

# long-term performance

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A N N U A L

R E P O R T



# value service



Teachers'  
Pension Plan  
Board

Conseil du régime  
de retraite des enseignantes  
et des enseignants

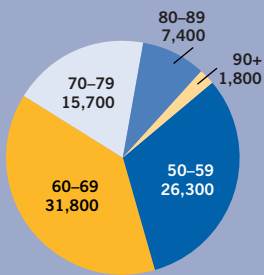
## CORPORATE VISION

Outstanding Service Today,  
Retirement Security Tomorrow



## CORPORATE PROFILE

**Pensioner Profile**  
(by age)



Including the 7,322 new pensioners in 2001, one third of all retired teachers are now under age 60.

The Ontario Teachers' Pension Plan is responsible for the retirement income of 154,000 elementary and secondary school teachers, 83,000 retired teachers and their survivors, and over 92,000 former teachers with money in the plan. The plan is co-sponsored by the Ontario government and the Ontario Teachers' Federation who negotiate the use of surplus and any benefit improvements.

The plan had net assets of \$69.5 billion at the end of 2001 and a long-term rate of return of 11.7% per year since 1990.

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# FINANCIAL HIGHLIGHTS

## Investment Performance

as at December 31

Rate of return on investments (%)	2001	2000
Annual	-2.3%	9.3%
Composite benchmark	-5.3	5.3
Four-year average	8.3	13.0
Four-year benchmark	7.0	12.5

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

	1 yr	4 yr	5 yr	10 yr	SINCE 1990
Our return	-2.3	8.3	9.8	11.6	11.7
Benchmark	-5.3	7.0	8.7	10.5	9.3

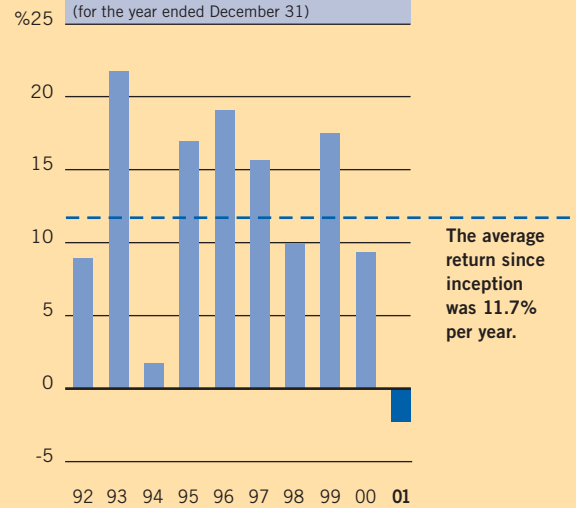
## Financial Overview

(\$ billions)	2001	2000
Net investments	\$68.1	\$72.0
Net receivables	1.4	1.1
Net assets	69.5	73.1
Smoothing adjustment <sup>1</sup>	3.0	(4.3)
Actuarially adjusted net assets	72.5	68.8
Cost of future pensions	65.5	58.6
Surplus	\$ 7.0	\$ 10.2

<sup>1</sup> We smooth equity gains (or losses) over five years to reduce the impact of market volatility on plan surplus. Smoothing consists of the difference between actual annual investment returns and the rate of return assumption used in the actuarial valuation. (See note 4.)

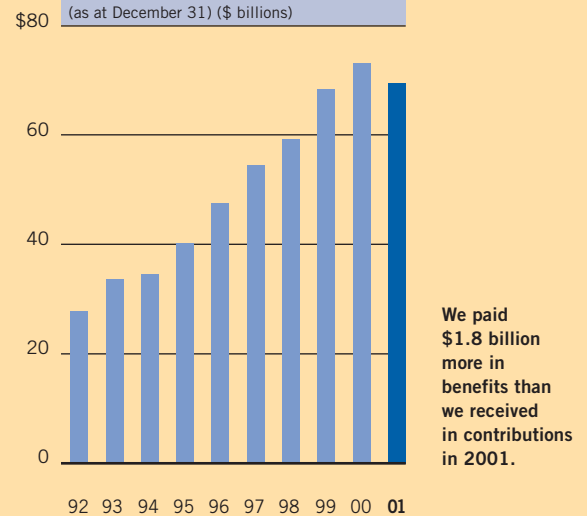
### Rates of Return

(for the year ended December 31)



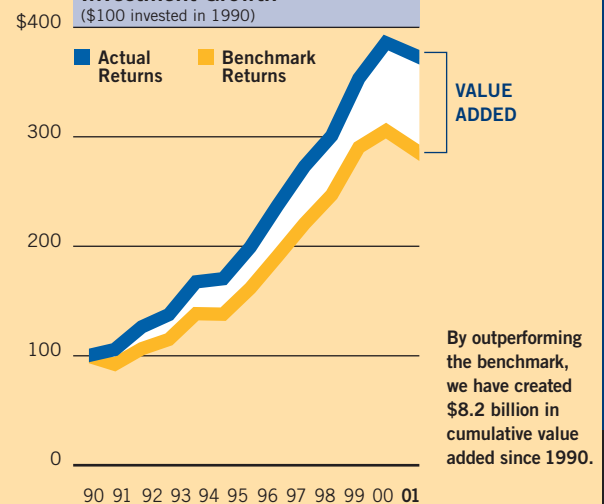
### Net Assets

(as at December 31) (\$ billions)



### Investment Growth

(\$100 invested in 1990)



## CHAIR'S REPORT

**“Investment markets are cyclical. What we try to do is beat the benchmarks – and we accomplished that again this year.”**

**ROBERT W. KORTHALS**



### **What Makes a Good Pension Plan?**

The answer to this question has changed over the past decade, as new technology has revolutionized the delivery of services and increased the analytical ability of investment managers. Teachers', with the support of plan members and our co-sponsors, the Government of Ontario and the Ontario Teachers' Federation, has stayed abreast of these changes and worked hard to set a high standard for everything we do.

Our operations are governed by four objectives.

#### **First, we are equally committed to providing service to members and to investing members' contributions.**

Over the past decade, our member services department has reduced the average time to complete a member's request from months to just days, while simultaneously handling an increasing workload of member inquiries, which soared 140% in 2001 alone. We are dedicated to providing service and applying technology to complement – not replace – personal service. On behalf of the Board, I would like to congratulate the member services team for their hard work in 2001.

#### **Second, we invest in a broad range of markets and asset classes with good long-term expected returns.**

At the same time, we must manage the risk that short-term market setbacks may produce a funding deficiency severe enough to trigger contribution increases. Over the past 10 years, our policy of investing most of the fund in broad market indices of stocks, bonds and inflation-sensitive assets

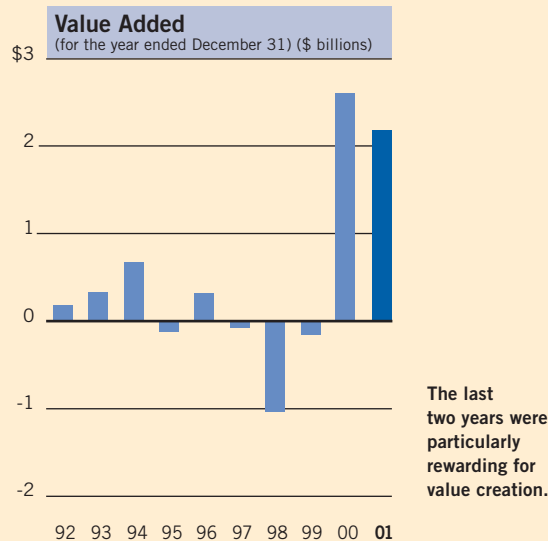
has returned 10.5% (on the indexed portion of the fund only). This is more than enough to cover our long-term goal of 4.5% plus 1.6% inflation over that period.

In retrospect, this reflected both good strategy and unusually kind markets, even after the downdraft in equities over the last two years. The risk control part of the long-term investment strategy recognizes that anyone's ability to predict short-term market outcomes is limited, and that even well diversified portfolios can yield disappointing returns for many years in a row. The Board has strongly supported management's efforts to enhance its capacity to quantify risks in all investments.

#### **Third, we encourage management to increase passive index returns through active management.**

Active management means selecting investment strategies and assets that have a better return on risk than the market as a whole. Active management has raised fund returns from 10.5% to 11.6%, an average of 1.1% per year over the past 10 years. Year-to-year consistency in out-guessing markets is difficult, but the last two years have been particularly rewarding for a management style with a strong value bias.

In 2001 alone, this approach created \$2.2 billion in value above benchmarks. I sincerely congratulate our investment team for preserving capital in what was clearly one of the most volatile periods in recent memory.



**Fourth, we continually seek to improve corporate governance practices.** The plan has a dedicated board of directors comprised of skilled and experienced individuals who devote many hours to the plan every month. Through Board meetings or duties carried out by our five Board committees, these independent professionals represent the interests of all plan members and partners. In particular, I would like to thank retiring director David Lennox for his vigorous and thoughtful participation during the past seven years.

I'm proud to be associated with this group, and I can say that we try to practice what we preach in terms of governance. Based on our experience, we believe good corporate governance naturally leads to creation of greater shareholder value. This is the point we make constantly to corporate Canada.

### Back to the Future

Shakespeare said the past is prologue. Investors the world over would be wise to consider this sage observation as we enter 2002. What the past teaches us about the future is that economic downturns can lead to low or negative real rates of return over

a series of years. It's not possible to predict what 2002 holds in store for capital markets, but given recent indicators, and economic uncertainty, weak market conditions could well continue. I've been an active participant in capital markets for four decades, and with the exception of the 1990s, I can honestly say a 4.5% real rate of return – our long-term target – is difficult to achieve. The high returns of the 1990s created unrealistic expectations for investors that are not firmly grounded in long-term capital market reality. Like the famous investor, Warren Buffet, we expect single-digit returns over the next decade.

What does this mean for the plan? Clearly, that it is prudent to maintain our emphasis on risk management and value preservation while focusing on long-term performance.

As the stewards of \$69.5 billion in net pension assets, we need to inform members and sponsors of the implications of prolonged market downturns on the plan's ability to cover the future cost of pensions. In last year's annual report we suggested the need for a funding management policy to avoid increased contribution rates or reduced future benefits. Since then, I'm pleased to report we've provided support and resources to the Ontario Teachers' Federation and the Ontario government to help them define such a policy.

