

# Outstanding Service Today, Retirement Security Tomorrow

2002

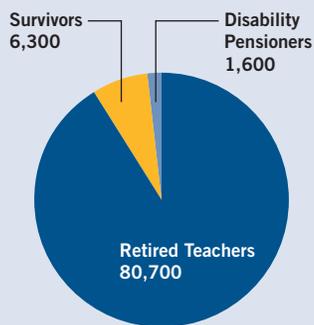
ANNUAL REPORT



TEACHERS'  
PENSION PLAN

## CORPORATE PROFILE

### Pensioner Profile



The Ontario Teachers' Pension Plan is responsible for the retirement income of 154,000 elementary and secondary school teachers, 89,000 retired teachers and their survivors, and 91,000 former teachers with money in the plan. The Ontario government and the Ontario Teachers' Federation, the plan's co-sponsors, are responsible for benefit and contribution levels.

The plan had net assets of \$66.2 billion at the end of 2002 and a long-term rate of return of 10.6% per year since 1990.

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## FINANCIAL HIGHLIGHTS

### Investment Performance

for the year ended December 31

Rate of return on investments (%)	2002	2001
Annual	<b>-2.0%</b>	-2.3%
Composite benchmark	<b>-4.8</b>	-5.3
Four-year average	<b>5.3</b>	8.3
Four-year benchmark	<b>2.8</b>	7.0

### Average annual compound rates of return (%)

	1 yr	4 yr	5 yr	10 yr	Since 1990
Our return	-2.0	5.3	6.2	10.4	10.6
Benchmark	-4.8	2.8	4.5	9.1	8.1

### Financial Overview

as at December 31

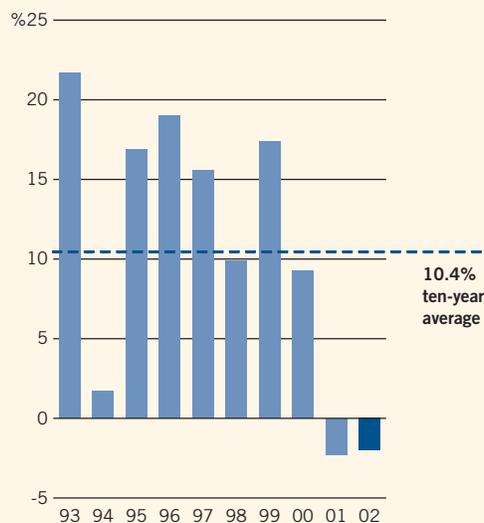
(\$ billions)	2002	2001
Net investments	<b>\$65.4</b>	\$68.1
Net receivables	<b>0.8</b>	1.4
Net assets	<b>66.2</b>	69.5
Smoothing adjustment <sup>1</sup>	<b>9.7</b>	3.0
Actuarially adjusted net assets	<b>75.9</b>	72.5
Cost of future pensions	<b>73.7</b>	65.5
Surplus	<b>\$ 2.2</b>	\$ 7.0

<sup>1</sup> In accordance with accepted actuarial practices, equity returns (above or below CPI+6%, the assumed rate of return) are smoothed over five years to reduce the impact of market volatility on the plan's net assets (see Note 4). The \$9.7 billion smoothing adjustment consists of net equity losses.

All financial results in this report include the effects of derivatives unless stated otherwise.

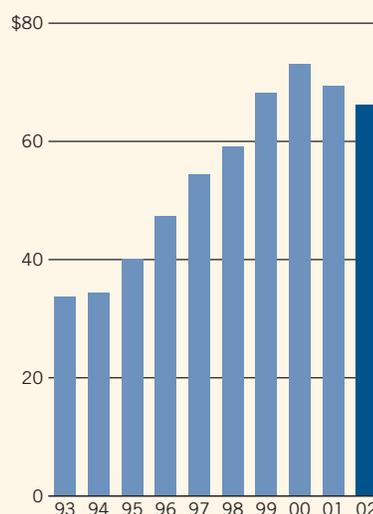
### Rates of Return

(for the year ended December 31)



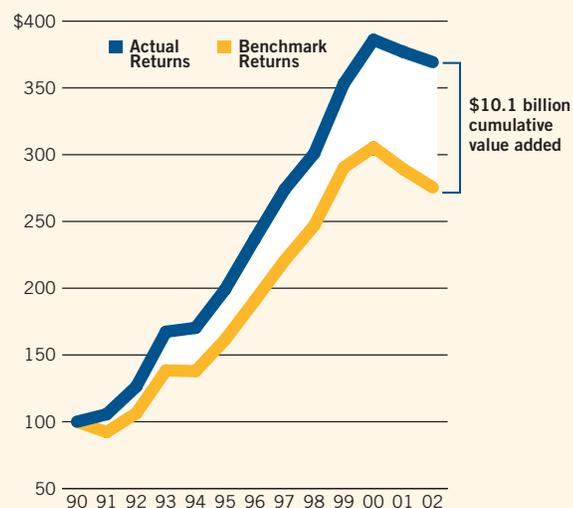
### Net Assets

(as at December 31)  
(\$ billions)



### Investment Growth

(\$100 invested in 1990)



## CHAIR'S REPORT

**“I made my first ever equity investment in October 1953. Although that was almost 50 years ago and I’ve been active in investment markets for that entire time, 2002 was one of the most unusual years I’ve seen.”**

**ROBERT W. KORTHALS**



For the first time since 1932, U.S. stock markets recorded their third straight year of declines. At year-end 2002, the Standard & Poor's 500 index ended 22% lower than a year earlier, which meant it was 40% below its all-time high set on September 1, 2000. In Canada, the Toronto Stock Exchange was down 12.4%, roughly the same as in 2001.

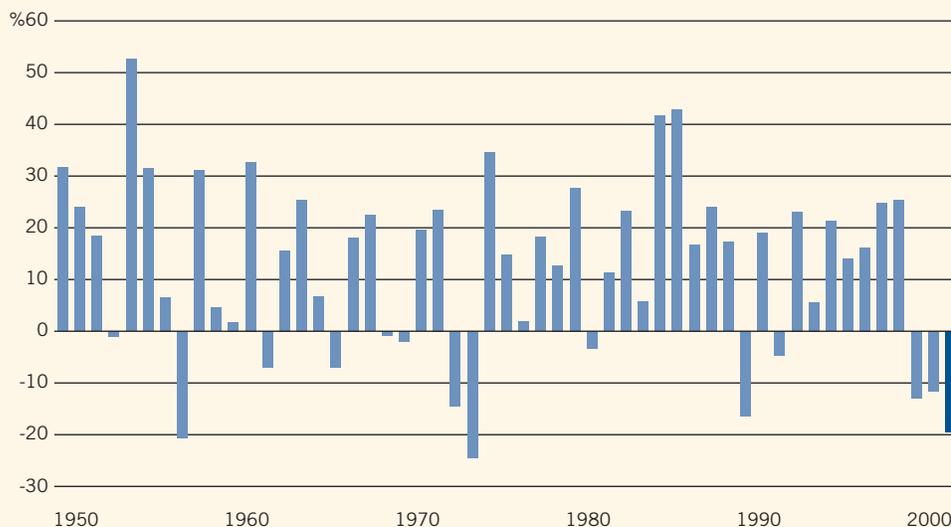
While this was an unusual period by historical standards, the Ontario Teachers' Pension Plan was prepared. We anticipated a period of market weakness (as reported in our last two annual reports) and, by using a variety of long-term strategies, built an asset-mix policy we believe is right for the times. As a result, the plan outperformed the composite benchmark again in 2002, preserving more than \$1.9 billion in value.

Reducing our policy exposure to equities preserved an additional \$900 million for a total of \$2.8 billion.

This performance demonstrates what can be accomplished when an entire team remains committed to a long-term strategy based on a careful blend of investment products and styles while still paying strict attention to current market realities. It also demonstrates that the plan is being effectively managed and is appropriately invested.

To expect any better results would be unrealistic and would ignore the realities of capital markets. We have no control over the direction of the markets we invest in, or for that matter, the cost of future pension benefits – the cost we are striving to cover. Both are determined by factors outside our control.

**Equity Markets Over the Past 50 years**  
(percent)



This chart shows the MSCI World index which includes U.S., Canada and global equity returns. The duration of this downturn is unprecedented in the last 50 years.

### Value Added Above Benchmarks

(for the year ended December 31)  
(\$ billions)



What we do control, however, is investment and customer service strategies and tactical execution. In these areas, our team strives to make a difference. Examples of recent efforts in these areas can be found in this report.

I believe it's also important to recognize that the plan is facing a major pension funding challenge today – a challenge brought about by negative markets and by the rising costs of future benefits. Claude Lamoureux discusses this in detail in his report.

### Executive Compensation

Our Board of Directors strives to do its part by adhering to high standards of governance. This is evident in the committee structure we've adopted for our Board, which can be found on our Web site.

We have a board committee that, in addition to human resources issues, independently assesses the compensation of our senior managers. The work of this committee ensures our team is properly rewarded for meeting meaningful objectives such as long-term, above-benchmark investment performance.

We disclose executive compensation in this annual report on page 51. The Board is satisfied that the

design of the compensation plan is in the best interests of plan members and sponsors. As a result of this structure, we have been able to attract and retain a very solid, professional management group that is motivated to outperform for the long term.

In 2002, incentive bonuses were paid despite negative annual absolute returns. What is the logic of these bonuses?

First, our investment incentives are designed to reward long-term performance. Both our annual and long-term incentive plans take into account four-year investment performance.

Second, relative performance results are within a manager's control, whereas general market trends are not. Therefore, our incentive plans require managers to outperform established benchmarks – as they did in 2002. For example, in 1998 when returns were positive 9.9% but 2% below the benchmark, no long-term bonuses were paid. Performance relative to benchmarks remains the most important factor in determining bonuses.

Finally, long-term incentives for investment managers are tempered by a rate of return multiplier which reduces bonus levels in years when the rate of return is negative. In 2002, incentive payments for all investment staff represented 1.4% of the four-year average annual value created above benchmarks.

### A Willingness to Improve

When it comes to governance, more disclosure does not necessarily lead to better performance. There are other factors involved.

In fact, I believe there is more to good governance than simply following the rule book or making expanded disclosures. As reported in the *Harvard Business Review* in its September 2002 issue: "it's not rules and regulations...it's the way people work together" that makes "great boards great." Of vital importance is creating a social system within every board that encourages respect, trust and candor.

At Teachers', we understand this and work hard to create a collegial atmosphere among our Board members. Our directors come from a variety of backgrounds and it's important they feel free to question, probe and, when necessary, provide a dissenting opinion. Our success in managing how we work together on the Board as a 'society' is testimony to the efforts of the co-sponsors who continue to show a sensitivity to this objective in every new Board appointment they make.

The Province of Ontario has named two new Board members for 2003: Douglas Grant and Tom O'Neill. We welcome them to the Board while also gratefully acknowledging the contributions of Jalynn Bennett and Geoffrey Clarkson, who have served with distinction for eight years. These were important formative years for the plan, and their tireless efforts on behalf of members and sponsors have helped to make Teachers' an even more robust and accountable plan.

Overall, the calibre of our Board members proves another point: the co-sponsors are doing their part by appointing competent people who contribute to Board performance. We commend them for their commitment to director professionalism.

## Conclusion

In my five decades of investment experience, I've seen considerable market volatility. But through good times and bad, I've found that investors who maintained their long-term focus, played by the rules, and learned from their experiences, achieved their ultimate objectives.

Teachers', I believe strongly, will continue to meet its ultimate objectives because this is an organization that learns and adapts without sacrificing its principles or long-term approach. On behalf of the Board, I thank our plan members and sponsors for their support and the employees of the plan for their dedication to professionalism and commitment to excellence. Working together, we will succeed for our members and sponsors.

