

## Living in a Defined Contribution World: Some Scattered Evidence from the U.S.

**Presentation to the Association of Canadian Pension  
Management impACT 2007 meeting on December 5<sup>th</sup>**

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## Agenda...

- Review the closure & freezing of U.S. corporate DB pension plans.
- Move on to public sector plans in the U.S. and the transition to DC pensions.
- Discuss Florida's pension "experiment" of 2003 and the options given to participants.
- Final comments...

## Recent Pension Trend...

### **Fidelity to end employee pension plan** The Boston Globe

**Change reflects push for 401(k)s**

By Ross Kerber, Globe Staff | March 29, 2007

Fidelity Investments is eliminating its traditional pension

**30% of Canadian firms expect to terminate their DB plan...**

#### |||| FINANCIAL SERVICES

##### PENSIONS

### **Many firms rethinking defined benefit plans**

Almost one-third of Canadian companies with defined benefit pension plans say they are considering freezing or closing their plans, according to a new poll. The survey of about 302 North American executives, conducted by consulting firm SEI, showed that about 30 per cent of Canadian firms and 40 per cent of U.S. companies expect to terminate their defined benefit plans. Of those who want to replace their defined benefit plan, about 43 per cent said they will shift to a defined contribution or capital accumulation plan. And 29 per cent say they plan to close or freeze their plan before the end of 2007. *Richard Blackwell*

## ***Financial Times:*** **September 30, 2006**

- ...At present, the only way a company can manage the risk of long-lived workers is to work them so hard that they die within a few years of retirement...Not a good way to retain staff.

### *PBGC-insured Single Employer Plans With Hard Freeze in Place...*

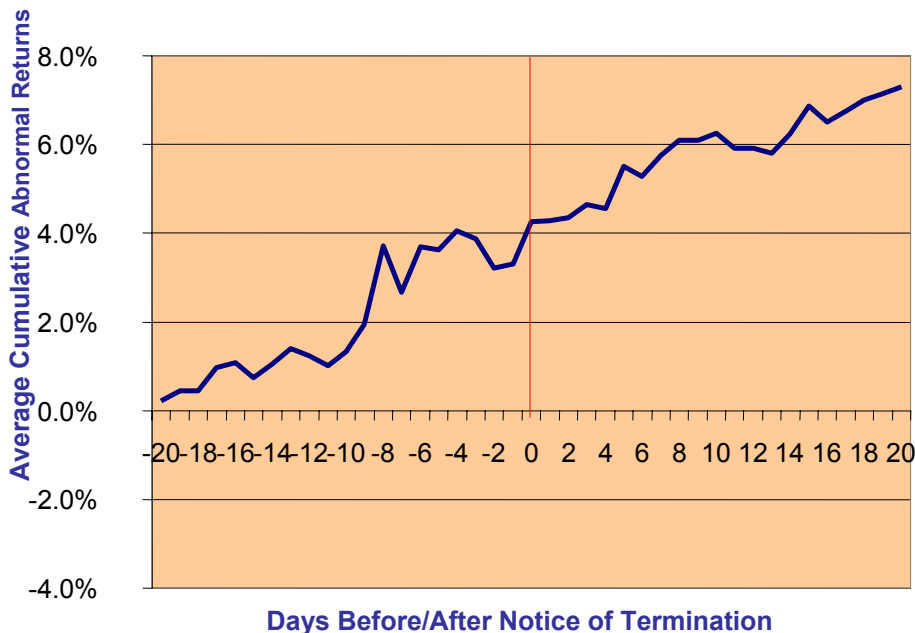
	<b>Year 2003</b>	<b>Year 2004</b>	<b>Year 2005</b>
<i>Percentage of Plans...</i>	<b>9.5%</b>	<b>12.1%</b>	<b>14.1%</b>
<i>Percentage of Participants..</i>	<b>2.5%</b>	<b>3.5%</b>	<b>6.1%</b>

**Source:** Form 5500 & PBGC Pension Insurance Data Book 2006

## Some Frozen Plans...

Avaya (09/2003) Nextel (11/2005)  
 Aon (10/2002) Verizon (12/2005)  
 NCR (5/2004) Alltel (01/2006)  
 Circuit City (11/2004) IBM (04/2006)  
 Motorola (12/2004) Nissan (01/2006)  
 GM (03/2005) Wendy's (02/2006)  
 Sears (04/2005) Toys 'R Us (03/2006)  
 HP (07/2005) Nortel (06/2006)  
 Lockheed (10/2005) Kohl's (11/2006)

How Do Markets React to DB Pension Closures?