In closing, 2001 was a difficult year for investors and a troubling time for society as a whole. Although we sincerely hope that history does not repeat itself, we are prepared to do everything a good pension plan can do to protect members' benefits and serve the needs of today's and tomorrow's pensioners.

**ROBERT W. KORTHALS**  
Chair

## BOARD OF DIRECTORS



(Left to right)

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

Senior partner with the law firm Cassels Brock & Blackwell in Toronto

MEMBER OF THE GOVERNANCE AND THE HUMAN RESOURCES AND COMPENSATION COMMITTEES

### **Jalynn H. Bennett**

President of Jalynn H. Bennett & Associates Ltd., a consulting firm specializing in strategic planning and organizational development  
CHAIR OF THE INVESTMENT COMMITTEE  
AND MEMBER OF THE GOVERNANCE COMMITTEE

### **Guy Matte**

Executive Director of L'Association des enseignantes et des enseignants franco-ontarien  
MEMBER OF THE AUDIT AND ACTUARIAL 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  
MEMBER OF THE AUDIT AND ACTUARIAL, THE HUMAN RESOURCES AND COMPENSATION AND GOVERNANCE 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 AND COMPENSATION COMMITTEE

### **Geoffrey W. Clarkson**

Fellow of the Institute of Chartered Accountants of Ontario and former senior partner with Ernst & Young  
CHAIR OF THE BENEFITS ADJUDICATION COMMITTEE AND MEMBER OF THE AUDIT AND ACTUARIAL COMMITTEE

### **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 AND ACTUARIAL COMMITTEE  
AND MEMBER OF THE HUMAN RESOURCES AND COMPENSATION COMMITTEE

### **Robert W. Korthals**

Former President of the Toronto-Dominion Bank  
CHAIR OF THE BOARD AND CHAIR OF THE HUMAN RESOURCES AND COMPENSATION COMMITTEE

### **Ann Finlayson**

Journalist, speaker, freelance editor and consultant, author of three books, including *Whose Money Is It Anyway? The Showdown on Pensions* (1988)  
VICE-CHAIR OF THE BENEFITS ADJUDICATION COMMITTEE AND MEMBER OF THE AUDIT AND ACTUARIAL COMMITTEE

All Board members serve on the Investment Committee.

## 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.

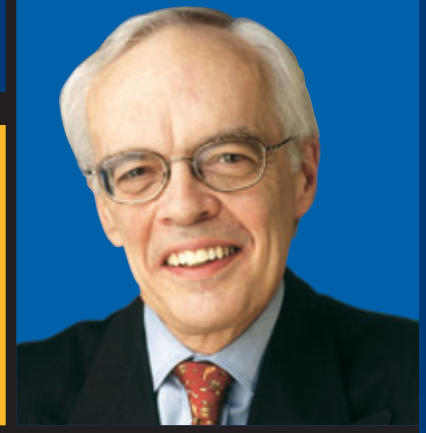
### **Board of Directors**

- 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 reviews 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

**“We created our investment strategy for the long term, anticipating both positive and negative annual returns depending on world markets.”**

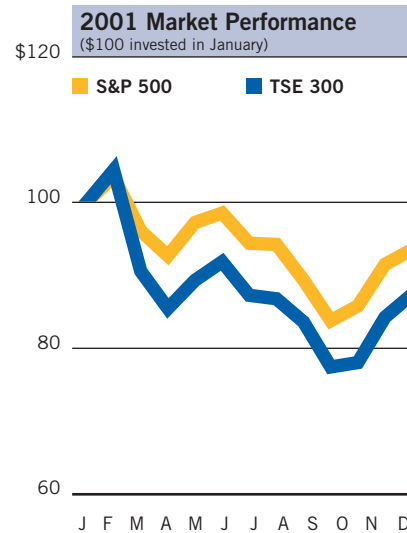
CLAUDE LAMOUREUX



The numbers posted by the Ontario Teachers' Pension Plan in 2001 accurately tell the story of considerable volatility in equity markets, where 60% of the plan's assets are invested. At the beginning of 2001, the plan had \$73.1 billion in net assets. By June 30, 2001, net assets had declined to \$70.4 billion, then fell further to a low point of \$65.3 billion in September before increasing to \$69.5 billion at year-end.

However, net assets do not tell the whole story. While our rate of return was a negative 2.3% for the first time in our 12-year history, our performance was superior to that of the composite benchmark, which was negative 5.3%. This benchmark tracks the combined, weighted performances of standard indices such as the TSE 300, the S&P 500, EAFE, and Scotia Capital Real-Return Bond index – each a globally recognized standard for its asset class. (See our audited financial statements, note 8.)

Comparing our performance to the benchmark tells a more complete story because it helps to illustrate the backdrop in which we operate. In 2001, the equity market correction – which started in late 2000 – was rapid and widespread. However, it was hardly unexpected given the strong equity markets that preceded it and the unjustifiably high price-earnings multiples that developed. We warned in last year's report that high returns could not continue indefinitely, and the markets in 2001 certainly followed this prediction.



Canadian and U.S. equity markets declined in 2001, hitting a low of almost minus 25% in September.

In context, we outperformed the benchmark, but like other pension plans and investors, we still were caught in the market downdraft. You might ask, is this acceptable? In the pension business, a loss or a gain in a single year is not a useful indicator of the quality of a plan's investment strategy. It's long-term performance that counts.

Long-term performance, such as the 11.7% rate of return we have earned since 1990, indicates that the assets are being carefully managed to ensure teachers receive the pensions they are promised. In other words, we are not chasing short-term results that would jeopardize the plan's ability to cover its long-term 'liabilities,' which in our case are future pension benefits that must be paid out for each teacher over 35 or even 45 years. We have a long-term investment strategy in place in anticipation of a mix of both strong and weak markets. This strategy was not altered as a result of market performance in 2001.



But to us, it's not enough to simply measure success in 10-year increments. The performance over a single year, while of less relevance, is not incidental. As our Chair points out in his report, the capital our managers preserved this year – \$2.2 billion over the composite benchmark – is enough to pay 66,000 pensions for one year. Preserving capital and maximizing value each and every year – and over the long term – are not, in our view, mutually exclusive objectives. However, they are extremely difficult to achieve, which makes our performance in 2001 and since 1990 very satisfying.

Of course, in a perfect world, markets would never go down, indices would never see the relative value and size of one industry inflate out of all proportion and then just as rapidly lose air (as the high-tech sector did), and we would always outperform the benchmark. But this is neither a reasonable nor realistic expectation. As 2000 and 2001 illustrated, stock markets are not one-way streets, despite what the 1990s suggested. We must be prepared for adverse market conditions ahead, be they short- or long-term. Our long-term goal is to generate a 4.5% real return above the rate of inflation.

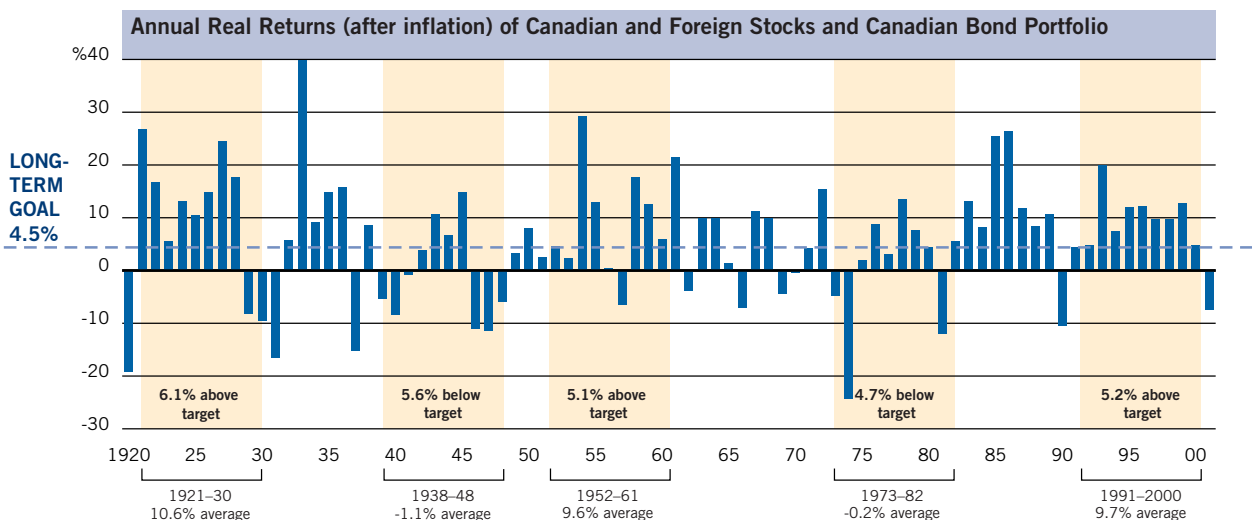
### Looking Inside Our Performance

What allowed us to outperform the benchmark this year? The answer is part hard work and part chance. The reality is we worked hard to select what we felt was an appropriate asset mix. Then, thanks to fortunate timing, we translated our asset-mix policy into action in late 2000 and early 2001 by reducing our exposure to technology, media and telecommunications. This combination of strategy and fortuitous timing paid off.

Looking inside our 2001 performance, you'll find we achieved good results in all areas, which helped to moderate the effect of equity market volatility.

Some specific highlights:

- Actively managed equities generated \$1.2 billion more than their benchmarks by continuing their value-oriented approach to stock selection.
- Real estate investments added \$423 million in value above their benchmark of 4% plus inflation because of the quality of these holdings, their geographic locations (21% in the U.S.) and the mix of retail and office properties.
- Merchant banking activities achieved \$489 million in value added during the year and outperformed the benchmark, yet again, this time by 13.7%. This was accomplished even though we had losses in several venture capital investments.



This graph shows how a hypothetical portfolio, based on a similar asset mix as our own, would have performed over the last 80 years. The portfolio includes two-thirds stocks (28% Canadian, 17% U.S., 22% foreign), and one-third Canadian bonds. One of the best decades in history was the 1990s.



Our investment approach continuously evolves to take into account broad economic trends, our liabilities and the growing application of risk management techniques. Participation in inflation-sensitive assets, including commercial real estate and, more recently, infrastructure investments such as our commitment to electrical transmission lines in Alberta, are tangible evidence of this evolution.

These new investments also underscore the fact that we are an organization that tries to learn continuously. Good organizations are ones populated by people who are passionate about adding to their knowledge and translating this knowledge into action. We try to build such a culture at Teachers'.