Yours sincerely,



**ROBERT W. KORTHALS**  
Chair

## PLAN GOVERNANCE AT A GLANCE

MORE ON-LINE AT [WWW.OTPP.COM](http://WWW.OTPP.COM)

Board independent from management	Page 5	Code of conduct guidelines in place and disclosed	Web site
Chair and CEO roles separated	Web site	Responsibility for financial statements	Page 34
Management absent from audit committee	Web site	Management compensation disclosed	Page 51
Board's roles and committee structures disclosed	Web site	External auditors' role and terms of engagement disclosed	Page 34
Board attendance disclosed	Page 5	Non-audit fees disclosed	Page 21
Board compensation disclosed	Page 50	Actuary's role and terms of engagement disclosed	Page 35
Board member tenure, background disclosed	Page 5		

## BOARD OF DIRECTORS



(Left to right)

### **Guy Matte**

Former Executive Director of l'Association des enseignantes et des enseignants franco-ontariens  
*Member of the Audit & Actuarial and the Human Resources & Compensation Committees*

### **Lucy G. Greene**

Former Vice-President of Human Resources with Sun Life Assurance Company of Canada  
*Chair of the Governance Committee and member of the Human Resources & Compensation Committee*

### **Gary Porter**

Chartered accountant and founding partner of the accounting firm Porter Héту International, and a past president of the Certified General Accountants Association of Ontario  
*Chair of the Investment Committee and member of the Audit & Actuarial and Governance Committees*

### **John S. Lane**

Former Senior Vice-President of Investments for Sun Life Assurance Company of Canada, and a Chartered Financial Analyst  
*Chair of the Audit & Actuarial Committee and member of the Human Resources & Compensation Committee*

### **Robert W. Korthals**

Former President of The Toronto-Dominion Bank  
*Chair of the Board and Chair of the Human Resources & Compensation Committee*

### **J. Douglas Grant**

Chair of Sceptre Investment Counsel Ltd., a fellow of the Institute of Chartered Accountants of Ontario, and a Chartered Financial Analyst  
*Member of the Governance and the Human Resources & Compensation Committees*

### **Ann Finlayson**

Journalist, speaker, freelance editor and consultant, author of three books including *Whose Money Is It Anyway? The Showdown on Pensions* (1988)  
*Chair of the Benefits Adjudication Committee and member of the Audit & Actuarial Committee*

### **Thomas C. O'Neill**

Former Chair of PwC Consulting and a fellow of the Institute of Chartered Accountants of Ontario  
*Member of the Audit & Actuarial and the Governance Committees*

### **Ralph E. Lean, Q.C.**

Senior partner with the law firm Cassels Brock & Blackwell in Toronto  
*Vice-Chair of the Benefits Adjudication Committee and member of the Governance Committee*

All Board members serve on the Investment Committee. Board attendance was 92% in 2002.

## PLAN GOVERNANCE

MORE ON-LINE AT [WWW.OTPP.COM](http://WWW.OTPP.COM)

### **Mandate**

- Teachers' is an independent corporation, established under Ontario law, to administer the pension plan, manage the pension fund and pay members and their survivors the benefits promised to them.
- The plan's co-sponsors, the Ontario government and the Ontario Teachers' Federation, are responsible for plan design, including contribution and benefit levels.

### **Accountability**

- Teachers' reports to the co-sponsors on a regular basis and issues this annual report including audited financial statements supported by an actuarial opinion.

### **Board of Directors**

- Each co-sponsor appoints four members to the plan's Board of Directors for staggered two-year terms and the co-sponsors jointly appoint the Chair as the ninth member of the Board.
- The Board is required to act independently of both the co-sponsors and the plan's managers and to make decisions in the best interest of all beneficiaries of the plan.
- The Board requires the plan's managers to establish corporate objectives and a financial plan annually and to review progress against these and other objectives both annually and quarterly.
- Teachers' expresses its investment strategy in its Statement of Investment Policy and Procedures and implements it, in part, in the *Proxy Voting Guidelines*, which the Board reviews annually.

## PRESIDENT'S REPORT

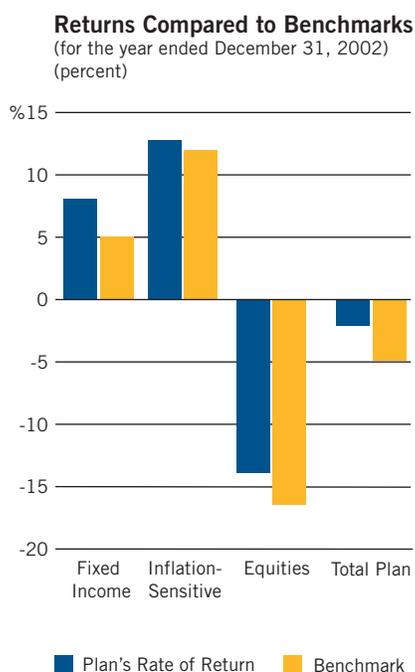
“The plan’s results in 2002 reflected the negative performance of capital markets and our long-term strategy to add value.”

CLAUDE LAMOUREUX



The plan ended the year with a return of negative 2.0%, compared to negative 4.8% for the composite benchmark, a measure of market performance. The 2.8% difference equates to \$1.9 billion in dollar terms and represents the value we added to the fund.

Over 50% of our investments produced positive rates of return during 2002. Our one-year rate of return on fixed income, including alternative investments such as hedge funds, was 8.6% (compared to its benchmark of 5.1%). Inflation-sensitive investments, which include real estate, commodities and real-return bonds were excellent performers for us this year, producing a 13.2% one-year rate of return (compared to 12% for the benchmark).



On the equities side, the plan’s return was negative 14.1% in 2002 compared to the combined stock market benchmarks of negative 16.5%. The plan benefited substantially from our decision to change the asset mix to reduce our total equity exposure to approximately 50% of assets from 60% a year earlier.

This decision alone saved the plan \$900 million in addition to the \$1.9 billion in value added over benchmarks.

Despite our efforts, the plan’s net assets declined \$3.3 billion to \$66.2 billion from \$69.5 billion in 2001. Most of the change in value reflected \$1.4 billion in investment losses and \$3.1 billion in benefits paid which exceeded the \$1.4 billion in contributions received from members and the Ontario government.

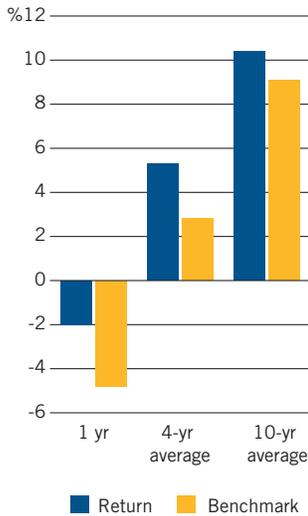
Year-by-year, we aim to outperform our composite benchmark, but because volatility can skew results in a single year, a more insightful measure of our performance is over a period of four years or longer.

Over the last four years, our average compound return was 5.3% per year compared to the benchmark of 2.8%. This outperformance created \$6.6 billion in value for the plan. In the last 10 years, our average return was 10.4%, again exceeding the benchmark of 9.1%.

### Investing for the Future

We have increased the active component of our equities by having less exposure to major market indices and more assets managed actively. We have also stepped up our commitment to private equities because we continue to see these investments as an

**Fund Performance vs. Benchmark**  
(percent)



important and prudent alternative to public equity markets. And we continue to invest in hedge funds.

Tangible assets, such as electric utilities, highways and airports, are increasing components of our asset mix because their returns are more closely aligned with the indexed pensions we pay to teachers. These are typically in government-regulated businesses which offer the prospect of long-term returns that correlate with the rate of inflation.

In real estate, we have several redevelopment projects underway that will increase the value of our assets.

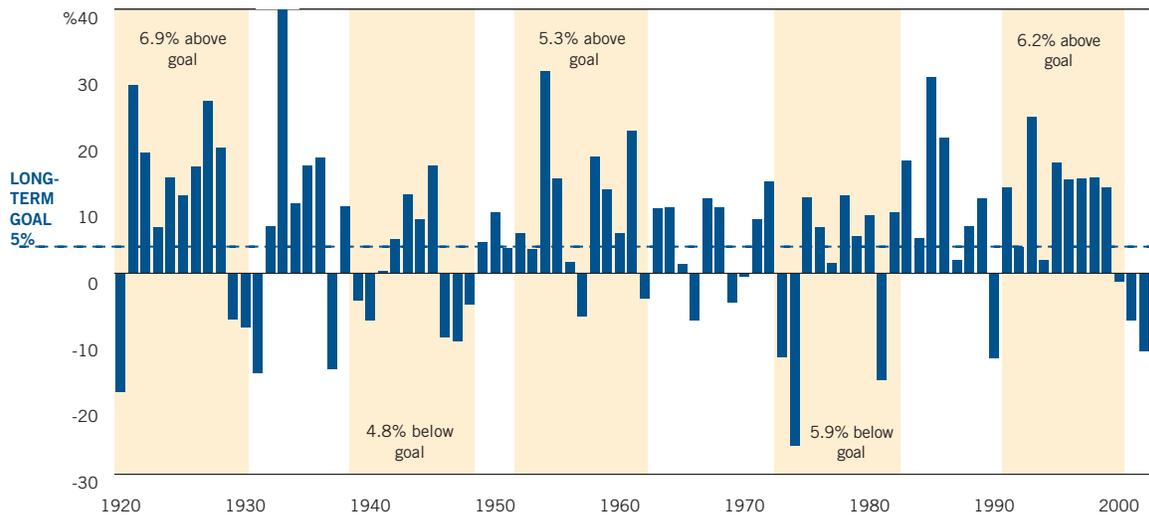
**The Plan's Long-term Challenge**

Although our investment results are good compared to the benchmark and represent billions of dollars in added value, we do not pay pensions on the basis of relative returns. We pay pensions based on a defined benefit formula, not based on the rate of return on investments.

In 1990, the target to cover the costs of future benefits and to avoid contribution increases was set at 4.5% – that's the real rate of return after deducting inflation. However, the significant increase in benefit levels resulting from plan changes in the last few years has resulted in an increase in the target.

Based on current contribution and funding levels, the plan now needs a 5% real rate of return over the long term to deliver the pensions promised. History shows this kind of return is not easy to achieve. As the chart below reveals, a well balanced stock-bond portfolio would have failed to deliver a 5% average real rate of return during at least two 10-year periods over the last 80 years. Periods of extended low returns are a

**Annual Real Returns (after inflation) of Canadian and Foreign Stocks and Canadian Bond Portfolio**  
(percent)



This graph shows how a portfolio, based on a similar asset mix as our own, would have performed over the last 80 years. The portfolio includes two-thirds stocks (21% Canadian, 17% U.S., 22% foreign) and one-third Canadian bonds.

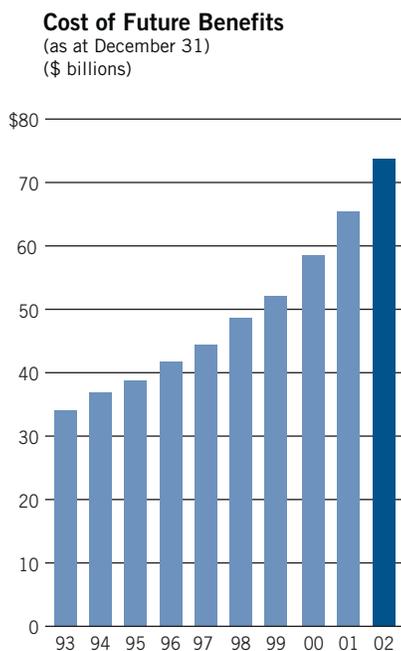
concern for pension plans, and we may well be experiencing one in this decade.

Going forward, our market outlook for the next few years does not promise any miracles for the plan. Our expectations, as mentioned in previous annual reports and described in greater detail on page 32, are that annual real returns on stocks – from today's starting point – will average about 3.5% annually. If stocks and bonds generate returns in this range – and we are fortunate enough to contribute the same 1% added value over the benchmark as we did in the 1990s – total returns will still fall short of 5%.

Assuming this outlook is reasonable, and remembering the odds of achieving 5% returns, there is a strong possibility that markets will not enable the plan to meet this target in the near future. However, we will continue to do our best to build on what works and take innovative investment approaches where we see opportunities to add extra value.

