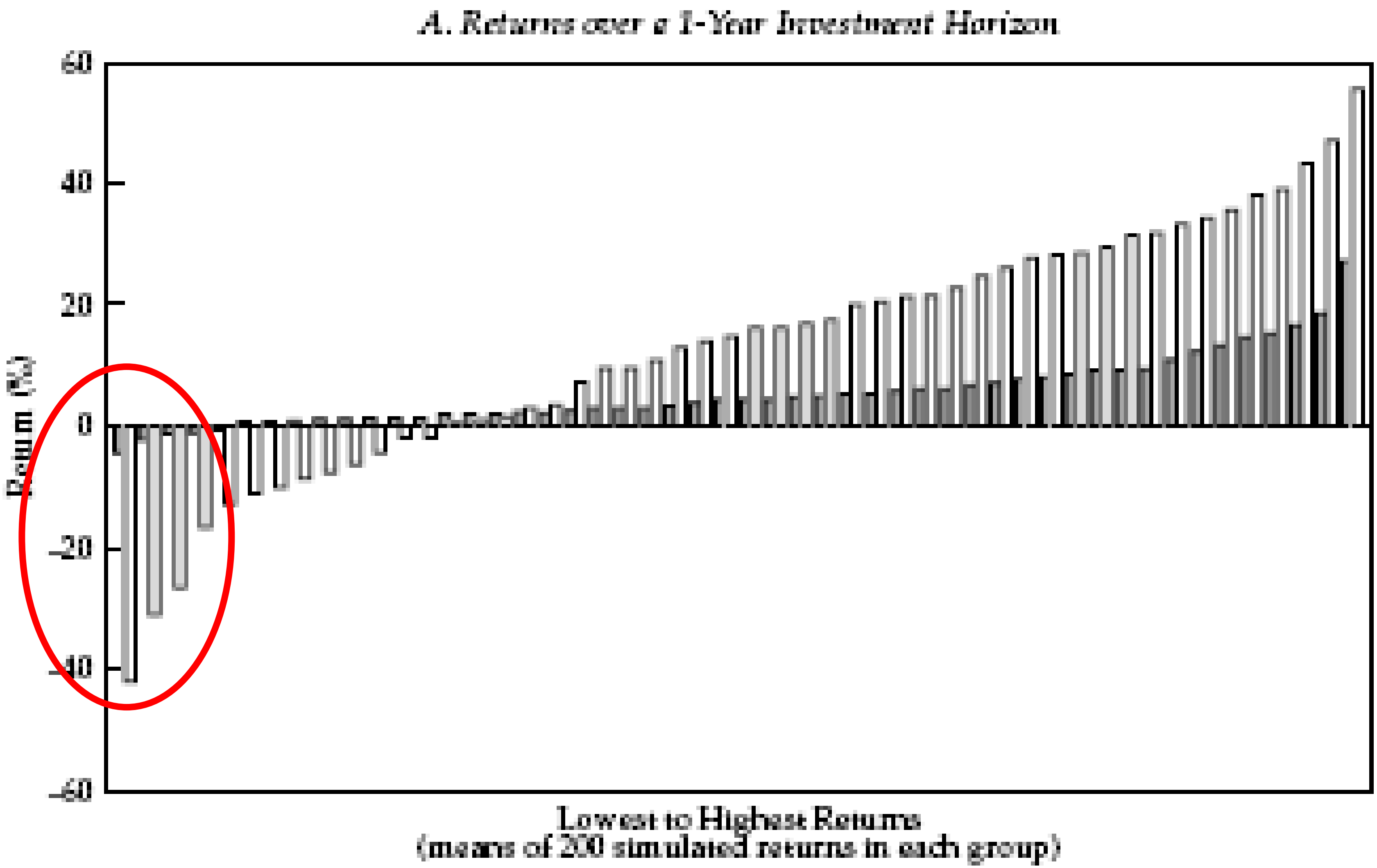


Presenting risk/return information: Fig 2

What % of assets in Fund A (clear bars) vs Fund B (dark bars)?



Focus on the bad: Fig 1



Focus on the good: Fig 2

Results: % Portfolio in Fund A: Stocks

	Median
1-yr returns	40%
30-yr returns	90%

➔SO: "framing" matters…

NB: *plan sponsor bears fiduciary responsibility for outcomes!*

- Participant lawsuits
- Disgruntled employees

But the Bad News Keeps on Coming…
(emphasis added)

PBGC Becomes Trustee of Delta Pilots Pension Plan

WASHINGTON-The Pension Benefit Guaranty Corporation (PBGC) today announced that it has become trustee of the Delta Air Lines Inc. Pilots Retirement Plan, taking over the responsibility for paying pension benefits **to more than 13,000 active and retired pilots.**

The pension plan for pilots is underfunded by about $3 billion, with $1.7 billion in assets to cover more than $4.7 billion in benefit liabilities. Of the $3 billion in underfunding, the PBGC estimates that it will be liable for almost $920 million, making the Delta pilots plan the sixth-largest claim in the agency's 32-year history. The plan ended as of September 2, 2006 and the PBGC became trustee on December 31, 2006.

http://www.pbgc.gov/media/news-archive/news-releases/2007/pr07-09.html
FOR IMMEDIATE RELEASE
January 05, 2007, PBGC Public Affairs

Why fund a pension promise?