### Surplus Position

Before closing the books on 2001 performance, you should consider another indicator: the plan's surplus position. We present two ways of looking at the surplus in this report.

The financial surplus shows net assets, including smoothing, exceeded the \$65.5 billion cost of accrued pensions for a surplus of \$7.0 billion. The funding surplus, discussed on page 9, shows a different picture: a surplus of \$1.9 billion, including a \$3-billion smoothing adjustment. It is the funding surplus that is the more important of the two indicators because it is used by the co-sponsors of the plan to determine benefit improvements or changes to the contribution rate.

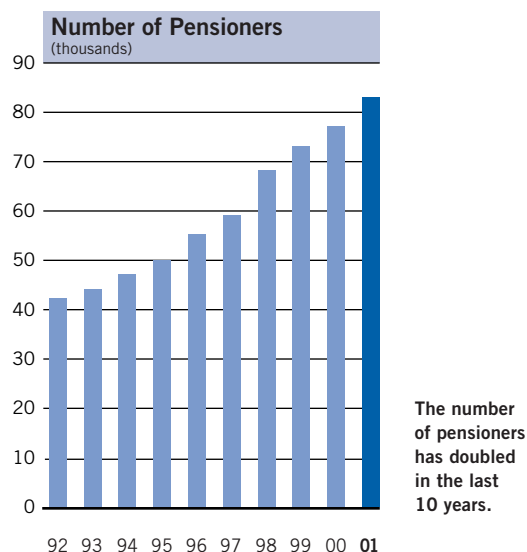
A \$1.9-billion funding surplus is not a significant cushion, particularly given our assumptions about the future (see page 28) and the aging population of our plan members. To sustain improved benefit levels for young and future teachers, without the need for contribution increases, we will need to generate close to 5% real rate of return over the long term. That may be very difficult over the next decade and presents both a challenge to us and a cautionary note to plan members and the co-sponsors.

### The Evolution of Member Services

Teachers' is more than a money management organization. We exist to provide timely, accurate services to all plan members and beneficiaries.

The past year was an extremely active one for our Member Services team. Service volumes surpassed the total level for all of 2000 in the first nine months of 2001, fueled by changes to plan benefits announced early in the year. Over 7,300 teachers started receiving their pensions in 2001, the second highest retirement year in our history. Of these, 2,457 took advantage of the early retirement option of a reduced pension as early as age 50. Of great importance, we maintained our high Quality Service Index rating – a measure of how plan members rate our performance on a broad range of services (see page 10).

In 2002, Member Services will begin to introduce services over the Internet to allow us to better serve our members. These options will not replace personal service delivered over the phone or in person, but rather augment it and add a new level of convenience to members. Once this service is fully operational, plan members will be able to log on to our secure Web site and purchase credit for past service and, in future, obtain personal pension estimates.



## Future

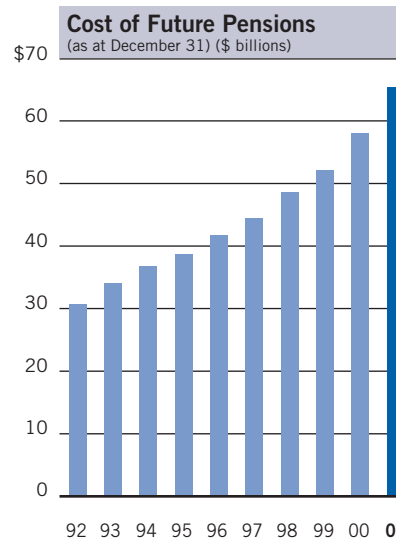
Today, the average member's pension at retirement is worth over \$500,000. That is a significant amount of money and illustrates one of the aspects about retirement few people think of: it is the largest single financial event in each person's lifetime.

Our members count on us to manage their financial futures wisely, to be accountable for our actions and to provide clear reporting to members and the public. I believe plan members also expect us to be forthright when it comes to subjects that have a direct bearing on their financial futures. The need for a funding management policy is one such issue. As Robert Korthals reported in his message, the plan's co-sponsors have started to discuss this issue, and we encourage and support their continued dialogue.

This leads me to the final – and related – point I feel compelled to make. That is, it's prudent to recognize that financial markets are likely to provide us with lower returns in the years ahead. We can't predict short-term capital market movements, but we can encourage realistic expectations of future performance.

Indeed, I believe it is absolutely essential to understand that market corrections occur. 2001 is an example and perhaps, in context, not as bad as it could have been. You may recall we said in the 1997 annual report that "a market downturn could erase as much as \$10 billion from asset values in one year and that it could take several years to recover that loss." But even that's only part of the story.

The other side of the equation is that while asset values may decline temporarily, the cost of our members' pension benefits will continue to increase even if interest rates remain stable. Furthermore, if real interest rates decrease, the cost of future pensions will increase at an even greater rate.



**Plan improvements announced in 2001 increased the cost of future pensions. The increase would have been \$2.9 billion higher if real interest rates had not changed.**

Conversely, the opposite can happen; in 2001, one factor that mitigated the increase in the cost of pensions was the rise in real interest rates to 3.8% from 3.4% in 2000. This resulted in a \$2.9 billion decrease in the cost of future pensions.

In closing, 2001 was an acid test for investment strategies and decisions. While many people are glad the year has passed – especially considering the events that happened during the year – there were a few bright spots as there always are when markets decline. For Teachers', there are opportunities inherent in lower stock prices, just as shoppers find value when quality merchandise is marked down. In some ways, this is a more favourable equity market to work in than the one we left behind, where bargains were few and far between.

I want to congratulate all members of our team for their extraordinary efforts in 2001. And I wish to thank our sponsors and plan members for their ideas and support.

**CLAUDE LAMOUREUX**  
President and Chief Executive Officer

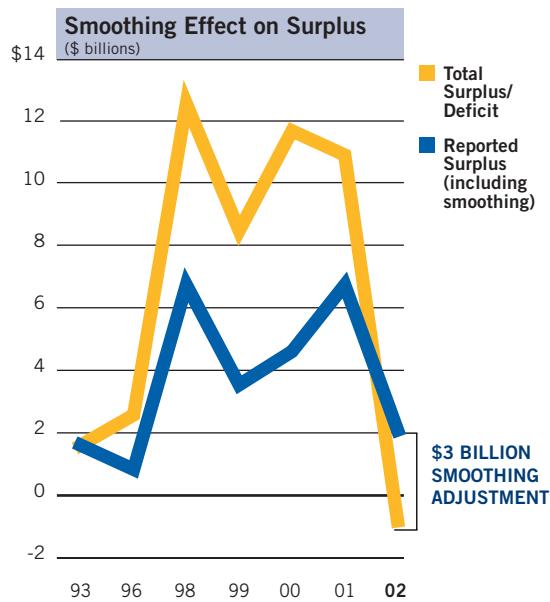
# REPORT ON FUNDING

## Funding Valuation

The funding valuation, conducted by an independent actuary, determined that the plan had a \$1.9-billion surplus of actuarial assets over the cost of future pensions as of January 1, 2002. However, without the addition of the \$3-billion smoothing adjustment, the plan would have had a funding deficiency of \$1.1 billion.

## Understanding Smoothing

The plan smooths gains or losses over five years, a common practice accepted by the actuarial profession and pension regulators. Smoothing defers gains when actual equity returns exceed the long-term return assumption. On the other hand, when returns are below the assumed rate, smoothing defers losses (as is the case this year). This practice is simply used to soften the impact of annual volatility in equity markets.



Without the \$3-billion smoothing adjustment, the plan would have had a funding deficiency of \$1.1 billion this year. We are concerned about the downward trend.

At its peak, smoothing held \$7.3 billion in reserve. In 2001, smoothing increased reported assets by \$3 billion to show a \$1.9-billion surplus, instead of a \$1.1 billion deficit. However, smoothing is only capable of absorbing short-term fluctuations in returns and will not sustain a funding surplus in a long period of poor market performance (see Outlook).

## The Role of a Funding Management Policy

Within certain legislated limits, the co-sponsors negotiate benefit and contribution levels. For 2002, the co-sponsors have decided not to make any changes to contributions or benefits and to concentrate on developing the funding management policy. We fully support their decision and efforts.

While important, funding and financial valuations do not provide a complete measure for the long-term health of the fund. Comparing the valuations shows a \$5-billion difference. In other words, there is a \$5-billion cost to provide future benefits for plan members that are not funded by the current contribution rate. We expect this gap to grow as new teachers enter the plan.

The objective of a funding management policy is to provide a framework for improved long-term governance of the fund by determining when it is prudent to increase benefits, change contributions, or conserve assets. This policy will guide the co-sponsors in making these decisions and help address the risks of poor market performance borne by both active teachers and the government. It is also important from an investment perspective, as it will directly change the risk profile of the fund and affect the pension board's investment policies.

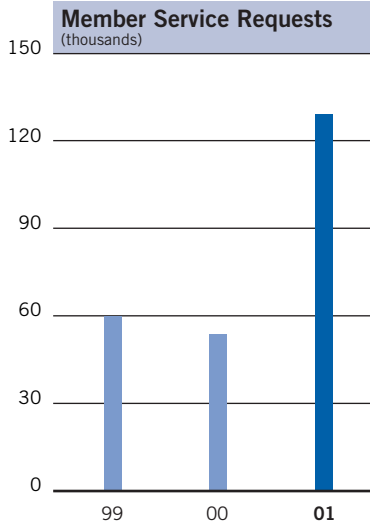
Over the long term, benefits must balance with contributions plus returns or there will be a deficit. If the fund has a deficit when the funding valuation is filed, the law will automatically trigger a contribution rate increase. The only alternative for the co-sponsors would be to reduce future benefits.

Teachers have told us in focus groups that they would prefer contribution rates to remain stable. A funding management policy will help to ensure this occurs. Creating a policy is not easy – but we believe it's well worth the effort, particularly given our expectation of weaker investment returns over the next 10 years. Development of a workable policy will put the plan's co-sponsors at the forefront of exercising solid pension plan governance that balances the interests of all plan members – active or retired teachers – and the government.

## MEMBER SERVICES

### 2001 Accomplishments

We are committed to delivering personal service to members and to continuously improving our service levels. We measure member satisfaction and take the results very seriously.



We handled 129,000 member requests in 2001, 140% higher than in 2000, and reduced outstanding requests by 22% at year-end.