### Deficit Warning

At year-end 2002, the cost of future benefits earned by plan members had increased 13% to \$73.7 billion from \$65.5 billion a year earlier. This increase was far more than usual because of a 0.5% drop in real interest rates – if real rates drop by 1%, it takes 20% more assets today



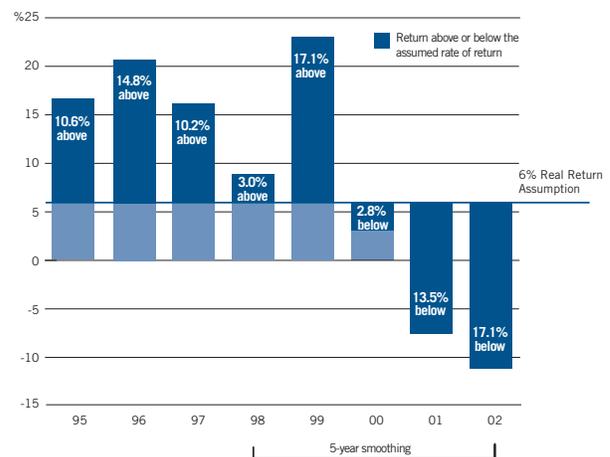
to pay the pensions promised to teachers in the future.

After subtracting the cost of future benefits from actuarially adjusted net assets of \$75.9 billion, the plan had a surplus of \$2.2 billion on a financial statement basis.

However, there are clouds on the horizon. There is a \$9.7 billion difference between the plan's net assets of \$66.2 billion and the \$75.9 billion 'actuarially adjusted' net assets used for the valuation. This difference is because the plan uses smoothing to avoid short-term increases in the contribution rate. It is an accepted actuarial practice intended to even out the impact on the plan's funding status from the volatility of equity returns.

The actual returns from the plan's exposure to fixed income are reflected each year in actuarially adjusted net assets. In contrast, equity returns, above or below CPI+6%, are included in a smoothing reserve and recognized in equal part over five years. For example, with CPI at about 3%, plus the 6% assumed real rate of return, equity returns need to be 9% to break even. Returns below 9% would be considered a 'loss,' as you can see in the accompanying chart.

Equity Returns (after inflation) vs. Assumption



During the 1990s, the plan accumulated and smoothed equity gains, but since stock markets around the world have declined over the past three years, the smoothing reserve now holds large unrecognized losses. Over the next four years, the plan will have to absorb the \$9.7 billion in equity losses below the

## Organizational Mandate

### OTF and Ontario government

Responsible for funding pension plan  
 Negotiate benefit changes and contribution rate  
 Share surplus or deficit

### Ontario Teachers' Pension Plan

Administer pension plan  
 Pay pensions, collect contributions  
 Set investment strategy, invest assets

assumed rate of return, which have been held back in the smoothing reserve. This situation could cause a deficit in the future unless equity markets recover dramatically, which is not expected to happen, or real interest rates increase.

## Funding Valuation

A far more important indicator of the plan's health is the funding valuation. The co-sponsors use this valuation to determine contribution and benefit levels. Unlike a financial valuation, the funding valuation includes the present value of benefits earned as well as the present value of projected future benefits and the value of future contributions.

At the beginning of 2003, the plan had an estimated surplus of \$1.5 billion, compared to \$1.9 billion at January 1, 2002. But as described on page 11, the \$9.7 billion in the smoothing reserve will need to be absorbed in the funding valuation over the next four years.

Funding valuations must be filed every three years, and the next valuation must be filed no later than 2006. If there is a deficit, the co-sponsors will have to take steps to rectify the situation by either:

- increasing contributions for teachers and the government, or
- reducing future benefits.

However, in the midst of this concern about the future, there is one good piece of news.

## A Pension Funding Policy

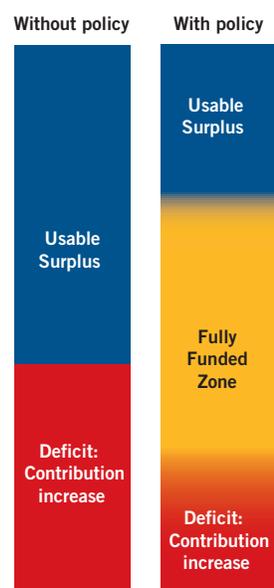
The plan's co-sponsors, the Ontario Teachers' Federation and the Government of Ontario, have taken an innovative step. In March 2003, they approved in principle a pension funding policy that gives the plan

greater stability in the face of a possible deficit and codifies the more pleasant task of using future surpluses to create a surplus cushion or eventually to lower contribution rates or improve benefit levels.

These are the highlights of this important development:

- The policy defines a 'fully funded zone' in which the co-sponsors will maintain a cushion to protect the plan from short-term deficits that could otherwise trigger a major contribution increase.
- This cushion will balance out periods of surplus and deficit but will not entirely shelter teachers and the government from a future contribution increase. Rather, it will ensure any necessary increases would be smaller and more manageable.
- Benefit improvements or reduced contributions could be negotiated when the surplus rises above the fully funded zone and the fund is in a strong financial position.

### Pension Funding Policy



Before the creation of the funding zone, the plan was only considered fully funded if the ratio of assets to the cost of future pensions was one to one or 100%. That meant that if the plan's funding status fell below 100% when a valuation was filed, it would trigger an immediate contribution rate increase. Conversely, when the funding status rose above 100%, even by a small margin, there was an opportunity to improve permanent benefits, even if the plan's outlook did not support the added cost.

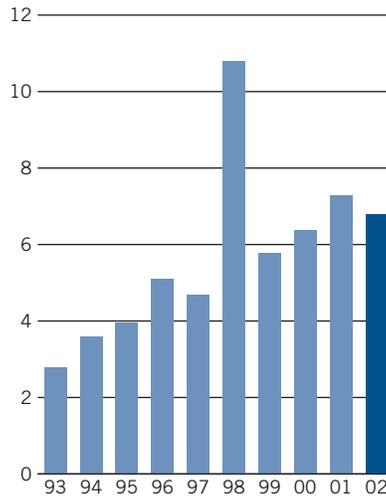
The funding zone will provide greater stability for contribution rates for active members. With the assurance that some of the gains from future market booms would be set aside to cushion the impact of inevitable market downturns, plan managers will have the freedom to continue using investment risk prudently to lower the overall cost of the plan. We applaud the co-sponsors for their forward-thinking and co-operative approach.

### Member Services

To meet both the short- and long-term needs of our members for pension information, we are also striving to do all we can in the area of member service. In 2002, our Member Services team received their highest rating ever on our Quality Service Index (QSI). This index is compiled by an independent firm, using direct feedback from members.

In terms of activity, 6,800 retired pensioners and 600 survivors were added to the pension payroll in 2002. Member inquiries returned to normal levels after a 140% increase in 2001 when a number of benefit improvements were made. We continued to introduce new services for members and employers, including a secure Internet site. The services available on this site will expand in 2003, making it an increasingly more valuable tool. We encourage all members to sign up for these services over the Internet so they have direct access to their personal pension information.

**Number of New Retirement Pensions**  
(thousands)



While adding new services, our team also succeeded in reducing the cost per member served, which, along with higher service levels, is a strategic objective. For highlights of Member Services accomplishments, see page 12.

### Thanks

2002 brought challenges for all investors. Teachers' was no exception. While we can't control volatile investment markets or the aging demographics of our members, rest assured we are doing everything we can to deal with these realities.

We commend our Board and sponsors for supporting actions already implemented and those that we will take this year as we strive to add value.

We also commend all employees, especially our teams in Investments and Member Services. Everyone has worked hard this year to meet the needs of plan members, the Board and our sponsors. We are devoted to doing the same again in 2003.

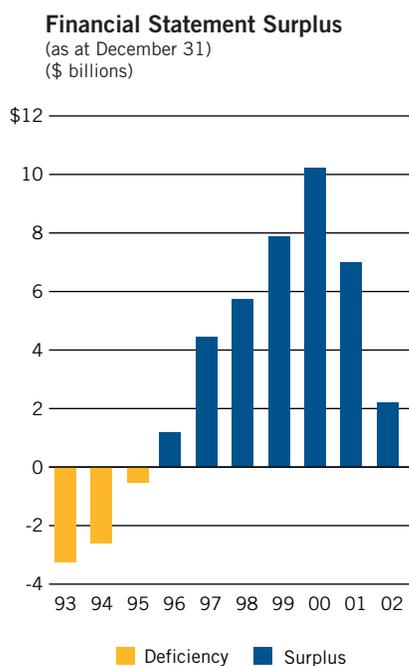
Yours sincerely,

**CLAUDE LAMOUREUX**  
President and Chief Executive Officer

## ACTUARIAL VALUATIONS

### Financial Statement Valuation

The annual valuation contained in the financial statements of this report shows a financial surplus of \$2.2 billion, compared to a surplus of \$7 billion a year ago. This change was caused primarily by an increase in the present value of benefits due to a decrease in real interest rates, upon which these costs are based.



### Funding Valuation

A key measure of the health of the plan is the funding valuation, since it determines the amount available to the co-sponsors for a surplus cushion, benefit improvements or contribution reductions. Unlike the financial valuation, the funding valuation includes the costs of future pensions that current teachers will receive and the contributions they will make in the future.

The plan had a funding surplus after smoothing of \$1.5\* billion on January 1, 2003 compared to \$1.9 billion as of January 1, 2002.

The plan smooths equity returns over five years, a common practice accepted by the actuarial profession and pension regulators to reduce the need for short-term contribution increases. Smoothing defers equity returns when actual returns are above or below a long-term return assumption of CPI+6%. As discussed in the “Deficit Warning” on page 8, the

plan has \$9.7 billion in equity losses in the smoothing reserve to be recognized over the next four years. This could cause a deficit in the future.

If there is a deficit when a funding valuation is filed, the co-sponsors would have to either increase contributions for teachers and the government, or reduce future benefits.

### Valuation Assumptions

The valuations use the same assumptions about the future except the 2003 funding valuation uses 6.4% for the rate of return assumption. It is 0.5% higher because of the agreement between the co-sponsors for a pension funding policy.

(percent) (as at December 31)	2002	2001
Rate of return	5.90 <sup>1</sup>	6.30
Salary escalation	3.05	2.90
Inflation rate	2.05	1.90

<sup>1</sup> The financial valuation uses the Long Canada Bond rate of 5.40% plus 0.5% while the funding valuation uses 5.40% plus 1%.

### Comparing the Surpluses

(\$ billions)	Financial (at Dec. 31, 2002)	Funding (at Jan. 1, 2003)
Net assets	\$66.2	\$66.2
Smoothing adjustment	9.7	9.7
Actuarially adjusted assets	75.9	75.9
Future contributions	–	14.7
Actuarial assets	75.9	90.6
Future benefits	73.7	89.1
Surplus	\$ 2.2	\$ 1.5*

### Funding Valuation History (\$ billions)

(at January 1) <sup>1</sup>	03	02	01	00	99	98	96	93
Net assets	\$66.2	69.5	73.1	68.3	59.1	54.5	40.1	29.4
Smoothing	9.7	3.0	(4.3)	(7.3)	(5.1)	(6.0)	(1.8)	–
Value of assets	75.9	72.5	68.8	61.0	54.0	48.5	38.3	29.4
Future contributions	14.7	13.7	14.4	13.4	12.0	12.6	14.5	14.3
Funding commitments <sup>2</sup>	–	–	–	–	3.7	8.5	8.4	8.4
Actuarial assets	90.6	86.2	83.2	74.4	69.7	69.6	61.2	52.1
Future accrued benefits	89.1	84.3	76.4	69.8	66.2	62.8	60.5	50.6
Surplus	\$1.5*	1.9	6.8	4.6	3.5	6.8	0.7	1.5

<sup>1</sup> Valuation dates determined by co-sponsors

<sup>2</sup> Payments committed by the government toward the pre-1990 unfunded liability

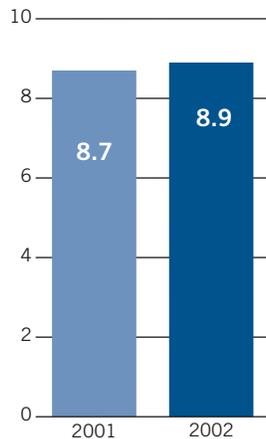
\* Estimated, to be confirmed in final Funding Valuation

## MEMBER SERVICES

### 2002 Highlights

Active or retired plan members have the right to expect outstanding service from their pension plan. We strive to deliver this level of service in a consistent, cost-effective way every day of the year.

