



# Queen's University Pension Plan



Ashley Crozier  
October 18, 2005

*partnering with clients*



# Queen's University Pension Plan

## Agenda

- ✦ **Background**
- ✦ **Proposed Changes**
- ✦ **Impact on Costs**

*partnering with clients*





# Queen's University Pension Plan

## Amount of Pension

- ✦ **Greater of:**
  - ✦ Pension under Money Purchase plan
  - ✦ Minimum guarantee defined benefit pension  
(% of final average earnings times years of service)

- **Example:**
  - \$80,000 final average earnings
  - \$40,150 average YMPE
  - 15 years of pension service

**Minimum Guaranteed Pension:**  
 $[1.4\% \times 40,150 + 1.8\% \times (80,000 - 40,150)] \times 30$   
 $= \$38,382$  or \$3,199 per month

*Note: this is payable from age 65; reductions apply if starting earlier.  
Also, for simplicity, ignores fact formula is less for pre-97 service*



# Queen's University Pension Plan

## Impact of DB Minimum Guarantee

- ✦ In last 15 years, fewer than 20% of members estimated to have retired with minimum pension
- ✦ Unknown whether this low % will continue in the future or increase
  - ✦ Significant leverage in costs if this % increases
- ✦ Typical scenarios:
  - ✦ Money purchase pension if joined the plan before 42
  - ✦ Minimum guarantee if joined after age 42





# Queen's University Pension Plan

## Cost of Pension

- ✦ **Money Purchase → % of salary**
- ✦ **Minimum Guarantee → estimated cost**
  - ✦ Allocated for each year of work





# Queen's University Pension Plan

## Expected Cost of Minimum Guarantee

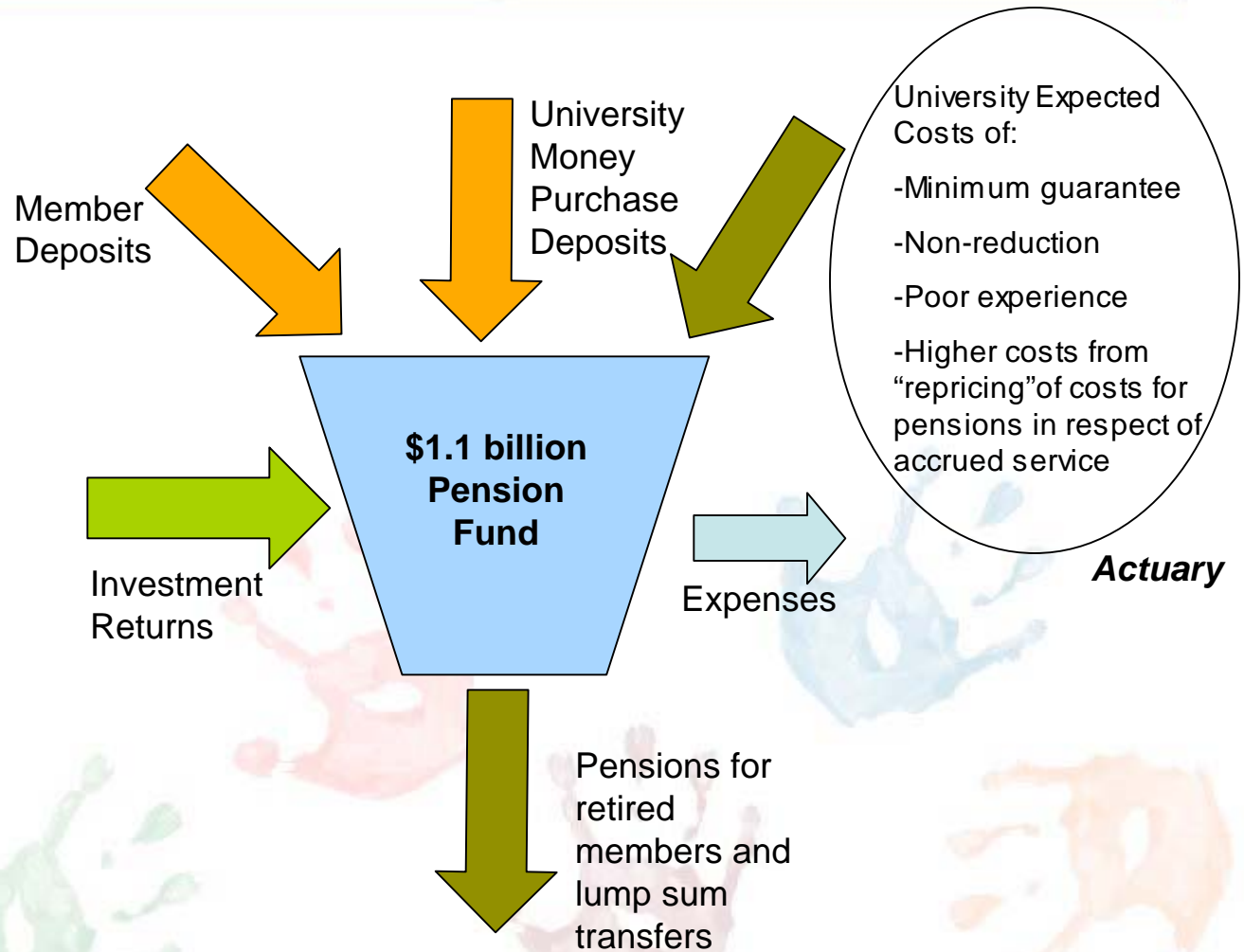
- ✦ **Ultimate pension for year of service projected to retirement**
- ✦ **Cost “estimated” based on assumptions**
  - ✦ 7.0% future investment returns on money purchase
  - ✦ 4.5% future salary increases
  - ✦ Retirement age
  - ✦ How long people live