## Market is Warming to Frozen DBs

	<b>Day of Notice</b>	<b>10 Day Window</b>	<b>20 Day Window</b>
<b>Stock Return</b>	<b>+0.62%</b>	<b>+3.96%</b>	<b>+5.51%</b>
<b>Risk-adjusted Return</b>	<b>+0.64%</b>	<b>+4.24%</b>	<b>+7.29%</b>

Source: *The IFID Centre, 2007 (M.A. Milevsky & K. Song)*

## Market is Warming to Frozen DBs Risk Adjusted Returns...

	<b>Day of Notice</b>	<b>10 Day Window</b>	<b>20 Day Window</b>
<b>High Beta Risk (avg. 1.5)</b>	<b>+1.49%</b>	<b>+5.24%</b>	<b>+10.9%</b>
<b>Low ROE (avg. -0.46)</b>	<b>+0.40%</b>	<b>+4.16%</b>	<b>+4.59%</b>

Source: *The IFID Centre, 2007 (M.A. Milevsky & K. Song)*

## *Journal of Risk and Insurance, Vol. 71(3)*

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### **FLORIDA'S PENSION ELECTION: FROM DB TO DC AND BACK**

Moshe A. Milevsky  
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**ABSTRACT**  
During the year 2002, the State of Florida's 600,000 public employees were given the choice of converting their traditional defined benefit (DB) pension plan into an individual-account defined contribution (DC) plan with full control over asset allocation and investment decisions. To mitigate some of the risk and uncertainty in the decision, the State granted each employee electing the DC plan an additional option to switch back (i.e., change their mind) once at any point prior to retirement. This option has been labeled the 2nd election by the State and the cost of recovery is fixed at the accumulated benefit obligation of their pension entitlement, which is the present value of the life annuity. Our article presents some original analytic insights relating to the optimal time and financial value of this unique 2nd election. Although our model is deterministic in nature, we believe that it provides a number of intuitive insights that are quite robust. Our results can be contrasted with Lachance, Mitchell, and Sinners (2003). We estimate that the increase in retirement wealth that arises from having the 2nd election is equivalent to at most 20 percent in future value, and only when utilized optimally. Furthermore, for most State employees above the age of 45, the 2nd election has little economic value because the DB plan dominates the DC plan from

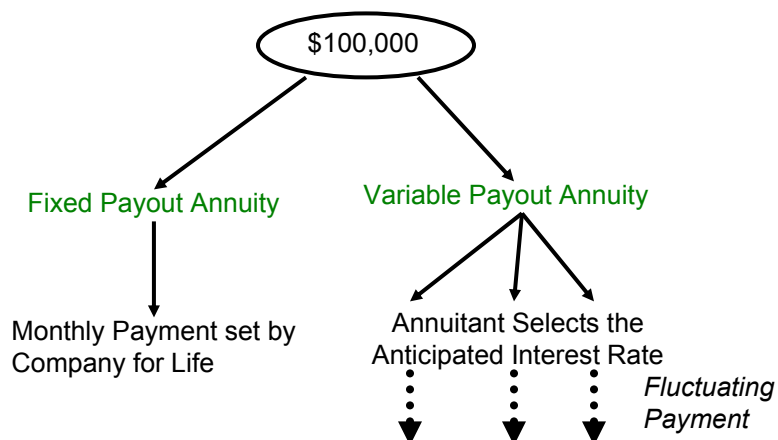
## Florida Details...

- In early 2002, over 625,000 employees of The State of Florida were given the choice to convert their traditional Defined Benefit (DB) pension plan, into a self-managed Defined Contribution (DC) account.
- Each employee electing to participate was given an initial DC balance equal to their Accumulated Benefit Obligation (ABO).
- They can choose from a limited set of mutual funds and some institutional investment products..

## Some Design Questions...

- How many choices?
- Which asset classes?
- What is the default option?
- What happens at retirement?
- How to explain to participants?

## The Payout Annuity Universe



## *The Case for 'Income Annuities'*

By **JEFF D. OPDYKE**

Strategies outlined in a new study could sharply lengthen the amount of time a nest egg survives in retirement.

The study, soon to be released by the University of Pennsylvania's Wharton Financial Institutions Center, finds that so-called income annuities can assure retirees of an income stream for life at a cost as much as 40% less than a traditional stock, bond and cash mix. The study was co-sponsored by **New York Life Insurance Co.** which sells annuities

tively subsidize those who live longer.