#### We Act

2001 was the most active period ever for our staff, as they helped a record number of members come to terms with improved plan benefits.

In 2001, we:

- Achieved 8.69 out of 10 on our new Quality Service Index rating. This index is compiled using feedback from the people who count: our plan members.
- Delivered immediate service – meaning no call back required – to over 60% of all inquiries. We plan to increase this level over time.
- Answered 132,000 telephone inquiries, a 31% increase over 2000, with an average response time of 38 seconds.
- Issued 38,000 pension estimates, up 545% over 2000, and mailed 151,000 annual pension statements, 57% with current school year information supplied by employers who are now reporting every payroll, rather than annually.

#### We Collect

- We collected, from 208 employers, \$628 million in contributions by 154,000 elementary and secondary school teachers in Ontario.
- We processed more than 2.4 million service record transactions from employers for all teachers.



#### MEMBER SERVICES

(From left to right)  
Allan Reesor EXECUTIVE VP, MEMBER SERVICES AND  
CHIEF INFORMATION OFFICER  
Rosemarie McClean VP CLIENT SERVICES  
Ron Di Nicola PENSION BENEFITS SPECIALIST

Our pension benefits specialists answer teachers' calls assisted by our computer telephone integration system. It automatically recognizes a member's telephone number and immediately displays their records on the computer for faster service.

## DID YOU KNOW?

- We thank employers across the province who continue to transfer to our payroll-based reporting system, making it possible for us to provide up-to-date pension benefits statements. Forty-nine employers are now on the system, and they employ 115,000 teachers.

### We Pay

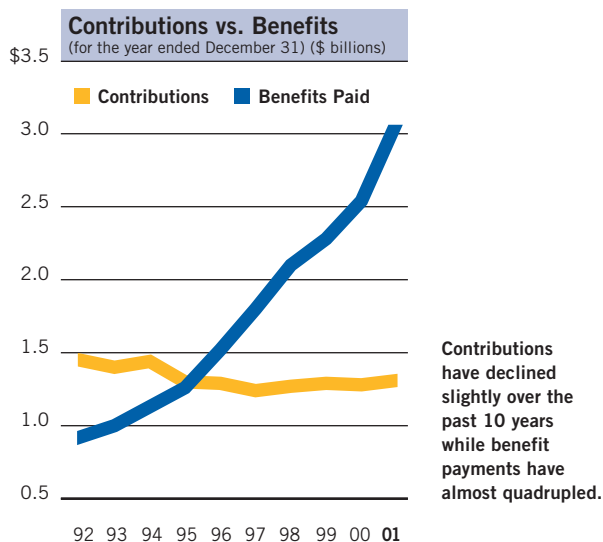
- Timely and accurate payment of pension benefits is our most critical task.
- We paid out \$3.1 billion in pension and termination benefits in 2001, including new pensions to 7,322 retired teachers and 622 survivors during the year.

### We Inform

- In 2001, we conducted 49 workshops and presentations in various locations for 4,525 participants and provided personal interviews for 1,574 teachers to help them make sound financial choices for retirement.

### We Simplify

- Pension plan benefits are not easy to understand. Working with the Ontario government and the Ontario Teachers' Federation, we try hard to simplify the plan's rules and procedures. This helps us communicate clearly to members so they are able to make informed decisions.

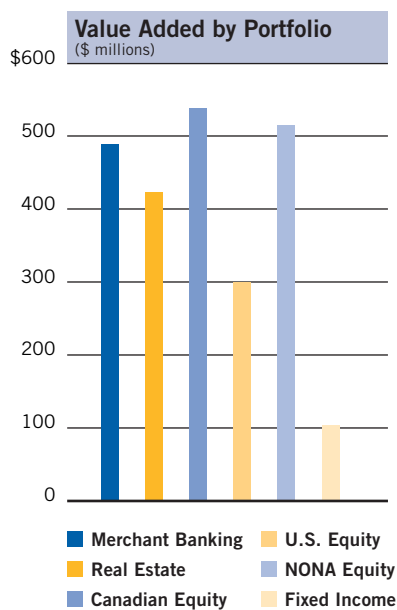


- We benchmark our service levels against those offered by 30 of the world's largest pension funds.
- We provide services in both of Canada's official languages and pay pension benefits in the currencies of 8 different countries.
- We held 3,027 benefit counselling interviews throughout Ontario in 2001.
- By the end of 2002, our new Web-based service will enable members to securely access their pension information on-line.
- We processed an unprecedented number of plan changes in 2001. New benefits included: a permanent 85 factor, early retirement with a reduced pension at age 50, a 10-year guarantee for members' pensions, and improved pensions at age 65. We communicated these changes broadly to our members.
- In 2001, we processed pension increases for 11,400 retirees who moved to a best 5-years calculation from a best 7- or 10-year average used before 1982.
- We won two prestigious awards for our member statements in 2001.

## INVESTMENTS

### 2001 Accomplishments

By employing a number of proven investment strategies for our fund, we generated \$2.2 billion in added value for our members in 2001.



The returns from many of our portfolios exceeded their benchmarks, adding \$2.2 billion in value to the fund in 2001.

#### Celebrating Cadillac Fairview's Excellent Performance

- In 2001, our portfolio of Canadian and U.S. retail and office properties outperformed its benchmark by more than 7%, providing an 11.9% rate of return.
- Fueling this performance was the addition – through acquisition and development – of almost \$1.3 billion of prime real estate and successful leasing of approximately 4.7 million square feet of space at higher rental rates.

#### Guaranteeing a \$60 Million Saving

- In 2001, we guaranteed \$600 million of debentures issued by Ontrea Inc., a wholly owned subsidiary of Teachers'. This will save Ontrea more than \$60 million by reducing interest costs by 1% over 10 years and will provide added value for the plan.
- Proceeds raised from this debenture issue – rated AAA by Standard & Poor's and Dominion Bond Rating Service – were used to pay outstanding debt on the Toronto Eaton Centre. This is the first time in Canadian history that a pension plan has guaranteed a debenture issue.

#### Building Value by Investing in Infrastructure

- In 2001, we formed a partnership – AltaLink – with three other companies (SNC-Lavalin Energy, Macquarie North America and TransElect) to purchase from TransAlta almost 12,000 kilometres of transmission lines carrying 60% of Alberta's electricity.



#### CORPORATE GOVERNANCE

(From left to right)  
Grace Hession MANAGER PROXY VOTING  
Robert Bertram EXECUTIVE VP INVESTMENTS  
Brian Gibson SR VP ACTIVE EQUITIES

We actively vote our proxies and publish our voting intentions at least two weeks in advance on our Web site [www.otpp.com](http://www.otpp.com). In 2001, we voted proxies in over 500 Canadian and foreign companies, frequently voting against proposals that would dilute shareholder value.



- This purchase, expected to close in spring 2002, is consistent both with our strategy of investing to secure stable rates of return linked to inflation – and with our practice of partnering with investors who offer capital and management expertise.

### **Facilitating a Management Buyout**

- Our Merchant Banking Group generated \$489 million in value over and above its market benchmark in 2001. It also continued to fulfill a key investment strategy: provide capital to enable management buyouts.
- Our Merchant Bank became an equity sponsor of Osprey Media, owner of 16 daily and 13 weekly newspapers in Ontario. Along with our partner Scotia Merchant Capital, we provided a total of \$90 million to finance the buyout led by experienced Canadian newspaper executive, Michael Sifton.

### **Co-investing in a Mission Critical Asset**

- MacDonald Dettwiler and Associates (MDA) is the Canadian success story behind the ‘Canadarm,’ a central tool for the space shuttle and international space station. Now MDA is partly owned by Teachers’, thanks to a three-way partnership with CAI Capital Partners and BC Investment Management. Together the partners purchased 36% of MDA for a total investment of \$173 million.
- The partners believe MDA has solid, long-term growth and value-creation potential as a leader in information technology systems for multiple markets, including outer space!

### **Participating in Natural Resources**

- We partnered with Sherritt International early in 2001 to acquire Luscar Coal Income Fund. The \$900-million purchase gives Sherritt and Teachers’ ownership of Canada’s largest coal producer, along with mines in Alberta, British Columbia and Saskatchewan. Coal from these mines is used in modern, clean-burning, electricity-generation plants.

## **DID YOU KNOW?**

- Our ability to structure win-win financial transactions makes Teachers’ a popular investment partner for other institutions and venture capitalists. Since 1991, we have co-invested in 180 companies.
- The Merchant Bank reviewed more than 260 different opportunities in 2001 and has invested directly in more than 100 companies over the past decade.
- We own more than 23 different types of fixed-income instruments, with a net value of \$11.4 billion at year-end 2001. Our fixed-income portfolio outperformed its benchmark with a 10.1% rate of return.
- Our investment costs are 18 cents per \$100 of assets managed. These costs remain low compared to other pension plans, and we intend to keep it that way.
- Our managers have access to a vast electronic library of economic and investment information compiled by our library staff.
- On top of a solid base of stock and bond index portfolios, we actively manage 41% of the fund to create extra value.
- We employ 96 highly qualified and experienced professionals to manage 85% of our investments, and we harness the specialized expertise of external portfolio managers to direct the remaining 15%.



## 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 the last fiscal year. 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 Board is committed to delivering defined benefits to Ontario's teachers during their retirement years. The fund must earn an annual rate of return of more than 4.5% above inflation, over the long term, to meet these obligations with current contribution levels for plan members and the Government of Ontario.

Since 1990, when the plan started to invest, we have generated an annual compound rate of return of 11.7%. After allowing for average inflation of 2.1% per annum over the period, our real rate of return was 9.6% per year. The achievement of a surplus since 1996 has allowed for significant improvements in plan benefits. However, we start 2002 with a smaller surplus, due to increases in benefits and a decrease in net assets as a result of stock market declines over the past year.

### Net Investments by Portfolio (as at December 31)

(\$ billions)	2001	2000
<b>Equities</b>		
Canadian equity	\$17.1	\$17.7
U.S. equity	10.5	10.1
Non-North American equity	13.8	13.0
<b>Fixed Income</b>		
Bonds	7.6	10.8
Money market	3.8	2.6
<b>Inflation-sensitive</b>		
Real estate	7.3	6.2
Commodities	1.1	2.1
Real-rate products	6.9	9.5
	<b>\$68.1</b>	<b>\$72.0</b>



### FINANCE

(From left to right)  
**Kim Clark** MANAGER FIXED-INCOME MARKETS  
**Nicole Moosie** MANAGER OPERATIONAL DEVELOPMENT AND CASH MANAGEMENT  
**Jeff Lucassen** CONTROLLER

We have a strong Finance team to support the investment division with accounting, investment valuation, performance measurement and value-at-risk systems.