#### Quality Service Index (out of 10)



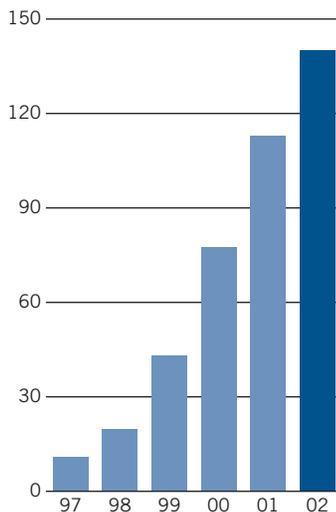
#### Improving Service Quality

- In 2002, plan members rated us 8.9 out of 10 on our Quality Service Index (QSI), the highest rating for service we've ever achieved. This QSI ranking is measured by an independent research firm. The increase reflected improved member satisfaction with our telephone and buyback services. We also reduced outstanding cases to their lowest level ever.

#### Improving Service Speed

- To enable members to make informed retirement decisions, we work hard to answer members' requests quickly.
- In 2002, we answered 95,300 telephone inquiries with an average response time of 27 seconds, compared to 38 seconds a year earlier. We fulfilled 57,000 member requests and provided immediate answers – meaning we handled the request on the first call – to 60% of all inquiries. Plus, thanks to the cooperation of school boards, we were able to issue annual benefit statements with current information to 69% of our members within 60 days of the end of the school year in August. Four years ago, every statement was based on data that was at least one year old.

#### Members Enrolled for Payroll-based Reporting (as at December 31) (thousands)



#### Partnering with School Boards for Better Member Service

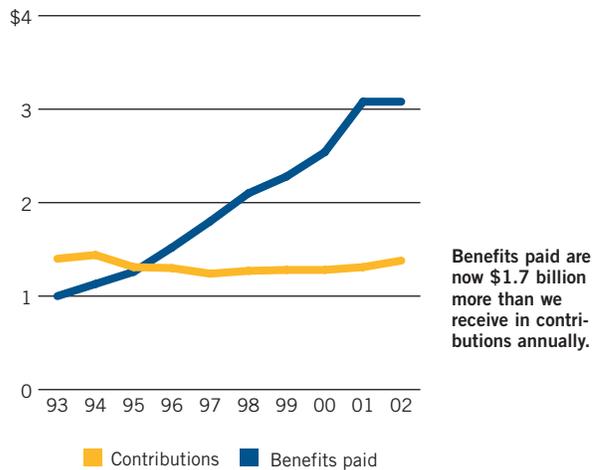
- In 2002, we collected \$700 million in contributions from 154,000 elementary, secondary and private school teachers – contributions made through 201 employers.
- School boards in Ontario are our partners in delivering service to members. To help our partners, we've expanded the use of Teacher Information Management (TIM), our data collection system which allows employers who report on a regular payroll basis to compare remitted and required contributions on the Web. TIM is the backbone for our service system, since the data provided by TIM feeds the up-to-date member information we need. Using technology like this helps us to achieve our goal of providing more immediate, up-to-date, personalized service.

#### Paying Benefits to 6,800 New Pensioners

- Paying benefits on a timely and accurate basis is our most critical task. In total, we paid out \$3.1 billion in pension and termination benefits in 2002, roughly the same as in 2001. In 2002, we paid first-time pensions to 6,800 retired teachers compared to 7,284 in 2001. The average age of retirees was 55.4, down from 57.2 in 1997.

## DID YOU KNOW?

**Contributions vs. Benefits Paid**  
(for the year ended December 31)  
(\$ billions)



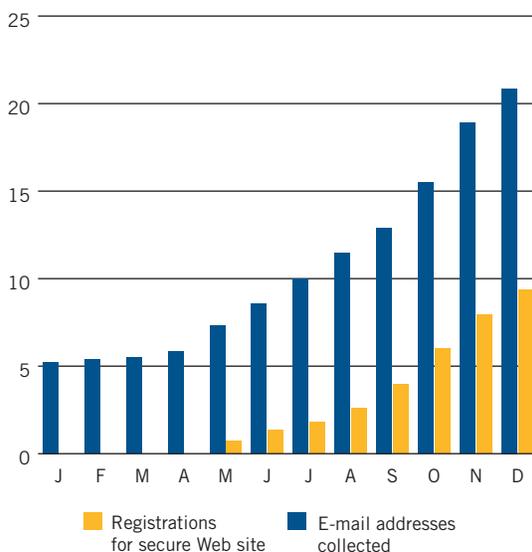
### Reducing Member Service Costs

- Total member service costs fell 4.6% to \$33.5 million in 2002, while the cost per member served declined to \$130 from \$139 in 2001 due to lower request volumes and greater efficiencies.

### Introducing New Services

- We launched our secure Internet site and began by enabling registered users to buy back credit for past service on the Web. In 2003, we plan to add a personalized pension calculator. More than 10,000 members now have personal access to our secure site.

**Members Registered for Electronic Services**  
(thousands)



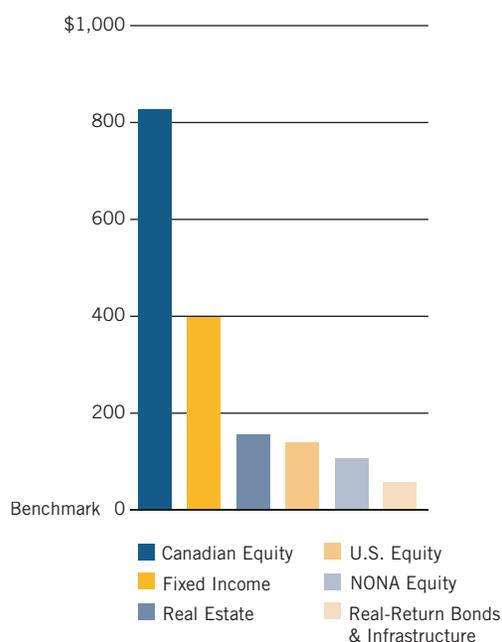
- Almost 89,000 pensioners are now receiving benefits, bringing our pensioner payroll to more than \$250 million per month or \$3.1 billion per year at the end of 2002.
- More than 20,000 members have given us their e-mail addresses which enables us to send information to them in a fast, cost-effective manner. Our surveys show that 96% of teachers and 66% of pensioners have e-mail addresses.
- Members can now receive their pension payments electronically in U.S. currency at their financial institution in the United States.
- Every two weeks, an independent research organization surveys members who have recently used our services to determine their level of satisfaction – and, on average, more than 70% of members take the time to respond.
- To continually improve our service, we benchmark our service and related costs against 60 of the world's largest pension funds. We've compared very favourably.

## INVESTMENTS

### 2002 Highlights

Our strategy is to create long-term value for members. We fine-tuned our investment programs in 2002 to reduce the impact of negative markets.

**Value Added above Benchmarks**  
(for the year ended December 31, 2002)  
(\$ millions)



### Searching for Value in Difficult Equity Markets

- In spite of negative returns, both Canadian and foreign active equities and Teachers' Merchant Bank outperformed their respective benchmarks, giving the fund \$1.1 billion in added value in 2002 – and \$4.4 billion over the last four years.
- By changing our asset mix to reduce equities by 10%, we saved an additional \$900 million.
- We increasingly use market-neutral strategies, which involve the use of long and short positions on stocks, industries and even investment styles. The objective is to generate value irrespective of the direction of the equity markets where we invest.
- In early 2003, we facilitated a transaction resulting in a 24% interest in the Fording Canadian Coal Trust, owners of 20% of the world's supply of high-quality metallurgical coal.

### Actively Managing Currency to Gain \$500 Million

- As part of our ongoing effort to add value through foreign currency exchange trading – which involves capitalizing on under- and overvalued currencies – we added \$500 million in value in 2002. We benefited from our decision to take a short position on the U.S. dollar against other currencies and a long position on the Euro and the Canadian dollar.

### Acquiring More Infrastructure

- In a transaction that closed in early 2003, we acquired a one-third ownership in the Express Pipeline System. Our partners in Express are BC Gas Inc. and Borealis Infrastructure Management Inc. The consortium paid approximately \$1.2 billion for a system that provides a vital link between Canadian oil producers and U.S. refineries.
- As part of a consortium that included Macquarie Airports Group, we acquired 5% of the Sydney (Australia) Airport. Our total investment in infrastructure now stands at almost \$1 billion.

### Earning Substantial Returns in Real Estate, Commodities and Real-Return Bonds

- Managed by our wholly owned subsidiary, Cadillac Fairview, the plan's investment in real estate generated \$155 million in added value in 2002.

- We achieved a 30.4% rate of return through commodity-index investing in 2002 and generated a 17.3% return over the past four years. In 2002, we had \$1.5 billion invested in commodity swaps linked to the Goldman Sachs Commodity Index.
- Our \$5.9 billion investment in real-return bonds generated a 16.9% one-year and 12% four-year rate of return.

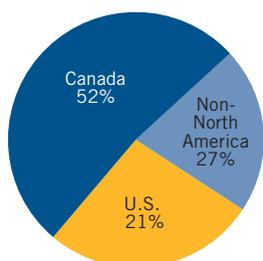
### Generating Above Benchmark Returns in Fixed Income

- Our \$14 billion investment in fixed income generated an 8.6% rate of return in 2002, 3.5% higher than the benchmark for these investments. We achieved this by applying a strategy that gives us index returns plus added value through index optimization, credit enhancements and alternative (hedge fund) investments.

### Increasing Our Merchant Banking Activities

- Teachers' Merchant Bank participated in one of the largest buyouts in Canadian history, valued at \$3 billion, by taking a 30% ownership interest in the Yellow Pages™ telephone directories business. This is part of our long-term strategy of deploying more capital to private equity. Our partners on the transaction are Kohlberg Kravis Roberts & Co. (KKR) and BCE, who own 60% and 10% of the ongoing business respectively.
- In early 2003, we invested \$550 million in an international private equity portfolio previously owned by Deutsche Bank.
- Also early in 2003, we renewed our commitment to Maple Leaf Sports & Entertainment Ltd. (MLSE). Owners of the Toronto Maple Leafs and Toronto Raptors, MLSE is considered one of North America's most valuable sports franchises.

**Teachers' Merchant Bank Portfolio**  
(as at December 31, 2002)



## DID YOU KNOW?

- To reduce transaction costs, including market impact costs and administrative errors, we are increasingly employing computerized trading of assets.
- As one way to take advantage of a broader spectrum of debt, we have committed US\$350 million to be invested in the debt of companies in emerging markets.
- Teachers' Merchant Bank is the sole capital sponsor of a new U.S.-based mezzanine debt fund called York Street Mezzanine Partners, L.P. We have committed US\$250 million to this fund which provides financing alternatives to mid-sized companies requiring capital for buyouts and corporate expansion.
- In 2002, our investment management costs per \$100 of invested assets declined to 16 cents from 18 cents in 2001, largely as a result of significantly reduced external management incentive fees for performance below the benchmark.

To improve the likelihood of good investment returns and ensure the plan's interests are protected and served, we vote all our proxies.

**2002 Proxy-Voting Highlights**

Proposals	For	Against
Stock Option Plans	36	121
Re-pricing of options	0	6
Shareholder Rights Plans	10	23

**Voting Our Proxies**

- The most direct way to exert influence on companies to act in a way that best serves our members is to vote our proxies. In 2002, we voted on a total of 597 proxies for 320 Canadian and 277 foreign companies, casting “no” votes more than 75% of the time on issues that would significantly dilute shareholder value.

We're also exercising our votes on the reappointment of auditors to make sure that companies' auditors are truly independent.

- Beginning in September 2003, if auditor's fees are not adequately disclosed or distinguished between audit and non-audit fees, we will vote against reappointment. In 2002, we also voted against 70% of the stock option plans presented to us. We are disappointed that our representatives, the directors, continue to present proposals that are not acceptable to us and other shareholders.