*These assumptions are based on a long timeframe and will be wrong. Surplus or deficits (ie. higher costs) result depending on whether these are too conservative or aggressive.*



# Queen's University Pension Plan

## Financial Summary





# Queen's University Pension Plan

Estimated Financial Status of Plan as at 29-Feb-04 (\$M)

## Money Purchase Accounts

▪ Active employees	\$ 567
▪ Retirees	487
▪ Subtotal	1,054

## Expected Additional Funds for:

▪ Retirees	42
▪ Actives	25
▪ Upcoming changes in mortality	15
▪ Subtotal	82

**Total Required Funds** 1,136

**Total Plan Assets** 1,110

**Surplus (Deficit)** (26)



# Queen's University Pension Plan

## Current Estimated Cost for the University

**% of Salary**

**6.5%**

**Money Purchase**

**1.2%**

**Guaranteed Minimum Pension**

**2.8%**

**Funding of Deficit \***

---

**10.5%**

**Total Estimated Cost**

**\* For both poor experience and repricing; includes full changes for mortality**



# Queen's University Pension Plan

## Pricing Assumptions – Mortality

Expected Lifetime @ Age 65	10 Years Ago	Current	Increase
Males	16.7	20.8	25%
Females	21.3	22.7	7%

Most of this increase is based on national averages, but a portion is also due to actual experience of Queen's retirees