## Year-End Financial Position

The plan's accrued pension benefits increased to \$65.5 billion from \$58.6 billion in 2000. The actuarial assumptions used to determine these liabilities for financial statement purposes reflect management's best estimates of teachers' salaries, inflation, demographic factors and investment returns. (For assumptions, see page 27.) These estimates at the end of 2001 were in line with the markets.

### Accrued Pension Benefits (as at December 31)

(\$ billions)	2001	2000
Accrued pension benefits, beginning of year	\$58.6	\$52.1
Interest on accrued pension benefits	3.6	3.5
Benefits earned	1.7	1.3
Benefits paid	(3.1)	(2.5)
	60.8	54.4
Changes in actuarial assumptions	(0.6)	3.9
Plan changes	4.7	-
Experience losses	0.6	0.3
Accrued pension benefits, end of year	\$65.5	\$58.6

### Changes in Net Assets

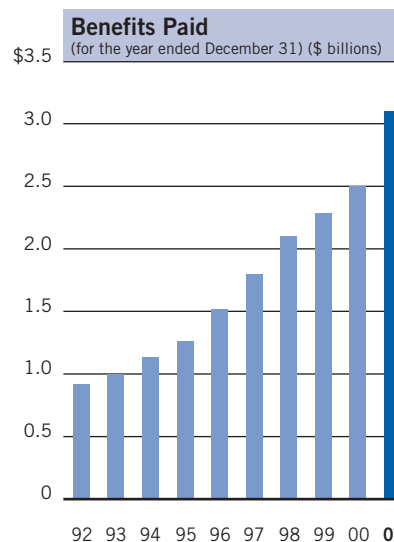
The plan began 2001 with \$73.1 billion in net assets available for benefits. During the year, net assets decreased by \$3.7 billion. This change was caused by a \$1.7 billion decrease from investments (compared to an increase of \$6.2 billion in 2000) which was largely offset by \$1.3 billion in contributions. In addition, benefit payments increased to \$3.1 billion, an increase of \$540 million over 2000.

### Changes in Net Assets (for the year ended December 31)

(\$ billions)	2001	2000
<b>Income</b>		
Investment income	\$(1.7)	\$6.2
Contributions	1.3	1.3
	(0.4)	7.5
<b>Expenditures</b>		
Benefits	3.1	2.6
Operating expenses		
Member services	0.04	0.03
Investments	0.1	0.1
	3.3	2.7
<b>Change in net assets</b>	<b>\$(3.7)</b>	\$4.8

### Benefit Payments

In 2001, the \$540-million increase in benefit payments reflected the 7,322 teachers receiving their pensions for the first time in 2001 as well as increased pensions for members already retired and survivors. Payments in 2001 also included \$412 million in commuted value transfers (compared to \$164 million in 2000) and a 2.5% cost of living increase on January 1, 2001.



Pension benefits continue to increase and reached a high in 2001 of \$3.1 billion.

### Contributions

The contribution rate for Ontario teachers has remained unchanged at an average of 8% since 1990. The government and other employers match contributions by members.

### Operating Costs

The plan has two cost centres: member services and investment management. In 2001, the cost to operate member services was \$139 per member, compared to \$135 in 2000. Over the past five years, on a compound annual basis, member services costs have increased 2.3%, while member service volumes have increased 23%.

Investment management costs in 2001 increased to 18 cents per \$100 of assets, versus 14 cents per \$100 of assets in 2000, as a result of higher performance fees paid to external managers and incentive fees paid to our portfolio managers for significant above-benchmark performance. In addition, many portfolios are run on a long-short basis, increasing the gross amount of invested assets. Even with the increase, these costs remain low. We benchmark ourselves against 30 of the world's largest pension plans to ensure we are maximizing risk-adjusted returns after costs.

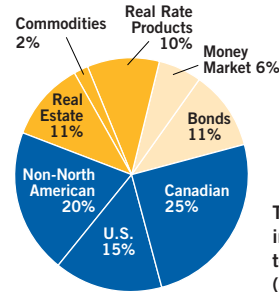
### Total Plan Performance

Capital markets were volatile in 2001, as the U.S. economy headed into recession and interest rates declined to levels not experienced in decades. Both foreign and domestic equity markets, where 60% of plan assets are invested, declined substantially during the year, continuing a trend that began in the second half of 2000. For only the third time in the last 100 years, U.S. equities posted two consecutive years of negative returns.

By being an active, value investor, and underweighting equities and overweighting inflation-sensitive investments, we were able to outperform the composite

benchmark and thus generate \$2.2 billion in value added in 2001. Our rate of return for 2001 was negative 2.3%, compared to the composite benchmark return of negative 5.3%.

**Asset Mix**  
(as at December 31, 2001)



The plan's asset mix in 2001 was very close to the target asset mix (see page 24).

**INFLATION-SENSITIVE INVESTMENTS 23%**

**FIXED INCOME 17%**

**EQUITIES 60%**

On a more relevant, long-term basis, our four-year annualized return was 8.3% versus the benchmark's return of 7.0%. In other words, we added \$3.6 billion in cumulative value over the period. After inflation, our real rate of return over the four-year period was 6.4%, which compares favourably with our long-term goal of exceeding inflation by more than 4.5%.

On a 10-year basis, our rate of return was 11.6% (10% after inflation), well ahead of our long-term goal. At year-end 2001, with net assets of \$69.5 billion, we remained one of the largest pension funds in Canada.

### Performance Compared to Industry Benchmarks

In addition to comparing the plan's investment returns to our ultimate goal of exceeding 4.5% real rate of return over the long term, we compare our performance against a composite industry benchmark. This way, members can evaluate plan performance relative to the performance of the markets in which we invest.

## Rates of Return Compared to Benchmarks

(percent)	Investment returns	Benchmark returns	Composite benchmark
Fixed-income and short-term securities	10.1	9.2	Scotia Capital Treasury Bills (91 days) Custom Canada Bond Universe Custom Net Ontario Debenture
Canadian equity	(6.8)	(12.6)	TSE 300
U.S. equity	(3.7)	(6.5)	S&P 500
Non-North American equity	(13.1)	(16.5)	Morgan Stanley EAFE, EM Custom NONA National Index
Inflation-sensitive investments	4.9	2.1	Scotia Capital Real-Return Bond Custom U.S. Treasury Inflation-Protected Securities Goldman Sachs Commodities CPI plus 4%
<b>Total plan</b>	<b>(2.3)</b>	<b>(5.3)</b>	<b>Benchmark weighted by the policy asset mix</b>

The total fund benchmark, which aggregates the benchmark returns for equity, fixed income and inflation-sensitive indices, produced a negative 5.3% return in 2001. In 2001, we achieved significantly better-than-benchmark performance for the second consecutive year. Our portfolio managers created \$2.2 billion of value above the benchmark – the difference created by active management.

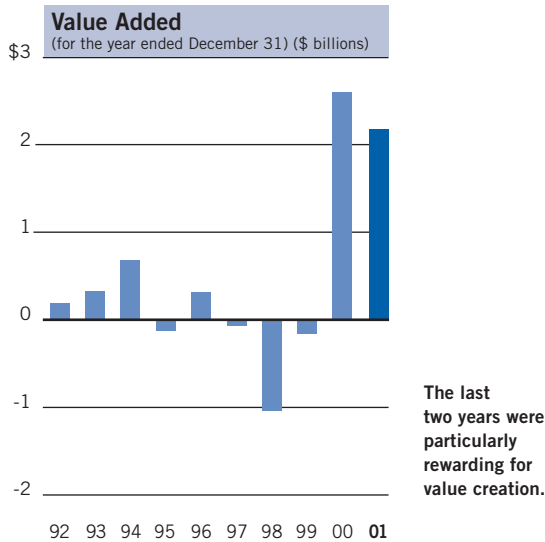
We report performance results against benchmarks before deducting estimated implementation and actual overhead costs for passive programs including commodities, fixed income, and international equities.

### QUANTITATIVE INVESTMENTS

(From left to right)  
**Bernard Augustin** DIRECTOR OF RESEARCH AND PORTFOLIO STRATEGY  
**Morgan McCague** SR VP QUANTITATIVE INVESTMENTS  
**Marcus Dancer** VP CANADIAN CORE PORTFOLIOS  
**Michelle Mark** PORTFOLIO MANAGER

Quantitative Investments staff run an \$11.8 billion Canadian equity portfolio and have consistently outperformed the TSE 300 index for the past nine years. They continually look for market opportunities to create equity and derivative programs to add value as either a growth or value investor.

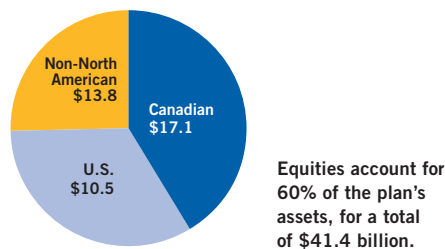




**Equities**

At year-end, 60% of plan assets were invested in Canadian, U.S. and non-North American equities. We generated \$1.8 billion in value added from equities in 2001 with a rate of return of negative 8%, exceeding the benchmark rate of return of negative 12.3% by 4.3%.

**Equities**  
(as at December 31, 2001) (\$ billions)



Over the past four years, total equities generated an annual compound rate of return of 7.8%, versus the benchmark return of 5.5%, reflecting \$3.3 billion in value added by our managers over the period. Demonstrating the value of owning equities over the long term, our 10-year return from equities, compounded annually, was 12.5% versus the benchmark's return of 11%.

Equities include index and enhanced index portfolios, active stock selection portfolios, and private equity portfolios.

We use indexed equity portfolios like a bank to maintain our asset-mix policy weighting. For example, the international equity index portfolios ensure U.S. equity and non-North American equity allocations remain at the policy asset mix of 15% and 20% respectively. The size of the equity index portfolio fluctuates with changes in the plan's total size and with the active stock selection strategies of the international equity portfolio.

In selecting individual stocks, our investment strategy remains focused on finding value using a 'bottom-up' approach to investing. This means we don't buy industry sectors, we select individual companies based on an analysis of factors such as management quality, financial performance, expected returns, and corporate governance.