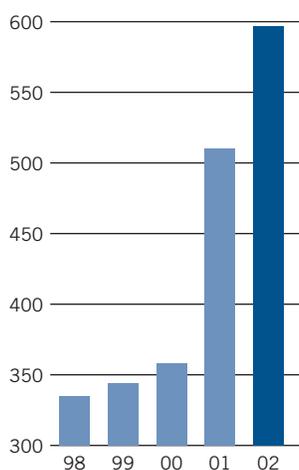
**Making Our Views Public**

- To ensure companies, as well as other shareholders, understand our voting intentions, we use our Web site ([www.otpp.com/gov](http://www.otpp.com/gov)) to indicate where we stand on specific corporate proposals in advance of shareholder meetings. Our voting intentions on 597 different companies were posted for 2002 alone. This early disclosure raises awareness of issues of concern, such as excessive stock option plans, shareholder rights plans and re-pricing of options. It also provides companies with reasons to amend contentious proposals and explains to other shareholders our perspective on specific issues.
- Since 1996, we have published *Corporate Governance Policies and Proxy-Voting Guidelines*. They are also available on our Web site: [www.otpp.com/gov](http://www.otpp.com/gov).

**Working with Others to Demand Change**

- In 2002, Teachers' became a founding member of the Canadian Coalition for Good Governance. This 20-member organization brings together institutional investors, with approximately \$400 billion in assets, who are committed to improving the performance of corporations through the promotion of good governance.

**Number of Company Proxies Voted**



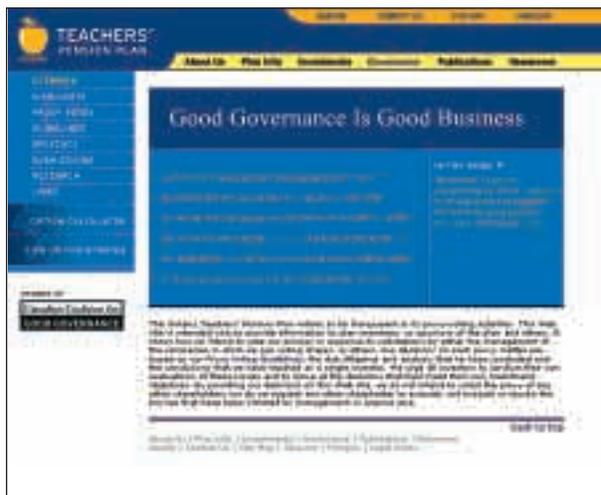
In 2002, we voted proxies for 597 companies around the world: 320 Canadian, 215 U.S., 62 non-North American.

## Monitoring Regulations

- To ensure future laws do not impede shareholder rights but rather act to improve disclosure and governance, we monitor new legislative proposals and, in 2002, made submissions to legislators and regulators. To view our major submissions, see our Web site [www.otpp.com/gov](http://www.otpp.com/gov).
- 2002 was a watershed year for new corporate governance rules. In July 2002, the U.S. government passed the Sarbanes-Oxley Act, which sets out substantial new rules for corporate audit committees, auditors, senior corporate officers and brokerage firm analysts.
- In Canada, the Canadian Public Accountability Board was established to enforce new rules for public company auditors. Robert Bertram, Executive Vice-President, Investments, was appointed to this board.

## Improving Shareholder Value with Research

- In 2002 we sponsored research on important topics. One example is “Determining the Value of Employee Stock Option Plans,” an informative paper written by Professors John Hull and Alan White of the Rotman School of Business, University of Toronto. This report included a calculator to allow companies to calculate the cost of their option plans with a more refined method than the Black-Scholes Model. Both the paper and the calculator are available at [www.otpp.com/gov](http://www.otpp.com/gov).



## DID YOU KNOW?

- We define corporate governance as “the system by which companies are directed, controlled and evaluated.” We promote good governance to improve the potential for investment returns.
- Good corporate governance should affect every area of management including review and approval of business plans, corporate objectives, internal control systems and regular management performance reviews. Governance also encompasses the timeliness and accuracy of corporate disclosure.
- In 2002, we voted 23 times against the reappointment of corporate directors who had poor attendance at meetings.
- Teachers’ commends the following companies for recent improvements in corporate governance:
  - \* Vincor for putting a cap on the award of options to directors
  - \* Maple Leaf Foods Inc., Bank of Montreal and Canadian National Railway Company for introducing performance criteria for options
  - \* All Canadian banks, Manulife Financial Corporation and Sun Life Financial of Canada for expensing options
- According to Fairvest, only about 60% of shareholders actually vote their proxies and that percentage drops for contentious proposals.
- How does Teachers’ measure up on governing itself? See page 4.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

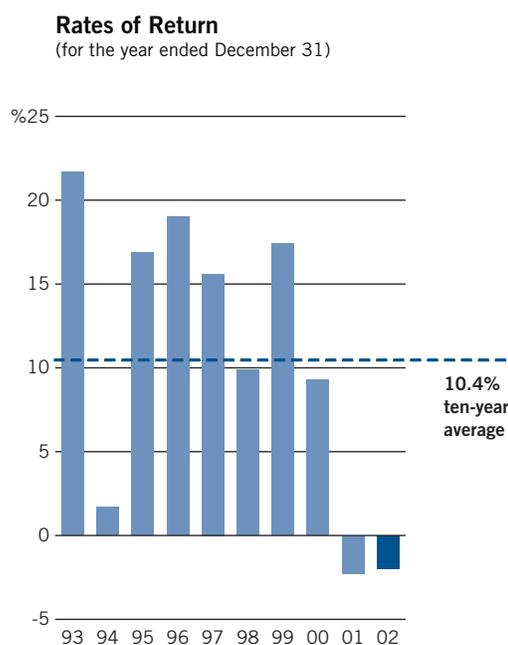
This section provides an overview of our operations and a detailed explanation of the consolidated financial statements and should be read in conjunction with those statements. Our objective is to present readers with a view of the plan, through the eyes of management, by interpreting the material trends and uncertainties that affected results, liquidity and the financial condition of the plan in 2002. In addition to historical information, this section contains forward-looking statements reflecting management's objectives, outlook and expectations as of the date of this report. These forward-looking statements involve risks and uncertainties. Our actual results may materially differ from those anticipated in these forward-looking statements.

### Overview

The Ontario Teachers' Pension Plan is committed to delivering defined benefits to Ontario's teachers during their retirement years. To meet this commitment, the plan invests with a long-term focus and employs a variety of strategies to add value. We also use an asset-liability model to determine an optimal investment strategy.

To measure our progress in adding value using our strategies, we compare our performance against a composite benchmark that mirrors our asset-mix policy and quantifies the performance of the markets in which we invest.

Since 1990, when Teachers' began investing, we have delivered an annual compound rate of return of 10.6%, compared to 8.1% for the composite benchmark. The plan has also outperformed its composite benchmark over 10, four- and one-year time periods.



At the same time, the projected cost of future benefits has increased because of a decline in real-return bond yields, upon which these costs are calculated, as well as benefit improvements. As a result, the plan ended 2002 with a smaller financial surplus of \$2.2 billion, compared to \$7 billion at the end of 2001.

### Net Investments by Portfolio

(as at December 31)

(\$ billions)	2002	2001
<b>Equities</b>		
Canadian equity	\$13.4	\$17.1
U.S. equity	6.6	10.5
Non-North American equity	11.5	13.8
<b>Fixed Income</b>		
Bonds*	9.6	3.3
Alternative investments	2.5	2.8
Money market	1.9	1.0
<b>Inflation-sensitive</b>		
Real estate	11.5	11.6
Real-return bonds	5.9	6.9
Commodities	1.5	1.1
Infrastructure & timber	1.0	—
	<b>\$65.4</b>	<b>\$68.1</b>

\* Bonds are net of debt (\$4.2 billion on our real estate investment).

### Year-End Financial Position

Accrued pension benefits increased \$8.2 billion to \$73.7 billion at year-end from \$65.5 billion at year-end 2001 due to the factors shown in the accompanying chart. The actuarial assumptions used to determine the cost of future pension benefits for financial statement purposes reflect management's best estimates of future inflation, future investment returns, demographic factors, and projected teachers' salaries.

<b>Accrued Pension Benefits</b> (for the year ended December 31)		
(\$ billions)	<b>2002</b>	2001
Accrued pension benefits, beginning of year	<b>\$65.5</b>	\$58.6
Interest on accrued pension benefits	<b>4.0</b>	3.6
Benefits earned	<b>1.8</b>	1.7
Benefits paid	<b>(3.1)</b>	(3.1)
	<b>68.2</b>	60.8
Changes in actuarial assumptions	<b>5.3</b>	(0.6)
Plan changes	<b>-</b>	4.7
Experience losses	<b>0.2</b>	0.6
Accrued pension benefits, end of year	<b>\$73.7</b>	\$65.5

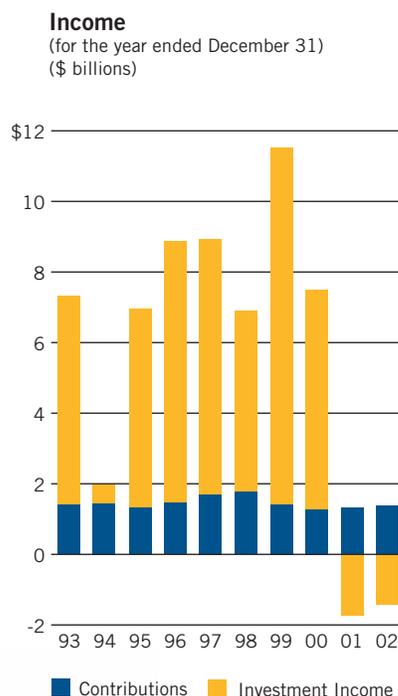
### Changes in Assets

Net assets available for benefits were \$66.2 billion compared to \$69.5 billion at year-end 2001. Most of this change in value reflected \$1.4 billion in investment losses as well as \$3.1 billion in benefits paid which exceeded the \$1.4 billion received in contributions. As the plan continues to mature – resulting in fewer active teachers per retiree (currently 1.7:1), investment returns will have to make up the shortfall in contributions.

Based on our expectation that equity markets would underperform, we shifted 10% of assets from equities to fixed income in 2002. This decision alone saved

the plan from \$900 million in investment losses, and increased cash flow.

The plan also employs numerous relative value strategies within asset classes to generate small incremental investment returns that have a very low correlation to the general market returns experienced for that asset class. The objective is to generate consistently positive returns independent of what happens to the market as a whole.



(From left to right)

**Audit Services**  
Peter Maher  
Vice-President

**Finance**  
Andrew Jones  
Vice-President

The plan had \$23.7 billion in investment-related liabilities in 2002, approximately the same as the \$23.8 billion in 2001. These liabilities also included \$4.2 billion in real estate debt. As a result, total assets managed were \$90.6 billion at year-end.

**Changes in Net Assets**

(\$ billions) (for the year ended December 31)	2002	2001
<b>Income</b>		
Investment losses	<b>\$(1.4)</b>	\$(1.7)
Contributions	<b>1.4</b>	1.3
	<b>(0.0)</b>	(0.4)
<b>Expenditures</b>		
Benefits	<b>3.1</b>	3.1
Operating expenses	<b>0.1</b>	0.2
	<b>3.2</b>	3.3
Decrease in net assets	<b>\$(3.2)</b>	\$(3.7)

**Benefit Payments and Contributions**

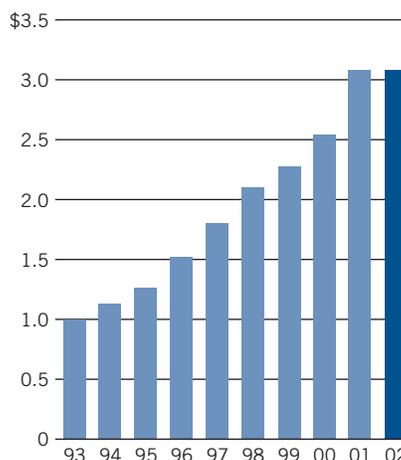
Benefit payments made in 2002 totalled \$3.1 billion, the same as in 2001 when a number of benefit improvements were made. Payments included \$104 million in commuted value transfer payments compared to \$412 million in 2001. Benefit payments are expected to grow in the foreseeable future due to inflation protection and the growing number of retired teachers in the plan.

A 3% cost-of-living increase on January 1, 2002 was also included in benefit payment costs. Benefit payments have continued to escalate over the last 10 years. In 2002, we paid \$1.7 billion more in benefits than the \$1.4 billion we received in contributions during the year. This has changed substantially since 1990 when contributions exceeded benefits by over \$500 million.

While benefits have increased, the contribution rate of 8.9% for teachers has remained unchanged since 1990. The government and other employers match these contributions.

