

Funding Report

January 2005

Ontario Teachers' Pension Plan

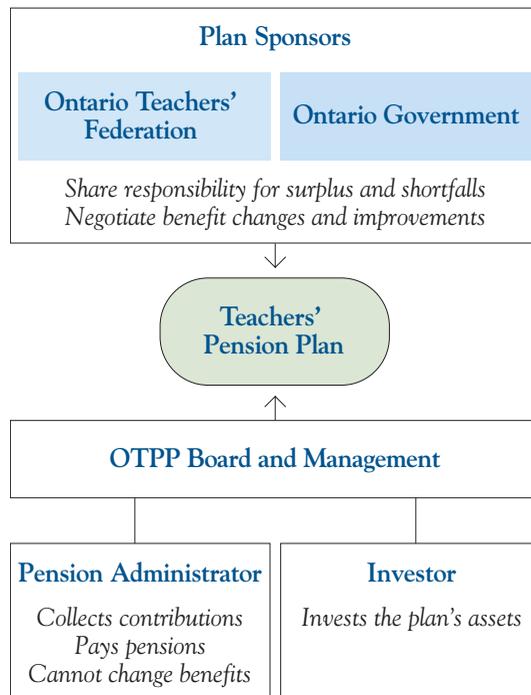
Each year, the Ontario Teachers' Pension Plan releases an annual report disclosing major investments, the fund's investment performance, net assets and the plan's financial statements at year end.

While this is important information for plan members to judge management's performance in paying pensions and investing the plan's assets, there is another measure that evaluates the pension plan: the funding valuation. It is prepared by an independent actuary to determine the long-term financial health of the plan at current contribution rates.

Who is responsible for funding the pension plan?

The Ontario Teachers' Federation (OTF) and the Ontario government, the plan's sponsors, are responsible for ensuring the plan is fully funded for the long term. They make the decisions on when to spend surplus and how to deal with shortfalls when they occur.

Contrary to many members' beliefs, the board of the Teachers' pension plan cannot change benefits or the contribution rate – those decisions are up to the plan sponsors. The board is responsible for investing the assets in the teachers' pension fund, administering the pension plan and paying pensions to plan members and their beneficiaries.



What is the result of the latest valuation?

The actuarial valuation at January 2005 showed the plan had a shortfall of assets compared to the future cost of benefits. Low interest rates caused the cost of benefits to rise to almost \$120 billion, leaving a gap or shortfall of \$19.4 billion from the current level of actuarial assets. The shortfall has increased from \$6.2 billion in 2004. It means that plan benefits are 84% funded, down from 94% in 2004. Benefits were fully funded in every other year since 1990 – in fact, investment returns created over \$18 billion in surplus during that period.

If the shortfall persists, the OTF and the Ontario government will have to take steps to bring assets and benefits back into balance before filing the next valuation in 2006.

Why is there a shortfall?

Low interest rates have caused a sharp increase in the amount of money needed today to pay all pensions promised in the future. This has affected most defined benefit pension plans in Canada, causing many to have funding shortfalls and announce contribution increases.

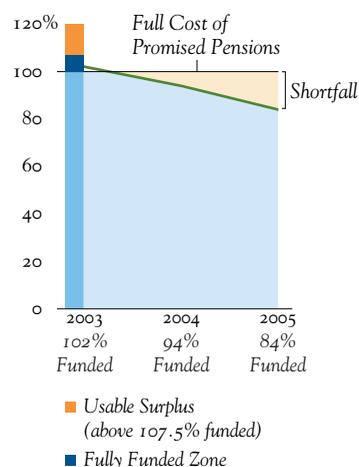
Real interest rates would have to go up by 1% by next January and the fund would have to perform extremely well to wipe out the shortfall. This is highly unlikely.

The OTF and the Ontario government shared a total of \$18.6 billion in surplus between 1993 and 2001. Surplus was used to improve pension benefits and eliminate special payments.

OTF	Ontario Government
<i>Pension benefit improvements including:</i> <ul style="list-style-type: none"> • Permanent 85 factor • Lower CPP reduction (0.45% from 0.7%) • 10-year guaranteed death benefit • Reduced pension as early as age 50 	<i>Eliminated special payments scheduled to address the plan's pre-1990 unfunded liability</i>
\$9.3 billion	\$9.3 billion

Funding Status

(as at January 1)
(percent)



Real Interest Rates

(percent)



How much money does the plan need for the future?