Pros

- May reduce uncertainty re future contributions
- Portfolio diversification
- Permits portability
- May deepen K mkt & enhance growth

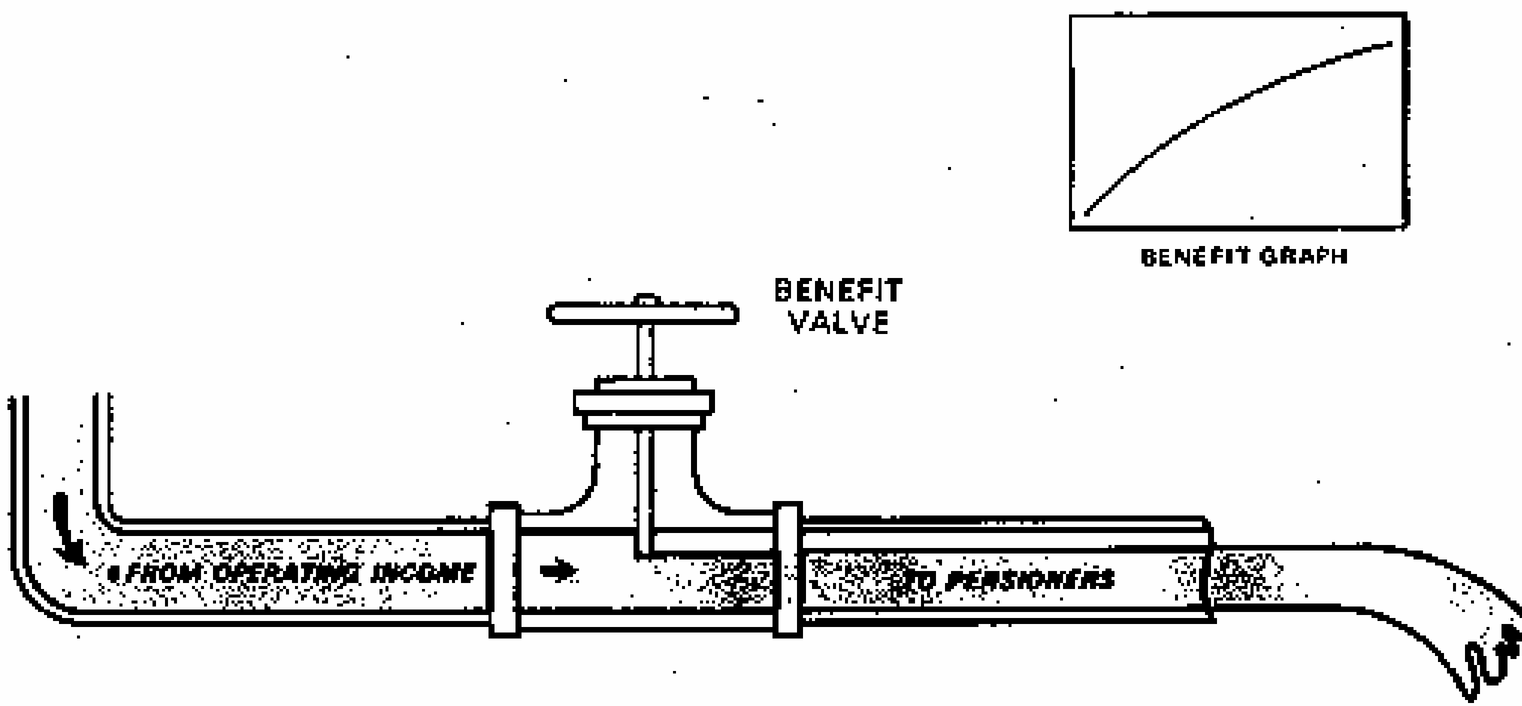
Cons

- Requires start-up group to ‘pay twice’ – support retirees and save for themselves
- Admin costs may be higher (maybe not)
- Governance of funds