**Benefits Paid**

(for the year ended December 31)  
(\$ billions)



(From left to right)

**MIS Member Services**

Phil Nichols  
Vice-President

**Member Services and Technology**

Allan Reesor  
Executive Vice-President and  
Chief Information Officer

**Client Services**

Rosemarie McClean  
Vice-President

## Operating Costs

Operating costs are comprised of costs to manage the plan's assets and to administer plan benefits for members. In 2002, investment management costs decreased to 16 cents per \$100 of assets, compared to 18 cents in 2001. This primarily reflected significantly reduced performance fees paid to external managers.

Incentive payments paid to investment staff totalled 1.4% of the four-year annual average value added above benchmarks. To earn incentive payments, they must first earn investment returns equal to their benchmark. Incentives increase as the managers exceed this target.

Member service operating costs declined 4.6% to \$33.5 million in 2002 from \$35.1 million in 2001 due primarily to recovery of GST payments related to previous years and to greater efficiencies from new technologies. The cost per member served also decreased to \$130 per member served from \$139 in 2001.

### Fees Paid to Plan's Auditor

(for the year ended December 31) (\$ millions)	2002	2001
Audit	\$1.9	\$2.2
Audit-related: GST recovery	0.1	0.1
Non-audit: Compensation consulting	0.1	-
<b>Total</b>	<b>\$2.1</b>	<b>\$2.3</b>

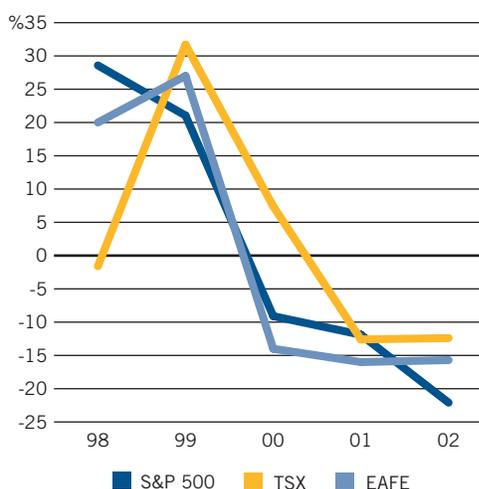
## Market Performance

2002 marked the third consecutive year of declines in U.S. stock markets and the second year of declines in Canadian stock markets. The duration of these declines was unusual and, in the case of American markets, unprecedented in the last 60 years.

The impact of negative markets can be seen in the recent performances of major stock markets in Canada, the United States and EAFE between 2000 and 2002. The Toronto Stock Exchange closed at 6,615 on December 31, 2002, compared to 7,688 at the end of 2001. At year-end, the S&P 500 closed at 880, compared to 1,148 at the end of 2001.

## Market Performance

(for the year ended December 31)  
(percent)



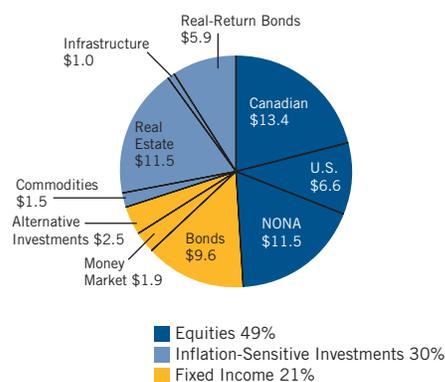
In contrast, fixed-income markets, real estate, real-return bonds and energy-driven commodity indices continued to perform well in 2002, as they did in 2001.

## Asset Mix

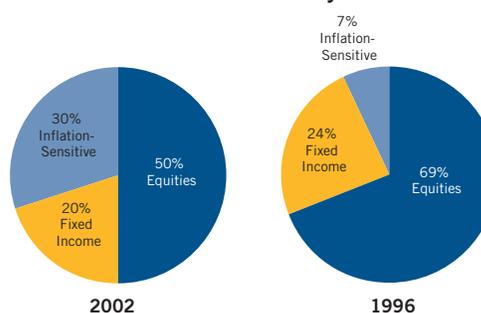
Using an asset-liability model, we assess the long-term risk and return trade-offs of allocating different proportions of assets to real return and nominal bonds, domestic and international equities, real estate

### Actual Asset Mix

(as at December 31, 2002)  
(\$ billions)



### Asset-Mix Policy



and commodities. At least annually, we review expected market conditions and establish an asset-mix policy which exposes the plan to a combination of assets we believe will best enable us to meet the pension funding objective.

Asset mix is implemented by establishing passive (market index) exposure to various asset classes. We also actively manage over 50% of our investments to improve on these passive returns by either selecting securities we believe are undervalued or underweighting or overweighting various asset classes. Our goal is to outperform benchmarks and add value.

Our actual asset mix at the end of 2002 is shown in the pie chart. During the year, we reduced our exposure to equities to 50% from 60% in favour of fixed-income investments. Through our active investment program, we further reduced equities by as much as 6% during the year. At year-end, equity exposure was 1% below policy.

### Our Performance

To determine how much value our managers added to the return the plan would have received by passive investment in various bond and stock markets as specified in our asset mix, we compare and report our

results against composite market benchmarks. We also allocate assets to managers where we believe they have the best opportunity and resources to improve on benchmark returns.

### One-Year Results

On a one-year basis, the rate of return was negative 2.0%, while the composite benchmark's return was negative 4.8%. Our performance generated \$1.9 billion in value added over the benchmark, due to strong results in all asset classes.

### Four-Year Results

On a four-year basis, we generated a 5.3% rate of return. Over the same time period, the composite benchmark's return was 2.8%, meaning we generated \$6.6 billion in added value during this time period.

### 10-Year Results

On a 10-year annualized basis, we generated a 10.4% rate of return compared to the benchmark's return of 9.1%.

### Investment Planning Committee

The Investment Planning Committee (IPC) is responsible for ensuring that the plan's risk is within allowable ranges as approved by the board. The IPC



*(From left to right)*

#### **Human Resources and Public Affairs**

John Brennan  
Vice-President

#### **Law**

Roger Barton  
Vice-President

## Rates of Return Compared to Benchmarks

(percent)	Investment returns	Benchmark	Composite Benchmark
Fixed income, alternative investments and relative value strategies	8.6%	5.1%	Scotia Capital Treasury Bills (91 days) Custom Canada Bond Universe Custom Net Ontario Debenture
Canadian equity	-7.7	-12.4	S&P/TSX Composite
U.S. equity	-22.0	-22.7	S&P 500
Non-North American equity	-16.0	-16.5	Morgan Stanley EAFE, EM Custom NONA National Index
Inflation-sensitive investments	13.2	12.0	Scotia Capital Real-Return Bond Custom U.S. Treasury Inflation-Protected Securities Goldman Sachs Commodities CPI+4%
<b>Total Plan</b>	<b>-2.0%</b>	<b>-4.8%</b>	<b>Benchmark weighted by the policy asset mix</b>

meets regularly and is chaired by the Executive Vice-President, Investments.

The IPC controls risk by directing portfolios to bring their own risk within the approved range.

The Board grants management the discretion to deviate from the policy asset mix within pre-authorized limits, provided the risk of the plan is also kept within its allowable range.

The IPC expects to add value to the asset-mix policy of the plan by over or underweighting asset classes or foreign currencies based on fundamental, quantitative or technical analysis. The selection of an actual asset mix that deviates from the policy asset mix is a decision to try to add value.

Results of decisions made by the IPC are not included in the asset-class returns, but in the total plan return. During 2002, these decisions contributed \$245 million to the plan's total value added of \$1.9 billion, the majority of which resulted from our decision to overweight the Euro relative to the Canadian dollar.

## Equities

Equities represented 49% of the plan's investments at year-end. We reduced our exposure to equities by 11% across all geographic markets, but continued to

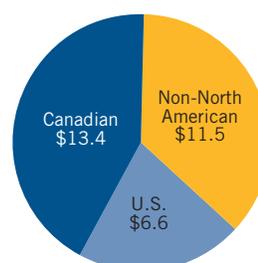
maintain broad equity diversification through active, indexed and enhanced index investments.

Equities remained the largest single portion of total assets at \$31.5 billion, reflecting our belief that equities will help to provide the long-term returns we need to meet our objective of covering the costs of defined benefits for teachers.

On a 10-year basis, equities had a 10.7% rate of return, compared to 9% for the composite benchmark for equities. On a four-year basis, equities delivered a 0.4% rate of return, compared to negative 2.6% for the benchmark, yielding \$4.7 billion in added value.

In 2002, our return from equities was negative 14.1%, compared to the benchmark's negative return of 16.5%. This outperformance represents \$1.1 billion in added value.

**Equities**  
(as at December 31, 2002)  
(\$ billions)



### Canadian Equity

Canadian equities represented 42% of the plan's total equities at year-end 2002 or \$13.4 billion, compared to \$17.1 billion in 2001. The year-to-year difference was due primarily to our asset-mix policy decision to reduce equity exposure.

At year-end, 48% of Canadian equities were index holdings (lower than exposures a year ago) as we actively managed more equities in the search for value.

The Canadian equity market lost value in 2002 but fared considerably better than other stock markets. The plan's one-year performance was negative 7.7%, 4.7% better than the negative 12.4% return for the Canadian equity benchmark.

On a four-year basis, the Canadian equities portfolio produced a 5.9% annual rate of return, 4% higher than its benchmark, yielding \$2.2 billion in value added.

Contributing \$240 million to our outperformance in 2002 were our Canadian actively managed equities. This outperformance was largely driven by our strategic investments in companies such as Maple Leaf Foods, Nexen and WestJet. We use a variety of strategies, including investing based on corporate governance, to add value in Canadian and foreign active equities.

Teachers' Merchant Bank had a negative 0.2% rate of return, beating its benchmark by more than 12% and thereby adding \$350 million in value. We profitably sold several investments in 2002, leaving our merchant bank with positions in 126 different companies at year end, valued at \$3.3 billion, compared to \$3.4 billion in 2001.

We continue to search for merchant bank opportunities as sources of solid, long-term returns and have the capacity to increase our presence in this area. We remain committed to working with partners in Canada, Europe and the U.S. to create value. In 2002 alone, we assessed more than 400 potential transactions. Over the years, we have developed expertise in direct private equity and mezzanine debt investments, as well as private equity fund and co-investment programs and venture capital. Going forward, we expect that Teachers' Merchant Bank will become one of the leading sources of private capital in Canada.

### Foreign Equity

U.S. and non-North American (NONA) equities accounted for \$18.2 billion or 58% of the plan's total equities in 2002.



*(From left to right)*

#### **Quantitative Investments**

Morgan McCague  
Senior Vice-President

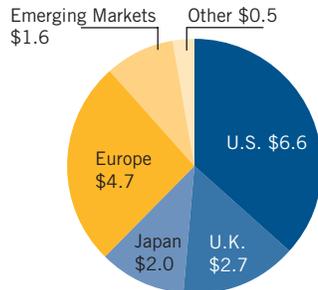
#### **Investments**

Robert Bertram  
Executive Vice-President

#### **International Equity Indices, Fixed Income & Alternative Investments**

Neil Petroff  
Senior Vice-President

**Geographic Distribution of Foreign Equities**  
(as at December 31, 2002)  
(\$ billions)



U.S. equities outperformed its benchmark's negative 22.7% return by 0.7% to add \$140 million in value. NONA equities produced a 0.5% improvement over its benchmark of negative 16.5%, representing \$110 million in value added. Both equity classes also outperformed their benchmarks on a four-year basis, adding \$2.6 billion in value, but absolute returns have been negative on a four-year basis: negative 3.7% for NONA equities and negative 5.0% for U.S. equities.

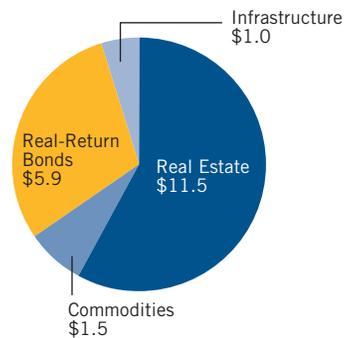
At year-end, 71% of U.S. equities and 40% of NONA equities were index holdings, lower than the relative exposures a year ago, while the proportion of actively managed equities has increased. This reflects our strategy of being a more active investor in markets where we think we can add value.