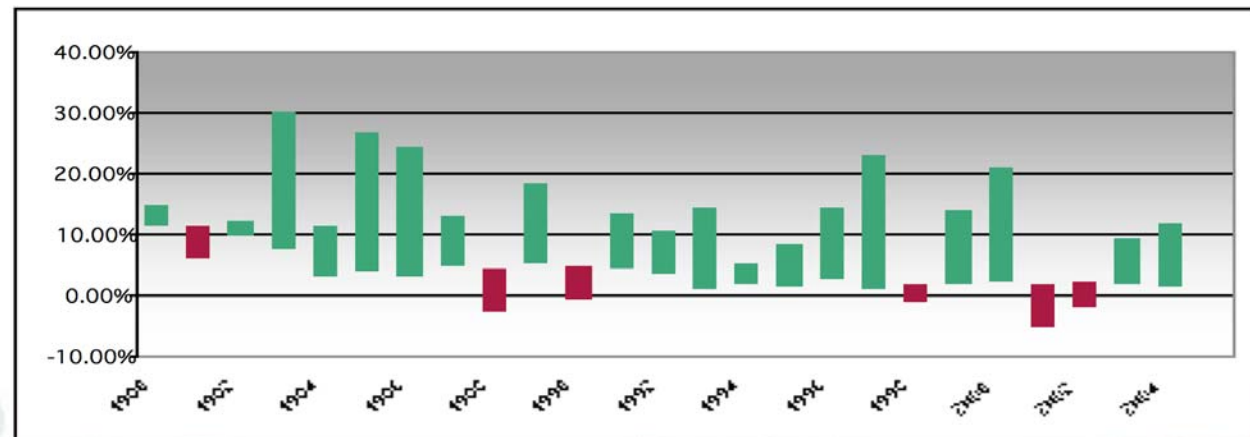
# Queen's University Pension Plan

## Pricing Assumptions – Financial

### Assumptions for DB Minimum Guarantee:

- ✦ Investment Return: 7.0%
- ✦ Salary Increases: 4.5%
- ✦ Real Increase (Spread): 2.5%

### Actual Historical Spreads from Average Wages (8% average over 25 years)





# Queen's University Pension Plan

## Pricing Assumptions – Impact of Financial Assumptions

Age	Salary Increases	Investment Rate of Return	Employer Cost for Guarantee as a Percentage of Employee Earnings
35	4.0%	5.0%	4.9%
35	4.0%	6.0%	0.8%
35	4.0%	7.0%	0.0%
35	4.0%	8.0%	0.0%
45	4.0%	5.0%	5.7%
45	4.0%	6.0%	2.7%
45	4.0%	7.0%	0.3%
45	4.0%	8.0%	0.0%

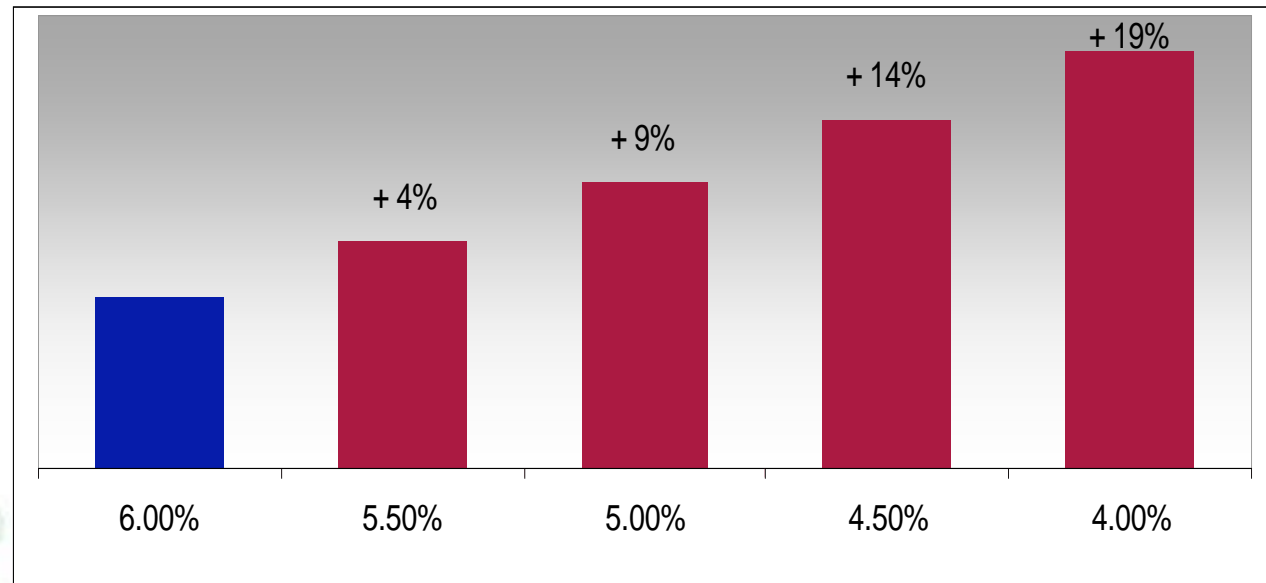


# Queen's University Pension Plan

## Pricing Assumptions – Retirees

✦ **Assumed Investment Return: 6.0%**

### Increase in Retiree Liabilities for Lower Investment Returns



Currently \$46.7 million annual pensions for retirees. If investment return is only 5%, then annual cost increases by \$460,000