The answer is, it needs enough to cover the cost of future pension payments for all members. The Teachers' pension plan is a defined benefit plan with full inflation protection, the most valuable type of pension plan. It promises pensions based on a formula, not by the amount of money contributed. The plan pays 2% per year of service times the average salary of the member's best-five years.

Today, the plan has about \$84 billion in net assets and pays retired teachers over \$3.4 billion annually. So, on a short-term basis, the plan looks like it has enough to pay pensions, and it certainly does for many years to come.

But the plan sponsors and members need to look beyond the short term because the plan must be healthy not just in 2005, but 50, 60 and 70 years from now, when it's paying benefits to new teachers who won't retire until well into the future.

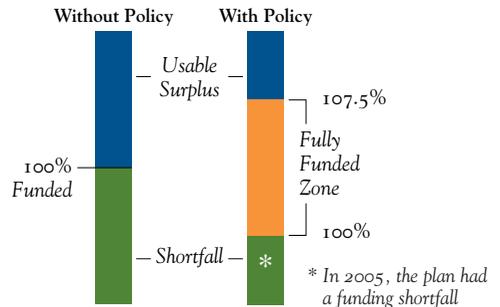
To assess the funding status, Teachers' board of directors hires an independent actuary who determines the assumptions to be used in the valuation and calculates the plan's bottom line.

In preparing a funding valuation, the actuary must project the plan's benefit costs and compare them to the current plan assets, then add in future contributions from teachers and the government. He looks ahead to the next 70 years, which is how long the plan must exist to fully pay out the costs of future benefits promised to all current plan members.

The funding valuation provides the plan sponsors with a snapshot of the future. It tells them whether, at a particular point in time, the plan is fully funded and has enough money to cover the cost of future pensions promised to all current plan members.

What is so important about January 1, 2006?

Funding Management Policy



By law, the plan is required to file a funding valuation with pension regulators every three years. The last valuation was filed in 2003, so the January 2006 valuation must be filed with the regulators.

If the valuation shows the plan continues to have a funding shortfall, it could trigger a contribution rate increase in the following year – January 2007. The last contribution increase for this pension plan was in 1990 when the contribution rate increased by 1% to 7.3% on the first \$41,100 (CPP maximum salary) and 8.9% above that amount.

The OTF and the government have been discussing the funding situation and looking at ways to deal with the shortfall. In its February 2005 *Communiqué* to plan members, the OTF said that a contribution rate increase in 2007 for both teachers and the government cannot be avoided.

What is the funding management policy?

The OTF and the government adopted a funding management policy in March 2003. It provides a structure for the sponsors to set policies on what to do in case of surplus or shortfall. It is their responsibility to decide when it's appropriate to change benefits, change contribution rates or hold the line on both.

The OTF and the government created a fully funded zone which should provide a cushion to avoid funding shortfalls in future. Under this policy, the plan is considered fully funded if its assets are 100% to 107.5% of future benefit costs. In addition, this fully funded zone is actually larger because the policy instructs the actuary to use a 0.5% lower assumption for the future investment return when the surplus is in the upper range of the zone. This more conservative assumption has the effect of saving surplus in good times for a future rainy day.

Previously, the OTF and the government used the \$18.6 billion in surplus created in the 1990s to eliminate special payments by the government and improve pension benefits for teachers and pensioners.

Under the policy, new benefits or reduced contributions would be granted only when the plan is above its fully funded zone. This higher standard for what constitutes a usable surplus will help the plan avoid benefit improvements or contribution reductions that could jeopardize the long-term health of the plan.

How is the valuation calculated?



The pension plan must maintain a balance, over time, between benefits promised and the plan's assets (contributions and investment returns). If the value of benefits is too high compared to the assets, the plan will become unbalanced, resulting in a shortfall. If the plan's assets are stronger, the plan will have a surplus.

The actuary looks at the long-term cost of benefits (not just the immediate cost) and the long-term value of contributions and investment returns.

Valuing the benefits

The actuary determines the future cost of pension benefits (the plan's "liabilities") by making a number of assumptions, including:

- How long will teachers work?
- What salary increases are teachers likely to receive?
- What will inflation be in the future?
- How long will the average teacher live?
- What will the plan's investments earn?