Passively managed foreign equities stood at \$9.4 billion at year-end. Actively managed equities give us the potential for beating the indexes and over four years has created a compound 8% per year in added value.

**Inflation-Sensitive Investments**

Investments that have a high correlation with changes in inflation act as a hedge against a rise in the cost of future benefits. In recent years, investments in real estate, real-return bonds, commodities, and infrastructure which offers regulated returns, have played an increasingly important role in meeting our long-term objective.

**Inflation-Sensitive Investments**  
(as at December 31, 2002)  
(\$ billions)



(From left to right)

**Research and Economics**

Leo de Bever  
Senior Vice-President

**Active Equities**

Brian Gibson  
Senior Vice-President

**Teachers' Merchant Bank**

Jim Leech  
Senior Vice-President



At year-end, \$19.9 billion or 30% of the plan's assets were invested in inflation-sensitive investments, as illustrated in the pie chart. These investments produced a 13.2% rate of return in 2002. On a four-year basis, their return was 12.4%, outperforming the benchmark by \$1 billion.

**Real-Return Bonds**

Real-return bonds pay a return that is indexed to CPI inflation. Government of Canada real-return bonds are the closest the plan has to a risk-free asset and their yield is the basis used to value the cost of the plan's benefits.

In addition to Government of Canada real-return bonds, we also hold real-return bonds issued by the Province of Quebec, Highway 407 and the U.S. Treasury as well as inflation-linked mortgages guaranteed by Canada Mortgage and Housing Corporation.

At year-end, we owned \$5.9 billion in real-return bonds, which provided us with a 16.9% rate of return. This made them one of the best performing investments for the plan in 2002, providing \$1.1 billion in investment income. On a four-year basis, real-return bonds provided a 12% return, 0.3% better than their benchmark.

**Commodities**

Our best performing investments in 2002 were commodities, which produced a 30.4% rate of return, driven primarily by escalating energy prices. This performance is a significant turnaround from the negative 28.4% return generated in commodities in 2001 and brought our four-year return in commodities to 17.3%. We invest passively in commodities through swaps linked to the Goldman Sachs Commodity Index.

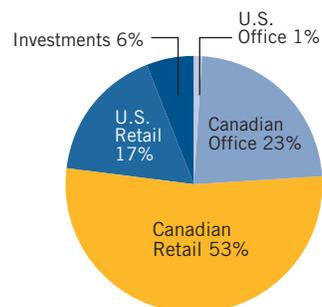
**Real Estate**

We owned \$11.5 billion in real estate at December 31, 2002. Our investment in real estate is managed by our wholly owned subsidiary, The Cadillac Fairview Corporation Limited.

Once again, the plan's investment in real estate produced excellent results. In 2002, the return was 9.3% compared to the benchmark return of 7.9%, creating \$155 million in value. On a four-year basis,

the return was 12.1%, outperforming the four-year benchmark return of 6.8%, and generating over \$1 billion in value added on a four-year basis.

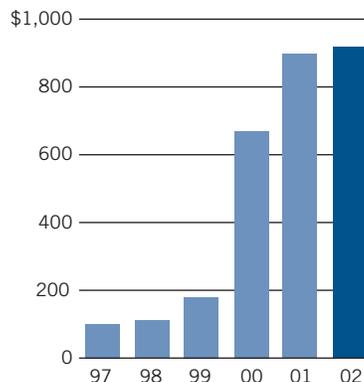
**Real Estate Portfolio**  
(as at December 31, 2002)



The occupancy rate at year-end for the plan's Canadian retail properties was 95% in 2002 (unchanged from 2001), while the occupancy rate for Canadian office properties was 94% (96% in 2001). Occupancy rates were 90% in the U.S., the same as 2001, reflecting the state of the U.S. economy.

Since acquiring Cadillac Fairview in 2000, we have continued to rebalance our investments in retail and office properties to ensure they earn the returns the plan requires and provide more dependable cash flows. In the future, we expect to increase our presence in premium real estate properties while maintaining a well-balanced real estate portfolio predominantly comprised of office and retail properties in North America.

**Real Estate Operating Income**  
(before debt service)  
(year ended December 31) (\$ millions)



## CADILLAC FAIRVIEW: INSIDE OUR REAL ESTATE SUBSIDIARY

Over the past 50 years, Cadillac Fairview has developed a reputation as one of Canada's premier real estate organizations. Known in its markets as the owner and manager of prime shopping centres and commercial office buildings, Cadillac Fairview is home to more than 7,000 tenants who rely on the company for innovative design, development and service.

For the past three years, plan members have been relying on Cadillac Fairview as the manager of the plan's \$11.5 billion investment in real estate. This is a responsibility that the over 1,600 employees of Cadillac Fairview take very seriously. This is reflected not only in the strong performance achieved since acquisition, but in the rapid and skillful execution of a strategy created to position Cadillac Fairview to deliver long-term results that are right for the plan.

Since joining us in 2000, Cadillac Fairview has:

- managed the plan's real estate properties in North America, and monitored its investments in U.S. real estate investment trusts and international funds. These investments, valued at \$641 million at December 31, 2002, include the plan's 8% ownership interest of The Macerich Company, the co-owner and manager of its U.S. west coast properties.
- adopted a new corporate governance structure, with a separate board of directors, which reports to the plan's management.
- invested \$525 million to enhance the value of the plan's properties. In 2002, this included developing

the PricewaterhouseCoopers Place office complex in Vancouver, expanding Le Carrefour Laval Mall outside Montreal and expanding Markville Shopping Centre outside Toronto.

- divested \$372 million in properties that did not fit our investment objectives. In 2002, this included the sale – at or above appraised value – of 10 properties. Subsequent to year-end, five Ontario and six U.S. retail properties were sold, valued at over \$1.1 billion.
- leased approximately 5.5 million square feet of office space and 6.9 million square feet of retail shopping centre space – including 3.9 million square feet in 2002.

Cadillac Fairview has continued to add to its legacy of first-class performance as part of the plan. With a clear focus and commitment to fulfilling its responsibilities to both tenants and plan members, Cadillac Fairview is ready for an exciting future.



*(From left to right)*

**Peter Sharpe**  
President and  
Chief Executive Officer

**Edward Medland**  
Chair  
Board of Directors

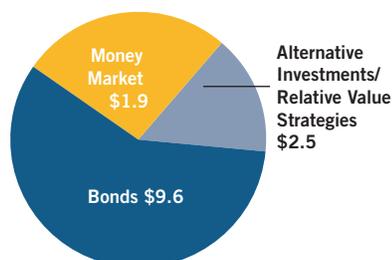
## Fixed Income

Total fixed-income investments at year-end were \$14 billion or 21% of plan assets. The largest holdings were Canadian government bonds, which, along with \$1.9 billion in money market investments, provided the plan with liquidity.

The fixed-income asset class consists of three components – bond and money market enhanced indexing (including debt on our real estate properties), relative value strategies, and hedge funds.

Fixed income produced an 8.6% rate of return in 2002, 3.5% above its composite benchmark of 5.1%. During the past four years, this asset class has generated \$610 million in additional value for the plan, earning an 8.9% annualized return compared to its benchmark of 7.7%.

**Fixed Income**  
(as at December 31, 2002)  
(\$ billions)



## Bonds and Money Market

We invest in bond and money market indices to achieve asset class returns and then attempt to improve these returns through optimization techniques. The enhanced bond portfolio earned 8.3% last year outperforming its benchmark by 0.3%, while the money market portfolio earned 5.1% compared to a benchmark return of 2.5%.

These portfolios are also used to meet the plan's liquidity requirements by maintaining a minimum holding of highly liquid bonds, generally Government of Canada bonds, and money market instruments. Investment income from bonds and money market investing, including income from Province of Ontario debentures, totalled \$1.2 billion.

Cadillac Fairview's real estate debt (valued at \$4.2 billion at year end) is subtracted from the fixed income asset class. The ability to use the plan's guarantee on the refinancing of the real estate debt has created additional value for the plan by reducing the interest expense.

## Relative Value

We operate a number of absolute return programs across the plan designed to earn a target return on allocated active management risk. Many of these internal investments use no net capital (i.e. long and short positions balance), but to the extent that they do, they are classified as fixed income. The objective of these strategies, which use long and short positions on stocks, industries or investment styles, is to generate positive returns, regardless of the direction of the asset class where we invest.

The simplest example of this is our tactical over and underweightings in foreign currencies. In 2002, the fund gained \$500 million in added value by being short the U.S. dollar against other foreign currencies; \$260 million of this is included in fixed income.

We strive to add value through credit management and quantitative analytics applied to the international yield curve. Through well developed risk management and monitoring, the plan participates in a large portion of the credit spectrum, taking positions in all grades of corporate bonds. At year-end, we held \$410 million in Canadian and U.S. high-yield corporate securities in our bond portfolio.

Relative value strategies, which also include convertible arbitrage and a portfolio of syndicated bank loans, generated \$90 million in additional value in 2002.

Some absolute return strategies aim to capture tactical opportunities to extract extra returns from underweighting or overweighting various asset classes. In 2002, these tactics resulted in \$60 million of value added.

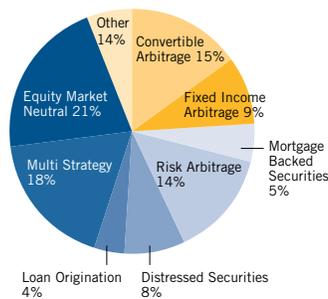
On the other hand, 2002 was also a highly volatile year in equity markets – much higher than historical

norms. Expecting volatility to revert to historical norms, we implemented a number of programs to benefit from a decline in volatility. The geopolitical environment, however, created greater uncertainty in the markets and volatility increased, resulting in losses of approximately \$135 million at year-end.

### Alternative Investments

Our alternative investment strategies include investments in more than 120 externally managed hedge funds valued at \$4 billion (before the effect of derivatives) at year-end. We manage these investments both directly and in fund-of-funds structures designed to consistently earn market-neutral value added while diversifying risk across many managers and multiple strategies and styles. This strategy generated \$160 million in value added income in 2002.

**Alternative Investments by Strategy**  
(as at December 31, 2002)



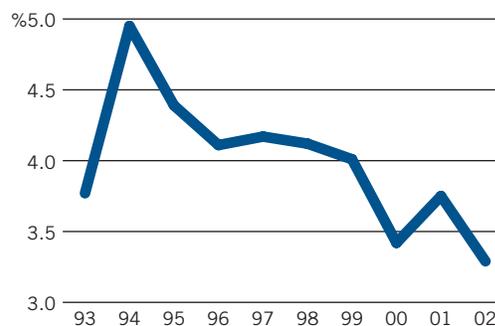
## Estimating and Managing Risks

### Funding Risk

Contributions plus investment returns must match the cost of pension benefits in the long run. Teachers' pension benefits are indexed to the CPI and, as such, they maintain their purchasing power as the cost of consumer goods rises.

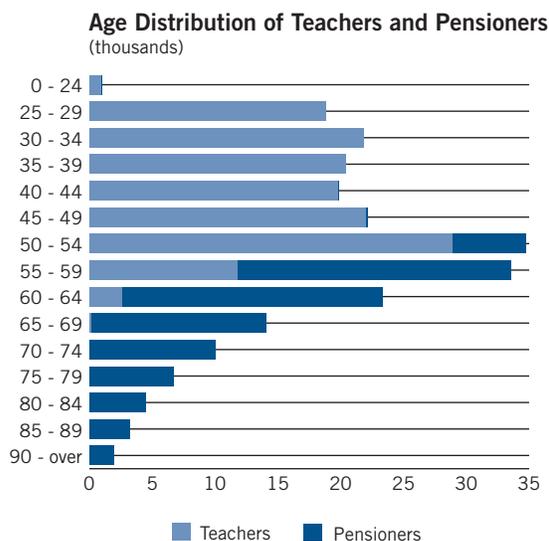
To guarantee current benefits for teachers starting today, we must be able to invest annual contributions and investment income in risk-free, long-dated assets earning at least CPI+5% from day of deposit until the last pension cheque is paid. The long-dated part is significant. A decrease in real interest rates can result in a substantial increase in the cost of future pensions. For example, in 2002, declining real interest rates increased the cost of pensions by \$5.3 billion. Conversely, an increase in interest rates will do the opposite.