# Queen's University Pension Plan

## Previous Decisions

**Great investment experience in the 1990's  
resulted in a surplus**



**Negotiated surplus to be used for a  
contribution holiday, in exchange for  
other benefits**



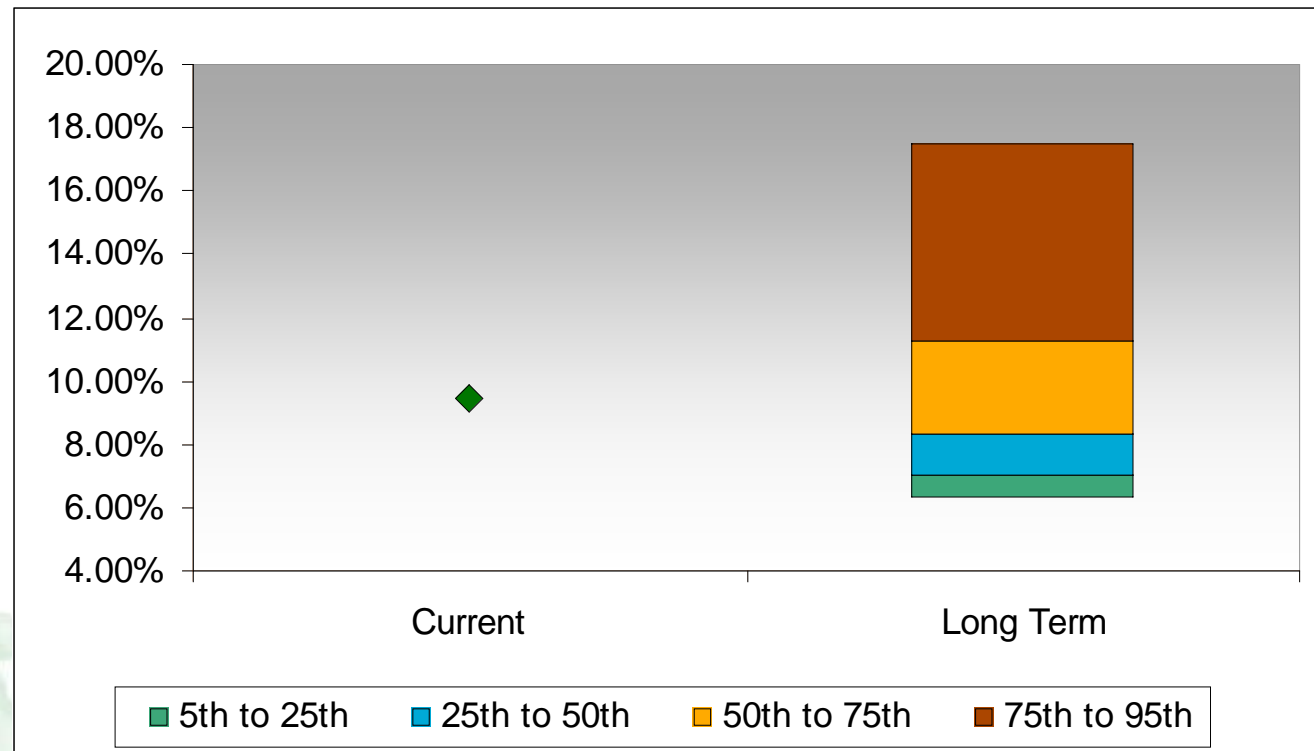
**\$15 million contribution holiday means  
over \$30 million less in the plan fund  
today**



# Queen's University Pension Plan

What could the University have to Pay?