**Canadian Equity**

At the end of 2001, the plan had \$17.1 billion in Canadian equities. The managers of these investments produced \$1 billion in value added over the benchmark, which posted a negative 12.6% rate of return. Our Canadian equities contain enhanced index, actively managed equities, merchant bank and venture capital assets.

Several years ago, we introduced quantitative techniques using computer-based modeling to sift through economic and stock market data in an attempt to determine trends that we can exploit. As a result, our enhanced Canadian index strategy has produced significant value added for the plan. This was true in 2001 as well.

Our Canadian actively managed equities also performed well in 2001 relative to the benchmark. At year-end, we had long positions on approximately 20 different stocks we believe are poised for long-term capital appreciation, and approximately the same number of short positions in stocks we believe are overvalued.

Our merchant banking investments generated a positive performance in 2001 of 1.2%, some 13.7% better than its benchmark. This performance was achieved despite a \$150 million loss in the value



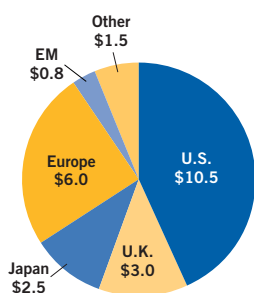
of some high-tech companies held by our venture capital portfolio. At year-end, merchant banking had \$3.4 billion in assets that included both direct investments in Canada and, with limited partnerships, indirect and co-investments in U.S. and non-North American companies.

### Foreign Equities

Combined, our U.S. and non-North American equity index portfolios had a total value at year-end of \$24.3 billion. These investments include both indexed and actively managed assets.

#### Geographic Distribution of Foreign Equities

(as at December 31, 2001) (\$ billions)



Combined, our U.S. and non-North American equity portfolios had a value at year-end of \$24.3 billion.

Index holdings of \$14.1 billion represent core allocations of indexed assets put in place to provide maximum liquidity while ensuring asset class returns are generated. At December 31, 2001, 80% of our U.S. equities and 43% of our non-North American equities were included in these index portfolios. Our remaining exposures to these two investment classes were managed in active stock selection strategies.

The plan had \$10.5 billion in U.S. equity exposure at the end of 2001. Our actively managed U.S. equity portfolio produced \$301 million in value added versus its benchmark of negative 6.5% by employing a consistent strategy of searching for value.

At the end of 2001, the plan had a \$13.8-billion exposure to equities of non-North American companies. These portfolios generated \$514 million in added value in 2001 by outperforming the benchmark by 3.4%. The benchmark had a negative 16.5% rate of return in 2001.



#### MERCHANT BANKING

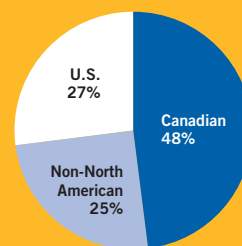
(From left to right)

Jennifer McElroy PORTFOLIO MANAGER  
 Jim Leech SR VP MERCHANT BANKING  
 Imtiaz Khan PORTFOLIO MANAGER, VENTURE CAPITAL

According to a recent industry study, our Merchant Bank manages over 10% of all buyout equity and mezzanine debt capital in Canada.

#### Merchant Banking Portfolio

(as at December 31, 2001)



The Merchant Banking portfolio has investments worldwide valued at \$3.4 billion.

### Corporate Governance

We attempt to improve shareholder value in public companies by encouraging their boards of directors to practice good corporate governance. In a few cases, we have representation on the boards of directors of certain investee corporations.

More important, we actively vote our shares and publish our voting intentions on our Web site: [www.otpp.com](http://www.otpp.com). Sharing our voting intentions with management and plan members in advance of shareholders' meetings strengthens our corporate relationships with the companies in which we invest and increases the transparency of our decisions.

In 2001, we voted our proxies in a total of 359 Canadian and 151 foreign companies, voting over 100 times against corporate proposals that we felt would dilute shareholder value. The most contentious issues continue to be excessive stock option grants and management compensation that are not tied directly to corporate performance. However, 'Evergreen' provisions have emerged as a new shareholder concern. Once in place, they automatically reserve an additional 5 to 10% of total shares outstanding each year for the share pool used for option plans. Because they can increase dilution significantly, we have voted against these proposals.

### 2001 Proxy Voting Highlights

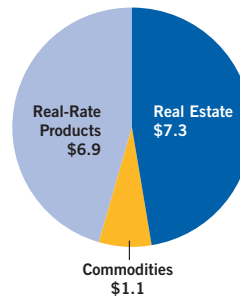
	For	Against
Employee stock option plans	40	141
Shareholder rights plans	0	31
Re-pricing proposals	0	10
'Evergreen' provisions	0	5
Other	90	48

Stock option plans often dilute shareholders' value, and we believe their impact should be disclosed directly in income statements.

### Inflation-Sensitive Investments

Returns from real estate, real-rate bonds, and commodities fluctuate with inflation, hence the term 'inflation-sensitive.' We strive to maximize long-term returns from all investments, but the primary role of inflation-sensitive investments is to shield the plan's surplus from increases in the valuation of liabilities arising from falling real interest rates and rising inflation.

**Inflation-Sensitive Investments**  
(as at December 31, 2001) (\$ billions)



The primary role of our inflation-sensitive investments is to shield the plan's surplus from short-term risks: changes in inflation and real interest rates.

These investments produced \$410 million in value added in 2001, fueled by excellent performance by our real estate holdings. At \$15.3 billion, our inflation-sensitive assets comprised 23% of the plan's total assets. These investments produced a 4.9% rate of return in 2001, versus 2.1% for their benchmark. Over the past four-year period, inflation-sensitive assets produced a 9.4% rate of return.

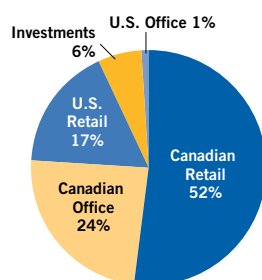


## Real Estate

Managed by our subsidiary, The Cadillac Fairview Corporation Limited, our real estate assets of \$12.0 billion at year-end (\$7.3 billion net of liabilities) earned an 11.9% net return compared to its benchmark of 4% plus 0.7% inflation. Our real estate investments include full or partial ownership of 70 shopping centres and 48 office buildings in Canada and the United States. In 2001, \$1.3 billion of prime real estate was added through acquisition or development and approximately 4.7 million square feet was leased at higher rental rates. At year-end, Canadian office properties were 96% leased, and retail properties, 95% leased. U.S. retail properties were 90% leased, as leasing demand remained weak in the face of a slower economy.

### Real Estate Portfolio

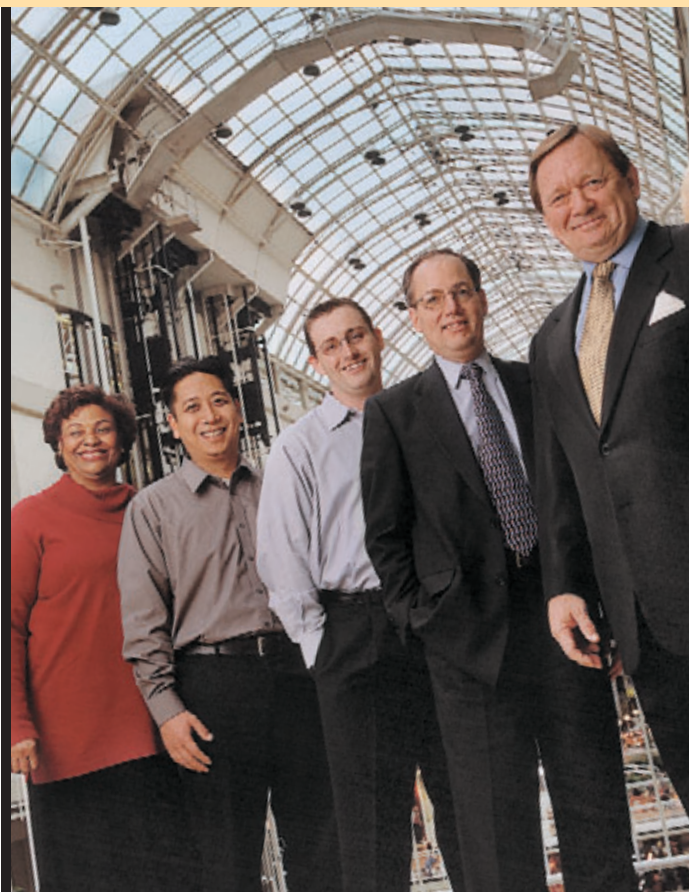
(as at December 31, 2001)



Cadillac Fairview manages our \$12-billion real estate portfolio.

## Real-Rate Products

We held \$6.9 billion in real-rate products at year-end. The rate of return for this asset class of 6% was equal to its benchmark return. In 2001, we decreased our holdings of Canadian real-rate products to \$5.4 billion from \$5.8 billion in 2000, and sold \$2.6 billion from our portfolio of U.S. Treasury Inflation-Protected Securities or TIPS, shifting into real estate and equities. TIPS performed exceptionally well last year with a 16.5% rate of return.

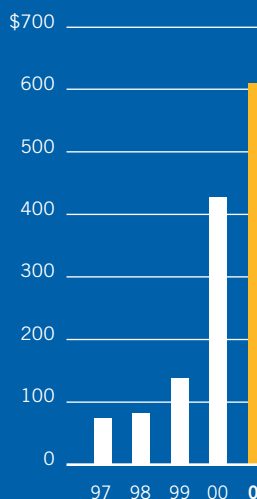


## REAL ESTATE

(From left to right)  
**Rosaline Seales** PAYROLL SPECIALIST  
**Dennis Aquino** I.S. SUPPORT ANALYST  
**Daniel Sheehan** INVESTMENT ANALYST  
**Ian MacKellar** EXECUTIVE VP AND CHIEF FINANCIAL OFFICER  
**Peter Sharpe** PRESIDENT AND CHIEF EXECUTIVE OFFICER

### Cash Flow from Real Estate

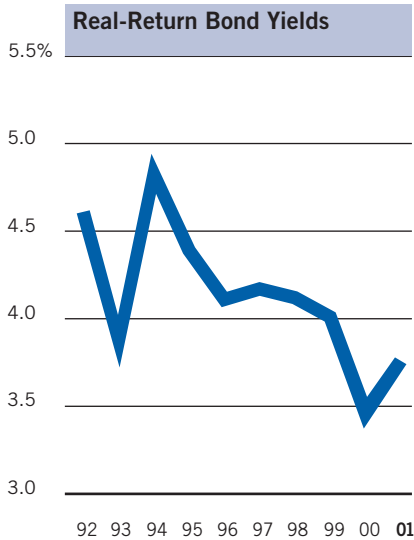
(\$ millions)



The purchase of Cadillac Fairview in 2000 dramatically increased our cash flow from real estate.