What it means is that retirees who need a nest egg of, say, \$1 million, can live the same lifestyle with as little as \$600,000 in an income annuity. Looked at another way, \$1 million in an annuity will currently generate about \$86,000 a year in income for a healthy 65-year-old male, while the same amount invested in a traditional securities portfolio would currently generate between \$40,000 and \$50,000 annually, depending on the annual withdrawal rate.

That news could offer hope for the

Source: The Wall Street Journal, August 8, 2007

## What are Florida's DC Choices...

<b>Asset Class</b>	<b>Number of Funds</b>
<i>Money Market</i>	<b>1</b>
<i>U.S. Inflation-protected</i>	<b>1</b>
<i>U.S. Bonds</i>	<b>4</b>
<i>U.S. Stocks</i>	<b>8</b>
<i>Foreign Stocks (only)</i>	<b>2</b>
<i>Global Stocks</i>	<b>1</b>

+ *Three Balanced Funds...*

## Is your 401(k) diversified? Percent of plans offering...

<b>Domestic Equity Fund:</b>	<b>97.4%</b>
<b>Domestic Bond Fund:</b>	<b>71.5%</b>
<b>International Equity Fund:</b>	<b>62.9%</b>
<b>International Bond Fund:</b>	<b>9.1%</b>
<b>Company Stock:</b>	<b>22.9%</b>

Source: Data from 680 plans; *Journal of Public Economics*, Vol. 90, pg. 1302

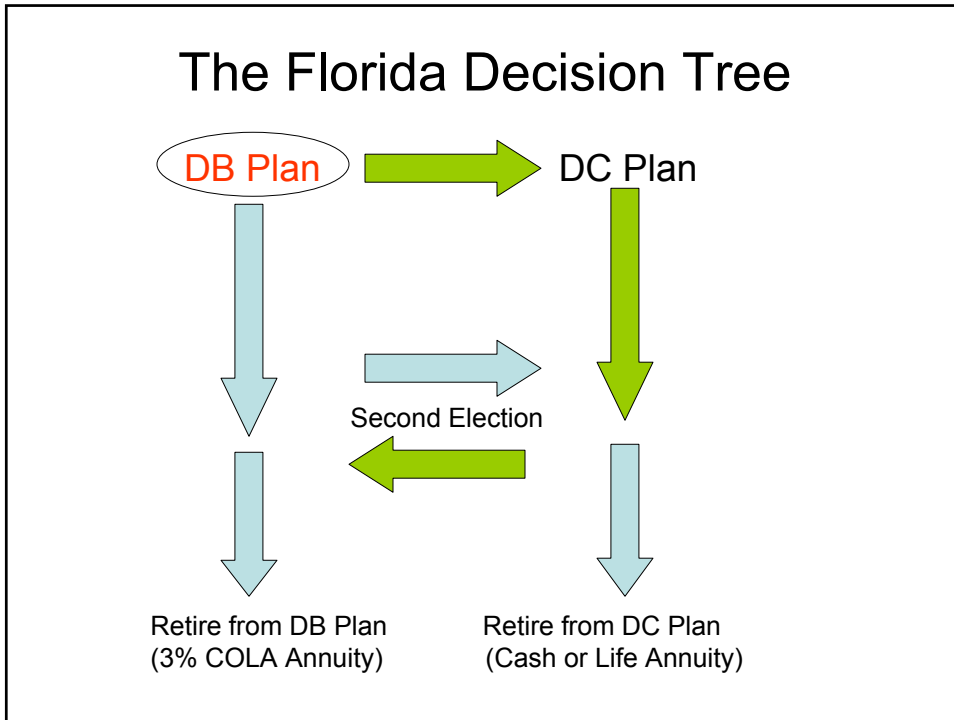
## 2006 Study published in the *Journal of Public Economics*

*“...We find that **only 53%** of plans offer an adequate set of options...”*

*“...For 47% of the plans, plan participants would be better off with additional investment choices...participants’ average return would improve by **2.3% per year**...”*

Source: E.J. Elton, M.J. Gruber and C.R. Blake, *JPE*, Vol. 90:

“The adequacy of investment choices offered by 401(k) plans”