These and other assumptions are used to estimate the value and the cost of future defined benefits owed to today's members. The assumptions for the rate of return on investments and longevity of members are key to determining the cost.

To calculate the amount of money needed today to pay all pensions promised in the future, the actuary uses something called "real" (meaning after inflation) interest rates. These rates rise and fall with the markets and can cause the cost of future benefits to fluctuate quite dramatically. A 1% change in the rates causes a 20% change in the amount required to fully fund benefits. When real interest rates fall, as they did in the last three years, plan assets increase in value, but the cost of future benefits increases dramatically.

Cost of a typical pension at retirement

This is the amount the pension plan must have on hand, at different interest rates, to pay each \$40,000 pension for teachers retiring at 58.

It must have \$250,000 more at today's rate than it did 10 years ago when rates were 3% higher.

<i>Real interest rates</i>	<i>Rounded value of pension</i>
2.0%	\$ 810,000
3.0%	\$ 710,000
4.0%	\$ 630,000
5.0%	\$ 560,000

Valuing the assets

The actuary takes into account everything the plan owns – stocks, bonds, real estate – and the investment return expected in the future plus the value of contributions today’s plan members will make in the future.

We know the actual size of the fund today, but the actuary must estimate the amount of money in today’s dollars the fund will need in the future. To do that, he makes a conservative estimate about what rate of return the fund is likely to achieve over the long term. He also takes into account the value of all future contributions from the teachers and the government – \$17 billion in the current valuation.

Valuation assumptions

as at January 1 (percent)	2005 ¹	2004 ¹	2003	2002	2001	2000	1999	1998
Rate of return	5.85	6.20	6.40	6.30	6.25	6.50	7.50	7.50
Inflation rate	2.75	2.35	2.05	1.90	2.20	2.25	3.50	3.50
Real rate of return ²	3.10	3.85	4.35	4.40	4.05	4.25	4.00	4.00

¹ Estimated assumptions; valuation not finalized

² The assumed rate of return also includes a 1% premium above market interest rates to allow for higher returns from stocks

These valuation assumptions change over time, as this chart demonstrates, and are intended to take into account a long time horizon. While actual experience mirrors some assumptions closely, annual stock market returns typically fluctuate much more significantly compared to the assumption and are smoothed over five years.

Funding valuation history

as at January 1 ¹ (\$ billions)	2005 ³	2004 ³	2003	2002	2001	2000	1999	1998	1996	1993
Net assets	84.3	75.7	66.2	69.5	73.1	68.3	59.1	54.5	40.1	29.4
Smoothing adjustment	(1.5)	3.5	9.7	3.0	(4.3)	(7.3)	(5.1)	(6.0)	(1.8)	–
Value of assets	82.8	79.2	75.9	72.5	68.8	61.0	54.0	48.5	38.3	29.4
Future contributions	17.0	15.7	14.7	13.7	14.4	13.4	12.0	12.6	14.5	14.3
Government special payments ²	–	–	–	–	–	–	3.7	8.5	8.4	8.4
Actuarial assets	99.8	94.9	90.6	86.2	83.2	74.4	69.7	69.6	61.2	52.1
Future accrued benefits	119.2	101.1	89.1	84.3	76.4	69.8	66.2	62.8	60.5	50.6
Surplus ⁴ (shortfall)	(19.4)	(6.2)	1.5	1.9	6.8	4.6	3.5	6.8	0.7	1.5

¹ Valuation dates determined by the OTF and the Ontario government (plan sponsors)

² Payments committed by the government toward the pre-1990 unfunded liability

³ Estimated preliminary valuation only; not finalized or filed with pension regulator

⁴ As surpluses were created in the 1990s, they were used to pay for benefit improvements and to pay off the pre-1990 unfunded liability payments

Using the assumed rate of return for the future and the future contributions for all current plan members, the actuary determines whether the plan’s assets today are sufficient to pay all promised pensions in the future. As shown in the chart above, the cost of future benefits is estimated at \$119.2 billion, while assets (actuarial assets) are estimated at \$99.8 billion, based on an assumed real rate of return of 3.1% for the future. This leaves the plan with an estimated \$19.4 billion shortfall in 2005, which the OTF and the government will address before filing the next valuation in 2006. In its February 2005 *Communiqué* to plan members, the OTF said that a contribution rate increase in 2007 for both teachers and the government cannot be avoided.

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