As a percentage of Employee Salary





# Queen's University Pension Plan

## Proposed Changes

- ✦ **Technical indexing change**
- ✦ **Higher money purchase contributions**
- ✦ **Cap on salary covered with the DB minimum guarantee**



# Queen's University Pension Plan

## Technical Changes for Indexing

- ✦ **Current Plan:**
  - ✦ 4 year average of fund returns over 6%
  - ✦ Arithmetic averaging
  - ✦ actual fund returns for years prior to retirement
  
- ✦ **Proposed Plan:**
  - ✦ 6 year average of fund returns over 6%
  - ✦ Geometric averaging
  - ✦ 7% used for years prior to retirement



# Queen's University Pension Plan

## Technical Changes for Indexing – Impact

- ✦ **Average Indexing Over Past 25 Years**
  - ✦ **Current Plan:** 3.6%
  - ✦ **Proposed** 3.0%

**These indexing changes have a minimal impact on pension benefits compared to the change in contributions and salary cap.**





# Queen's University Pension Plan

## Money Purchase Contributions

	Current	Proposed
<b>Employees</b>		
< YMPE	4½ %	5 %
>YMPE	6 %	6½ %
<b>University</b>		
< YMPE	6 %	6½ %
>YMPE	7 %	7½ %

Those who retire under money purchase pension → ~8% higher pension

Otherwise → higher costs for less



# Queen's University Pension Plan

## Cap on Salary

- ✦ **Proposed Minimum DB Guarantee only to apply on earnings up to 2 x YMPE (\$82,200)**
- ✦ **Those earning more will still have the minimum guarantee but capped**
- ✦ **Money purchase pension will still be based on all earnings (subject to tax limits)**
- ✦ **Examples for Member with 30 years service**

Average Earnings	<u>Minimum Gtee Monthly Pension *</u>	
	Current	Proposed
\$70,000	\$2,748	\$2,748
\$80,000	\$3,199	\$3,199
\$90,000	\$3,649	\$3,298
\$100,000	\$4,099	\$3,298

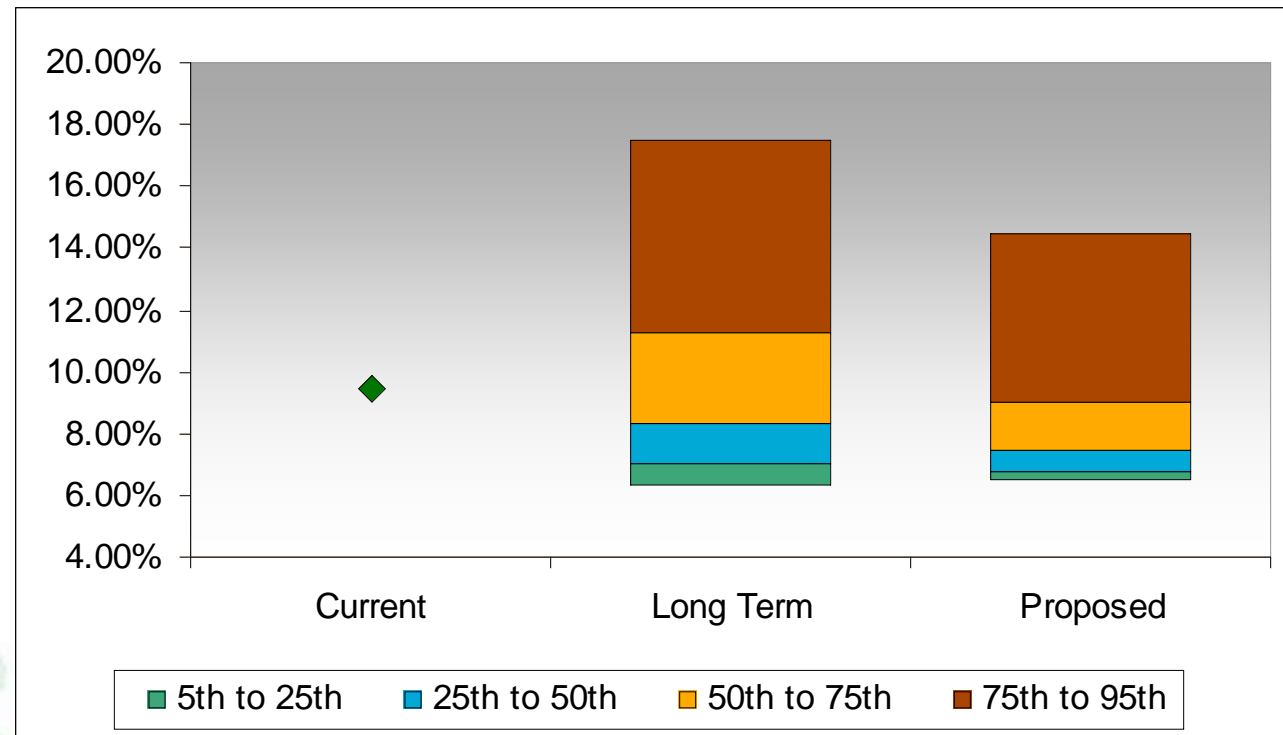
*\* These are payable from age 65; reductions apply if starting earlier. Also, for simplicity, ignores fact formula is less for pre-97 service*