### Number of State Employees in Various Age Buckets:

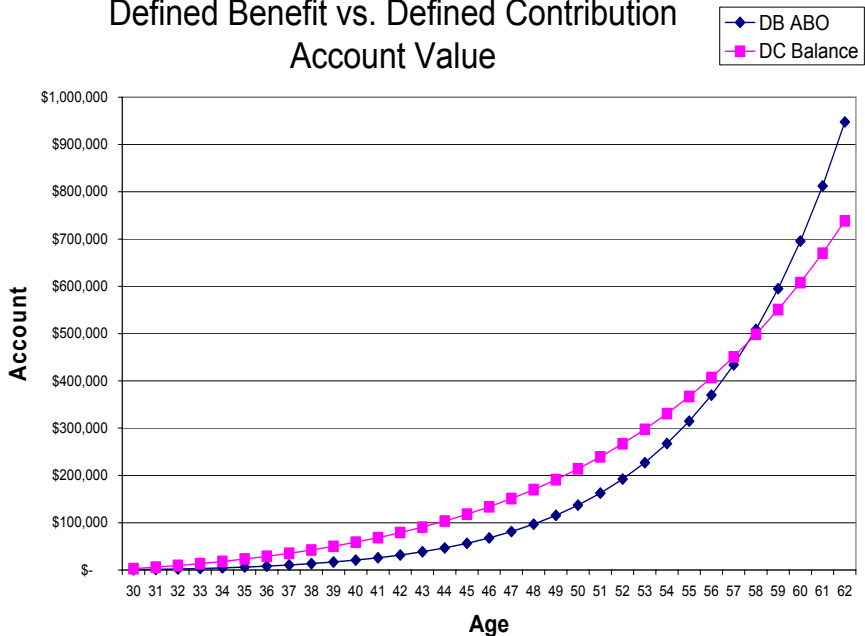
Current age....	62	57	52	47	42	37	32	27	22
<b>SVC</b>	62	57	52	47	42	37	32	27	22
42	127								
37	352	230							
32	955	2458	2602						
27	3611	7431	13852	8407					
22	4056	7664	11444	14581	6860				
17	4640	8235	12320	14099	15040	6897			
12	7743	10613	16505	19395	19425	19796	8321		
7	9645	9473	14429	18076	18751	19139	20685	9457	
2	8216	8737	13450	17304	21548	23278	24921	33312	14654

**Source:** The Florida State Board of Administration

Average Salary in Various Age Buckets:

Current age....		62	57	52	47	42	37	32	27	22
<b>SVC</b>										
42	\$	52,756								
37	\$	50,000	\$ 45,652							
32	\$	44,712	\$ 48,779	\$ 46,925						
27	\$	40,072	\$ 43,736	\$ 46,650	\$ 38,670					
22	\$	35,528	\$ 38,570	\$ 41,227	\$ 42,171	\$ 36,633				
17	\$	31,853	\$ 34,608	\$ 36,583	\$ 37,230	\$ 36,769	\$ 32,840			
12	\$	27,496	\$ 30,934	\$ 32,002	\$ 32,075	\$ 31,619	\$ 32,158	\$ 28,686		
7	\$	22,385	\$ 26,243	\$ 27,362	\$ 27,086	\$ 26,340	\$ 27,076	\$ 28,040	\$ 24,923	
2	\$	14,922	\$ 19,629	\$ 20,914	\$ 20,828	\$ 19,626	\$ 19,473	\$ 21,287	\$ 22,595	\$ 15,504

Defined Benefit vs. Defined Contribution  
Account Value



### Percent of State Employees in Various Age Buckets:

SVC	62	57	52	47	42	37	32	27	22
42	0.02%								
37	0.07%	0.04%							
32	0.18%	0.46%	0.49%						
27	0.68%	1.39%	2.60%	1.58%					
22	0.76%	1.44%	2.15%	2.74%	1.29%				
17	0.87%	1.55%	2.31%	2.65%	2.82%	1.29%			
12	1.45%	1.99%	3.10%	3.64%	3.65%	3.72%	1.56%		
7	1.81%	1.78%	2.71%	3.39%	3.52%	3.59%	3.88%	1.78%	
2	1.54%	1.64%	2.52%	3.25%	4.04%	4.37%	4.68%	6.25%	2.75%

Employee group for which  
Option has value

### Bottom Line...

- Initial projections were that **234,000** participants would move \$13 billion to investment plan.
- Revised projections were that **144,000** participants would move \$8 billion to the plan.
- By March 2003 the selection period was over and only **4%** (approximately 25,000 participants) switched to the investment plan.
- About **25% to 30%** of new employers are now actively electing the (DC) investment plan

## For more information...

- Download a full copy of the paper and material from website: [www.ifid.ca](http://www.ifid.ca)
- Read more about the Florida Retirement System (FRS) at: [www.myfrs.com/content/](http://www.myfrs.com/content/)