The Cadillac Fairview Corporation Limited, a wholly owned subsidiary of Teachers', manages the entire real estate portfolio. Our real estate arm continues to thrive on exceptional operational and investment expertise.

Real-rate products are a nearly perfect match for plan liabilities because, like the liabilities, they are fully indexed to inflation. Along with inflation-linked mortgages, they are a key part of our overall portfolio because they are as close as we can get to a 'risk-free asset' for funding pensions.



Real-return bonds are an excellent match to pensions because they are both fully indexed to inflation.

**Commodities**

We reduced our exposure to commodities during the year by \$1 billion to \$1.1 billion, in advance of a steep decline in prices for energy-related commodities.

Commodities, and their benchmark, produced negative returns in 2001 of (28.4)% and (27.8)% respectively. We invest in commodities through swaps linked to the Goldman Sachs Commodity Index, which is heavily weighted to the energy sector.

**Fixed Income**

We held \$11.4 billion in fixed income at December 31, 2001, or 17% of the plan's assets. These securities produced a return of 10.1% in 2001, compared to a return of 9.2% for the benchmark. This translated into added value for the plan of \$102 million.

Fixed income includes \$3.3 billion in alternative investments in 130 hedge funds, each limited to a maximum of 2.25% of the portfolio. We manage this portfolio in a 'fund of funds' structure designed to consistently maximize market neutral value added while diversifying risk.

We frequently find profitable opportunities to use fixed-income derivatives in combination with shorting bonds we think are overvalued. To implement a short bond program, securities must be purchased under an agreement to resell. Our value-at-risk system measures the incremental market risk of these relative value strategies daily.



**REAL ESTATE FINANCING**

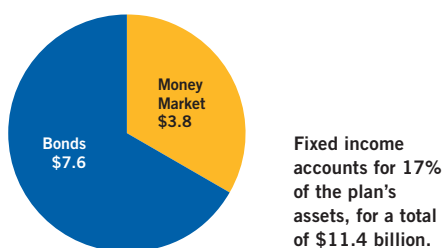
- (From left to right)
- Neil Petroff SR VP FIXED INCOME, FOREIGN EXCHANGE AND INTERNATIONAL EQUITY INDICES
- Sean Rogister VP FIXED INCOME
- Diane Pawlowski REAL ESTATE CONTROLLER
- Lee Fullerton MANAGER COMMUNICATIONS

In a 'first' for a Canadian pension plan, Teachers' guaranteed a \$600-million debenture issue, an innovative and cost-effective way to provide financing for one of our real estate subsidiaries. Rated AAA, the highest rating available, it was considered Canada's premier debt issue last year.

Consistent with our long-term outlook and favourable view of fixed income, we increased total dollars allocated to Canadian and U.S. high-yield corporate bonds by 48% to \$423 million during 2001.

The allocation of assets to fixed income is managed in congruence to other components of the asset mix. We construct a core holding of index portfolios to meet benchmark returns, and through value-added strategies, we seek to generate additional above-benchmark returns. In addition, our fixed-income managers have a broad set of responsibilities for cash, liquidity and interest-rate management.

**Fixed Income**  
(as at December 31, 2001) (\$ billions)



Cash management, for example, is carried out within the money-market portfolio area to ensure all incoming cash flows from assets meet the needs of beneficiaries as well as the plan's operating requirements. Fixed-income index portfolios meet liquidity management requirements by maintaining a floor holding of highly liquid bonds. This forms the capital support for the plan's portfolio management activities.

The benefits of monitoring real estate debt are highlighted in the Ontrea debt issue we guaranteed in 2001. By explicitly standing behind this wholly owned subsidiary, we are taking responsibility for debt-servicing costs, including the reduction of those costs.

In conjunction with the foreign currency policy hedge, we also actively trade in foreign currencies, incurring a small loss in 2001.

## Estimating and Managing Risks

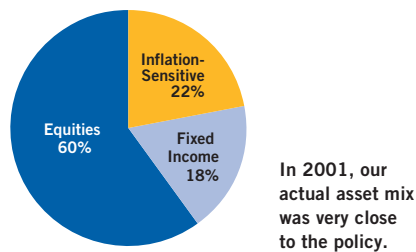
The main risk to the plan is funding risk: not having enough assets to meet pension obligations. Over the long term, pension benefits have to be in balance with contributions plus investment returns. The plan would reach that balance and have no funding risk if all contributions could be invested in risk-free assets yielding over 4.5% plus inflation (i.e. a real return of 4.5% after inflation) from day of deposit until the last pension cheque is paid.

However, risk-free assets yield less than our long-term goal of 4.5% plus inflation, and higher yielding assets are not risk free. Canada real-return bonds come close to being risk free, but they currently yield only 3.75% plus inflation. At the other extreme, stocks have a higher long-term expected return of about 6% plus inflation, but annual returns can fluctuate greatly, as we experienced in the technology boom of the late 1990s, and the sharp stock market declines in 2000/2001. Investing all assets in stocks over the very long-term would produce a surplus that could be used to minimize the average long-term cost of funding benefits, but the funding ratio (assets/liabilities) would be volatile and lead to unacceptably large fluctuations in annual contribution rates.

### Asset-Mix Policy

We use a detailed asset-liability model to assess the long-term risk and return tradeoffs for different proportions of real return and nominal bonds, domestic and international equities, as well as real estate and commodities. Moreover, the asset-liability model has been a key tool to help the plan's co-sponsors analyze funding management policy alternatives discussed on page 9.

**Asset-Mix Policy**  
(as at December 31, 2001)



Each year, after review of expected market conditions, management proposes an asset mix for approval by the board of directors. In addition, the board approves an active management program designed to improve on the passive returns from exposure to the broad markets specified in the asset-mix policy. In 2000, we reduced the plan's policy exposure to equities from 65% of assets to 60%. Active management decisions reduced equity exposure even further. By the second quarter of 2001, the weighting was back to the target of 60%. In both years, the changes to policy and the active management relative to policy significantly enhanced returns.

### Risk Budgeting

Over the last decade, faster computers and better risk management software have made it possible to take into account far more information than was possible before, particularly in assessing short-term risk, and to monitor risk more frequently. Our main short-term market risk management tool is Value at Risk (VaR), which measures how much might be lost in the potential worst 1% of portfolio outcomes based on a long history of returns. It captures market risk for all our investments including derivatives. VaR has been very useful in quantifying the relative size and change in both funding risk (the risk of a drop in the funding ratio) and active risk (the risk of underperforming a passive market index benchmark).

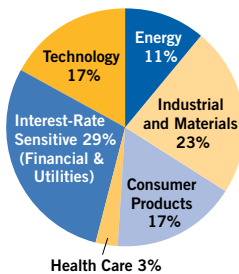
One of the insights during the technology boom was that, because of changes in index composition, market indices do not have constant volatility. We found that asset mix is not as stable a measure of the plan's exposure to market risk as we previously thought. In Canada the main culprit was the rise and fall of Nortel's weight in the TSE index, making Canadian index investing more risky than it appeared to be earlier in the decade. This has caused us to pay closer attention to managing total plan risk, instead of just focusing on active risk. Exceeding passive benchmark returns is important, but we are increasing the use of risk budgeting to monitor and manage assets relative to the liabilities (funding risk) to ensure we meet our long-term goal.

### Active Risk

Implementing asset-mix policy gives the plan a passive return equal to the weighted average of the equity and bond index market returns which also make up the benchmark. The board approves an active management strategy annually aimed at improving benchmark returns. The current target is to add an average of 1.25% per year over a four-year period, approximately equal to results achieved since 1990. Our VaR system has proven to be particularly useful in evaluating the



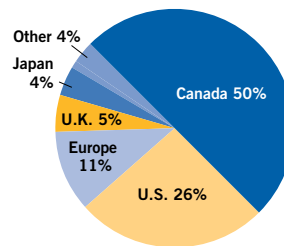
## Economic Exposure in Equities



opportunities and limiting the risks associated with this activity. Every year, we assess where we can allocate risk productively to our various active programs and use this to set an active management risk budget. The incremental risk from active management is small and is managed through policy guidelines and procedures, including our VaR system. View our Statement of Investment Policies and Procedures at [www.otpp.com](http://www.otpp.com).

All risk allocations carry with them the obligation to deliver a return on risk, and this is incorporated as a key part of our performance evaluation and compensation programs. By measuring the expected return on risk across all opportunities, we can allocate risk capital where it has the highest payoff. Risk budgeting naturally leads to comparing return on risk, as opposed to return on assets: what matters is how much can be gained compared to the risk of loss, which does not need to be proportional to the amounts invested.

## Geographic Exposure of Total Fund



A rising share of active risk is being used in privately negotiated opportunities and instruments that do not fit neatly into a conventional stock or bond category, as well as strategies that focus on absolute return on risk. For example, we are active users of alternative investments, including hedge funds within both fixed income and U.S. equity portfolios. Today we use approximately 130 external hedge fund managers selected for their ability to give us consistent risk-adjusted returns from a diversified range of strategies.

## Geographic Market Diversification

Although we have diversified our equity holdings through direct foreign stock purchases as well as equity derivative contracts, our portfolio still has a significant home country bias. Both our private and public equity programs have very large holdings in Europe and the U.S. International diversification has traditionally lowered overall risk, although globalization appears to have reduced this benefit.