**Real-Return Bond Yields**  
(percent) (as at December 31)



The only long-dated risk-free asset that provides protection against inflation risk, and has sensitivity to real interest rate movements similar to that of the liabilities, is a Government of Canada 30-year real-return bond. At year-end, this bond yielded CPI+3.3%, far short of an average of CPI+5% needed to match liability growth at current contribution rates.

Investing in assets with a higher expected real return introduces funding risk, i.e. the possibility that assets will fall below liabilities because the annual return pattern and sensitivity to changes in real interest



rates differs from that of the liabilities. Funding risk matters because prolonged periods of funding deficiencies can transfer risks between generations of teachers and taxpayers.

We devote considerable time and resources to asset-liability modeling and risk budgeting, i.e. finding the strategies with the biggest expected improvement in the funding ratio, while keeping funding risk within prudent bounds. Funding risk can be split into two parts: passive and active.

**Passive Risk**

In theory, we could match our liabilities with investments in real-return bonds, but that would not meet our average liability growth of CPI+5%. We can improve returns by replacing these risk-free assets with passive investment in other classes of assets defined by market indices for listed securities.

To keep matters simple, we will focus on the principal alternative, Canadian and foreign stocks. If real-return bonds return CPI+3.5%, and a globally diversified basket of stock market indices matches its historical average return of CPI+6.5%, a 50/50 asset split between stocks and real-return bonds will meet our expected return requirement of CPI+5%.

In selecting an asset mix, the plan incurs passive funding risk, i.e. the possibility of a decline in the funding ratio because the market return on the chosen asset mix will be less than the growth rate of the liabilities. The tech boom of the 90s gave us some of the largest improvements in funding position from asset-mix returns in a century. Current market conditions come close to delivering one of the worst scenarios.

Our 10-year expectations for equity returns are less than CPI+6.5%. If that analysis is correct, passive implementation of asset mix will not give the plan the return it needs to meet long-term liability needs, and certainly not enough to maintain full funding.

**Active Risk**

The only other source of return is active management: trying to improve on the return from a passive asset-mix implementation by giving greater weight to asset classes with a higher expected return and by superior security selection within an asset class. By deviating from asset mix, the plan incurs active risk, i.e. potential for a drop in the funding ratio because actual returns fall short of passive asset-mix returns.

Over the last 10 years, our average annual incremental return from active management has been 1.3% above what passive implementation of any fixed asset mix would have provided over that period. In addition, we added 0.75% by changing our asset-mix policy.

If we can maintain this historical experience, our active programs will be very important in delivering enough return to reduce the likelihood of future contribution increases. We are therefore increasing the relative importance of our active programs.

While we believe we have the resources and ability to add value through our active management of available assets, we cannot assume a repeat of past performance.

Our value-at-risk system has proven to be very useful in creating an active management risk budget. The allocation of active risk is therefore not based on where we have allocated assets through our policy asset mix,

but instead asks where we have the best opportunity and talent to help us improve upon our benchmark returns. All risk allocations carry with them the expectation for management to deliver a return on risk, and this is incorporated as a key part of our performance evaluation and compensation programs.

A rising share of our actively managed investments is being allocated to privately negotiated opportunities and instruments as well as products focused on absolute return on risk. We are active users of relative value strategies and alternative investments such as hedge funds, selected for their ability to give us consistent low volatility, risk-adjusted returns from a diversified portfolio.

The target for 2002 was to add \$670 million over the benchmark's return after all investment and other expenses. Actual value added was \$1.9 billion.

### Currency Risk

When we invest outside Canada, we are subject to the risk of currency fluctuations. This volatility, if left unmanaged, could negatively impact the value of any gains or magnify any losses in foreign investments.

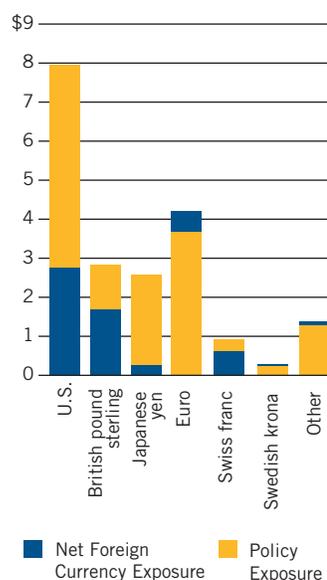
To reduce the volatility of returns due to foreign currency fluctuations, we hedge 50% of our non-North American equity policy exposure in the Euro, British pound, Japanese yen, Swedish krona and Swiss franc. We also take trading positions in foreign currencies with the objective of adding value.

### Credit Risk

Credit risk arises from the plan's fixed-income exposure to government and corporate securities and from the investment contracts we have with financial institutions and investment dealers.

We regularly monitor credit exposure within fixed income. At year-end, our largest credit exposure was to the Province of Ontario (debt rated AA) for non-marketable debentures valued at \$14.3 billion and \$1.3 billion in contributions receivable. The next largest credit exposure, \$13.2 billion is to the Government of Canada (rated AAA).

**Currency Exposure**  
(as at December 31, 2002)  
(\$ billions)



We also deal only with counterparties rated Single A or better for the trading of derivative contracts.

As a further risk management measure, the plan's Board must approve debt and equity investments in a single corporation or financial institution that exceed 3% of the market value of the plan's investments, except for debt issued or guaranteed by specified governments.

### Liquidity Risk

If the plan only purchased securities by paying cash, liquidity needs would be small and mostly related to settlement of investment transactions. However, we make extensive use of total return swaps to achieve efficient foreign equity index exposure. The associated liquidity risk arises when a sustained drop in foreign equity markets requires us to transfer cash collateral to swap counterparties to cover the decline in the value of the derivative contract.

Since adopting a diversified asset investment strategy in 1990, we have withstood several equity downturns without incident. However, we closely monitor the plan's ability to withstand the liquidity effects of a simultaneous 20% decline in all markets.

To reduce the need for a forced sale of assets and to be able to settle transactions, a minimum of 1% of net investments is maintained in liquid investments such as T-Bills.

Included in \$9.7 billion of money-market securities are \$5.5 billion in bonds (excluding the effects of derivatives) maturing in less than one year. The bonds are used for value-added trading purposes and not for maintaining liquidity.

We are also a major participant in the repurchase/ reverse repurchase market, borrowing and lending cash using Government of Canada bonds and T-bills as collateral. We ensure that cash flow from investments, plus proceeds from assets that could be sold for cash over a six-month period, will always cover the plan's liabilities by a wide margin.

Highly liquid stocks within our global equities also form an additional source of liquidity for the plan, which could be sold if the need arose.

**Outlook**

Management keeps a constant watch over financial and economic conditions that may lead to short-term investment opportunities. However, the plan has commitments 70 years into the future, and therefore needs plausible working assumptions for setting a longer-term strategy, which in practice means the next 10 years.

Since first discussing our working assumptions in last year's annual report, we have made several updates. But our main outlook remains intact: we see only modest market returns over the next 10 years.

**Growth, Inflation and Interest Rates**

We expect Canadian and U.S. Gross Domestic Product (GDP) growth to average 3% per year over the next 10 years. Productivity improvements will be significant, but as baby boomers retire we are likely to experience significant shortages of skilled labour in nearly every profession.

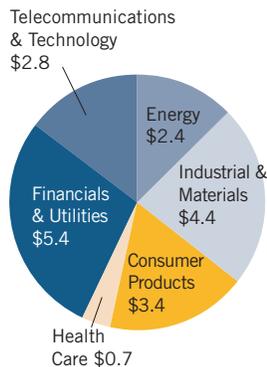
Inflation, as measured by the Consumer Price Index (CPI), should average around 2% in Canada over the next decade. We assume that central banks will manage money supply to keep us from either the 5% inflation of the late 1980s or sustained deflation.

Japan's experience with deflation has raised concern that the same fate could befall the North American economy. Most observers underestimate the inflationary pressure that will emerge over the next decade in health and other personal services for an aging population. We could see the price of many manufactured goods fall relative to the cost of services because of continued strong productivity improvement in the health and personal services sector.

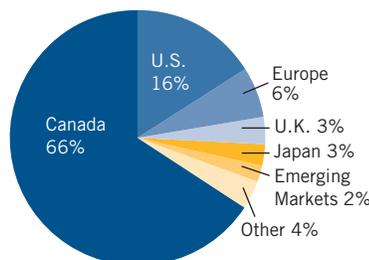
Some of the deflationary bias in the price of goods is coming from the growing ability of countries like China and India to compete in global markets with high-quality products produced at low labour cost. Eventually, developed market currencies will fall to narrow that competitive price gap and inflate import prices.

High prices for stocks and real estate, as well as historically high consumer debt levels, could at some

**Economic Exposure in Equities**  
(as at December 31, 2002)  
(\$ billions)



**Geographic Exposure of Total Fund**  
(as at December 31, 2002)  
(percent)



point trigger a market price decline that spills over into goods and services price declines measured by the CPI.

Real growth of 3% combined with inflation of 2% implies nominal (including inflation) GDP growth of approximately 5%. Over long periods, nominal economic output and corporate earnings grow at approximately the same pace.

We assume that most of these adjustments have run their course and that annual Canadian real bond yields will average approximately 3% to 3.5% over the next decade. Nominal interest rates consistent with this scenario would be higher by the 2% trend in inflation.

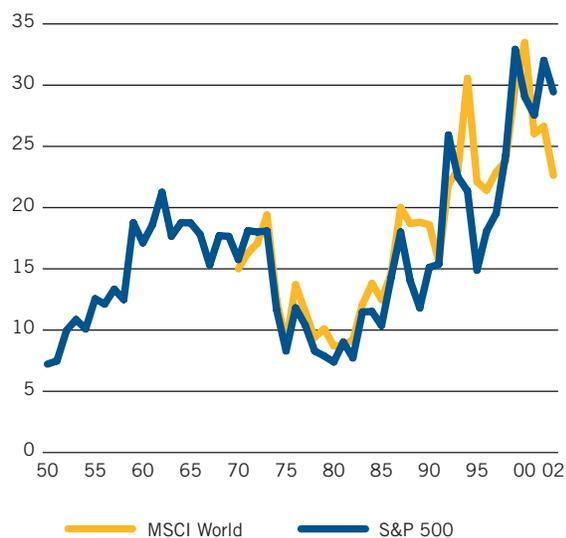
### Implications for Stocks

During the 20th century, stocks returned approximately CPI+6.5% in Canada and the United States. In the 1990s, the North American average was more than CPI+10%, boosted by falling tax and interest rates and the idea that the 'new economy' would fuel earnings growth and justify rising valuations (higher price/earnings ratios). This upward pressure was probably emphasized by the large shift by pension funds (including this one) and individual pension accounts from bonds to stocks.

Many of the trends that created this boom have stabilized or are reversing direction. Rising demands on government from an aging population imply stable tax rates at best. The fall in interest rates in response to falling inflation expectations has mostly run its course. Finally, the pension plan shift to equities is largely complete, and may reverse direction as many pension plans are starting to pay more in pensions than they are receiving in new pension contributions. This effect may be accentuated by recent pain inflicted by falling stock prices. Following two years of negative returns, some of this is already showing up in a declining 10-year average for equities, which is now close to long-run returns of CPI+6.5%.

We suspect that future long-term compound equity returns may be closer to CPI+5%, and that returns over the next 10 years will be closer to CPI+3.5%. Stock returns over the last 20 years have been biased

Price/Earnings Ratios since 1950



upward by capital gains from the transition to a lower risk premium for holding stocks because of increasing market liquidity, lower transactions cost, and better ways to achieve diversification. In the extreme, it has been suggested (erroneously, in our view) that since stocks and bonds have similar long-term risks, their long-term returns should be the same, even though the short-term volatility of returns differs.

We consider it more likely that current stock index valuations still reflect unrealistic assumptions about future earnings growth notably for technology stocks. At some point in the next 10 years, this assumption will correct itself. The implication is an average annual real (after inflation) return on stocks from the current starting point in the 3.5% range.

Powerful parallels remain between today and extended periods of past underperformance following equity market booms. Following the decline of 1973, it took the U.S. market 19 years before it regained its previous peak in real terms.

This might be considered an unduly gloomy outlook. But if stocks return CPI+3.5% annually over the next 10 years, the resulting 1982 to 2012 30-year U.S. real stock return record will still be one of the best observed over 150 years of history.