# Queen's University Pension Plan

## What could the University have to Pay?

As a percentage of Employee Salary

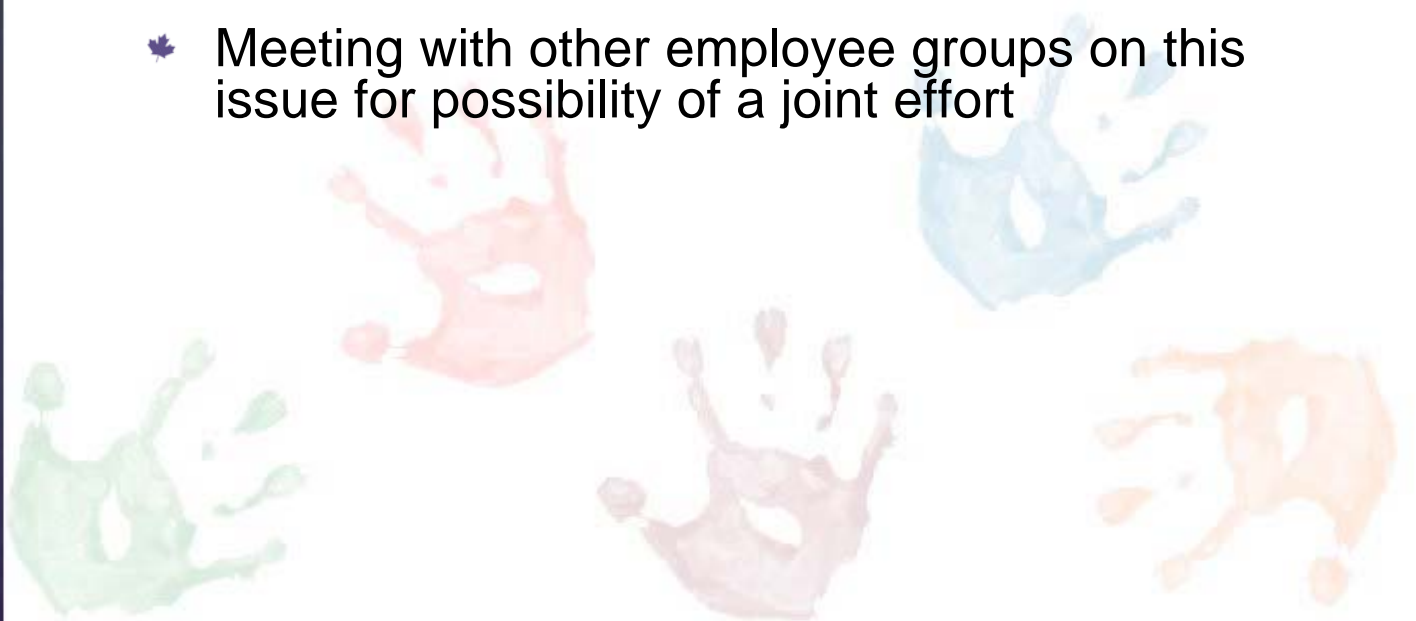




# Queen's University Pension Plan

## What is QUFA Doing?

- ✦ Understanding the issues for QUFA members
- ✦ Assessing impact and “need” for changes
- ✦ Recommending alternative proposals
- ✦ Meeting with other employee groups on this issue for possibility of a joint effort





# Queen's University Pension Plan

## Contact Information



2300 Yonge Street, Suite 3000  
Toronto Ontario M4P 1E4  
Tel: (416) 488-7755  
Toll Free: 1-800-268-0285  
Fax: (416) 488-7774

*partnering with clients*