Financing the Promise: PAYGO

FIGURE 1

Current Disbursement Financing

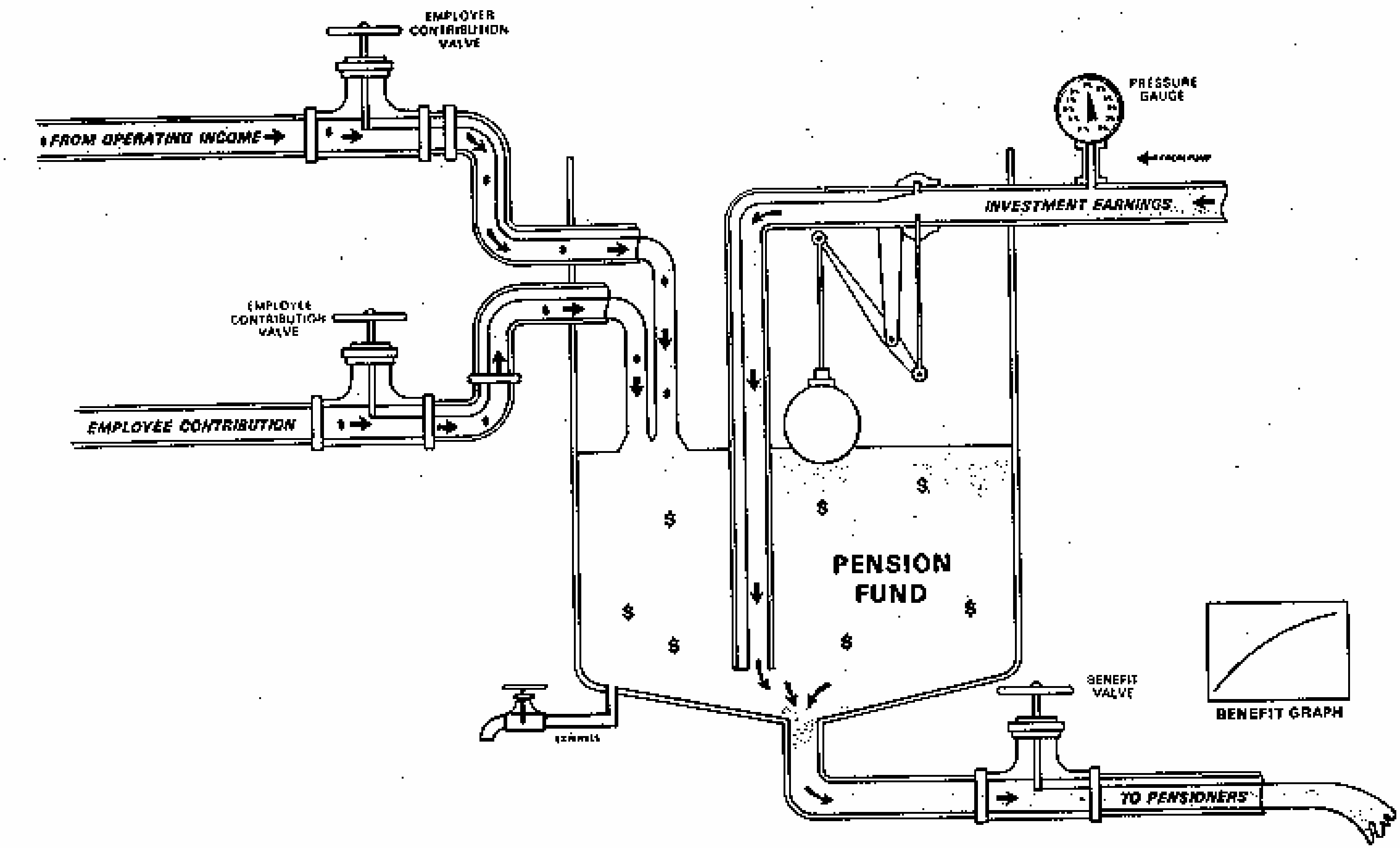


Adapted from Harvard Business Review. (12)

Financing the Promise: Funding

FIGURE 2

Pension Funding



Adapted from Harvard Business Review. (43)

Some propose *guaranteeing* investment returns…

- Several guarantee formats:
  - Principal guarantee
  - Minimum ROR
  - Minimum Benefit

→Japan, Germany, Chile (range), Mexico

- *Caution*: guarantees not free, may be costly

Guarantees: Design Makes a Difference!

Estimated Cost of Alternative Guarantees

as % of lifetime contributions over 40 years

Principal Guarantee (0% ROR)	~0%
Bond Return Guarantee	16%

➔*Guarantees can be expensive*

➔*Must constrain portfolio composition to control moral hazard*

Lachance/Mitchell 2002; assumes 50/50 stock/bond portfolio held for 40 yrs

Ready or not, here come the Boomers!