## RESEARCH AND ECONOMICS

(From left to right)

Leo de Bever SR VP RESEARCH AND ECONOMICS

Barbara Zvan VP ASSET MIX AND RISK

Wayne Kozun VP TACTICAL ASSET ALLOCATION AND REAL RETURN

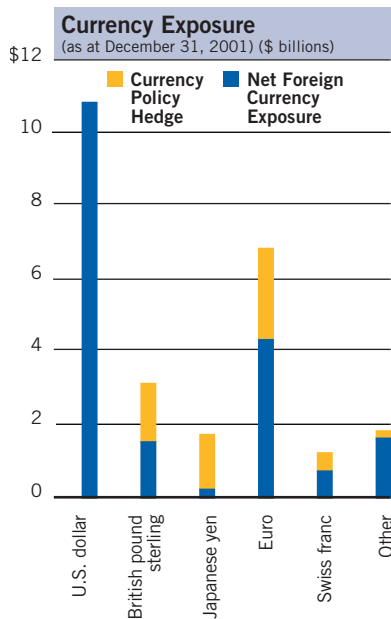
Nanci Abbondanza LIBRARIAN

Our Research and Economics team plays a vital role in assessing risk, recommending asset-mix changes and ensuring the plan matches assets with liabilities. The team runs a successful tactical asset allocation program and also manages our inflation-sensitive portfolio which will expand to include investments in infrastructure in 2002.



### Currency Risk

As a matter of policy, we hedge 50% of our foreign equity exposure to major currencies that have high volatility relative to the Canadian dollar, including the currencies of Europe and Japan. In 2001, we stopped hedging U.S. dollar exposure since we found this was neither cost-effective nor risk-reducing for funding risk over time. Our timing was fortuitous as the Canadian dollar continued to decline.



Our foreign currency hedges reduce the impact of currency fluctuations on the value of our foreign investments.

### Credit Risk

Credit risk comes 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. At year-end, the largest credit exposure is to the Province of Ontario (rated AA), which owes the plan \$11.7 billion

of non-marketable debentures valued at \$15.1 billion and \$1.3 billion in contributions receivable. The next largest credit exposure is to the Government of Canada (rated AAA) at \$11.2 billion.

We regularly monitor credit risk and, depending on the credit rating of the securities' issuers and derivative counterparties, we will limit our exposure to specific credits. The board must approve debt and equity investments in a single corporation or financial institution that exceed 3% of net assets. In the case of swap counterparties, we deal primarily with 19 financial institutions rated Single A or better.

### Liquidity Risk

If the fund only bought securities by paying cash, liquidity needs would be small and mostly related to settlement of investment transactions. However, the fund makes extensive use of total return swaps to get 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. We withstood the latest equity downturn without incident. However, we closely monitor the plan's ability to withstand the liquidity effects of a simultaneous 25% decline in all markets. We aim to keep 2% of the fund in very liquid instruments like T-bills on hand at all times.

We are also a major participant in the purchase/reverse purchase market, borrowing and lending cash using Government of Canada bonds as collateral. We make sure that cash flow from investments and proceeds from assets that could be sold for cash over a six-month period will always cover the plan's liquidity risk by a very wide margin.

## Actuarial Valuations

A key measure of the health of the plan is the funding valuation because it determines the amount available to the co-sponsors for contingency reserves, benefit improvements or contribution reductions. The plan started 2002 with a funding surplus – including smoothing (see page 9) – of \$1.9 billion, versus \$6.8 billion a year earlier. This change is the result of an increase in the cost of future benefits and a decline in actuarial assets (the market value of assets plus the present value of future contributions by existing plan members). See note 9 in the financial statements.

The funding valuation is different from the annual valuation contained in the financial statements of this report. The statements show a financial surplus, after smoothing, at the end of 2001 of \$7 billion. The financial surplus, unlike the funding surplus, does not include the costs of member benefits or contributions that current teachers will make in the future, only the benefits earned to date.

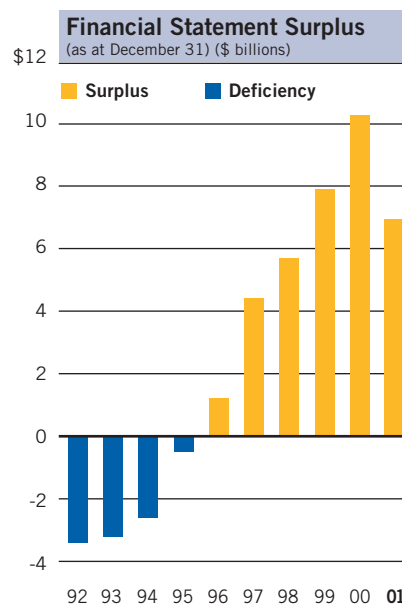
## Comparing the Surpluses

(\$ billions)	Financial surplus (at Dec. 31, 2001)	Funding surplus (at Jan. 1, 2002)
Net assets	\$69.5	\$69.5
Smoothing adjustment	3.0	3.0
Actuarially adjusted assets	72.5	72.5
Future contributions	–	13.7
Actuarial assets	–	86.2
Accrued benefits	65.5	84.3
Surplus	\$ 7.0	\$ 1.9

## Valuation Assumptions

(percent)	2001	2000
Discount rate	6.30	6.25
Salary escalation rate	2.90	3.20
Inflation rate	1.90	2.20

The discount rate is the long-term market rate of return used to determine the present value of all future pension benefits and assets.



The 2001 year-end financial surplus dropped due to increases in benefits and a decrease in net assets as a result of stock market declines over the past year.

Since 2000, all assumptions, including the value of assets, are the same for the funding and financial surplus calculations. Both are calculated using a smoothing mechanism, or ‘actuarial asset value adjustment’ which reduces the impact of equity market volatility on the plan’s surplus position (see note 4).

This actuarial asset value adjustment represents the difference between the actual return and the actuarial assumption for return on the plan’s equity investments including real estate and commodities. The difference is then amortized over five years. The result of smoothing is that only 20% of a gain or loss in any given year is recognized in the surplus or deficit during that year. The remaining 80% is recognized over the next four years.



### Outlook: Looking Ahead 10 Years

The plan keeps a constant watch over emerging trends that may lead to short-term investment opportunities. But it also maintains a set of working assumptions about Canadian and foreign economic and financial conditions that affect performance over a longer horizon, particularly the next 10 years.

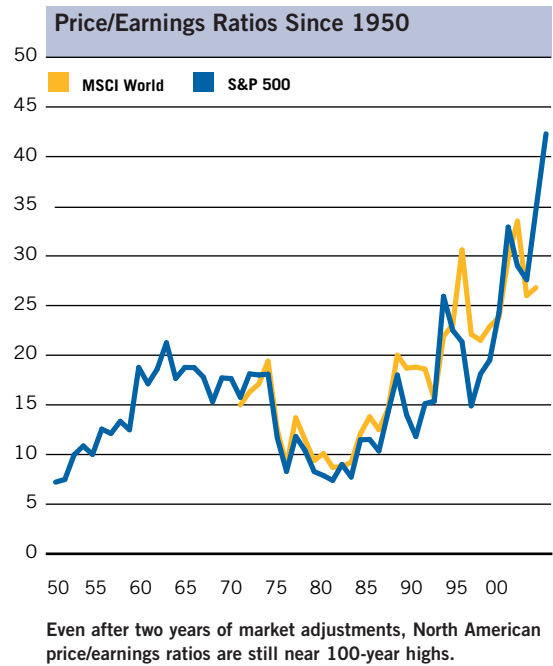
History may not repeat, but it rhymes, particularly in financial markets where emotional reactions to events often transcend any specific political or technological environment. Comparing today's circumstances to similar episodes in almost a century of market and economic data can provide clues to possible future market performance.

We aim for plausible working assumptions, not pinpoint forecasts. Predicting near-term economic and asset market movements will always be limited by random disturbances that can combine to produce surprising economic consequences. (The rapid rise and fall of technology stock valuations are a case in point.) What we hope to do, instead, is compare our 2002 starting position with valuation tendencies that may influence 10-year market returns in a particular direction.

### Growth, Inflation, and Interest Rates

We assume that Canadian and U.S. real gross domestic product (GDP) growth will average a little less than 3% per year over the next 10 years, not too different from the 2.5% in Canada and the 3% achieved in the U.S. during the last 10 years. However, the sources of growth will be different: the front wave of baby boom retirements will reduce the growth of the labour force, but we assume – with some trepidation – that the rise in productivity of the late 1990s is part of a longer trend that will take up the slack.

Inflation as measured by the Consumer Price Index should stay near its recent 2% Canadian annual trend over the next decade, assuming that central banks will manage money supply to keep us from either



the 5% inflation of the early 1990s, or sustained deflation. Labour-intensive industries (e.g. health care and personal services) will face wage and price pressures as the supply of skilled workers dries up, but advances in technology will push down the real cost of most goods.

Real growth of 3% combined with 2% inflation implies nominal GDP growth of around 5%. Over long periods, nominal economic output and corporate earnings grow at approximately the same pace. Most investors still expect much higher rates of growth, even though the most recent 10-year average is only 5% to 6%. Earnings can swing wildly over a business cycle, creating the short-term impression of sustainable double-digit profits growth.

Real interest rates on government bonds tend to be marginally higher than real GDP growth, so we assume an average of around 4% over the next 10 years. Nominal interest rates are driven higher by expected inflation. The sharp decline in nominal interest rates in the 1990s reflected growing comfort with the idea that central banks were serious about targeting a low inflation rate. If central banks steer a steady inflation course, nominal rates will cluster around 6%.

## Implication for Stocks

What does this scenario suggest about the stock market? During the 1990s, falling tax and interest rates and the hope that the new economy would prove to be an investor bonanza led to exaggerated expectations of future earnings growth and rising valuations of those earnings (i.e. higher price/earnings ratios). Some of this upward price pressure may have come from the large shift by pension plans (including our own) from bonds to stocks.

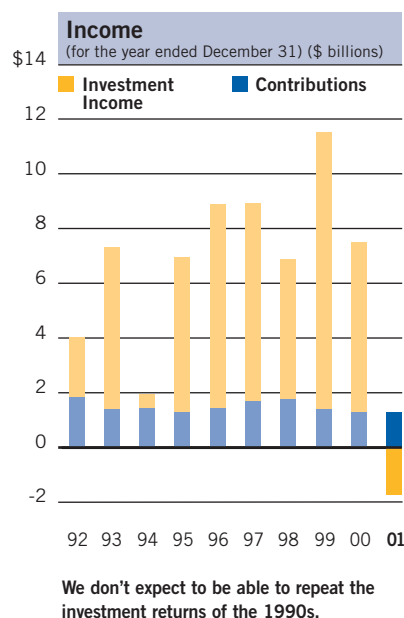
Some of the trends that created the boom are stabilizing or reversing direction. Rising demands on government from an aging population imply stable tax rates at best. The fall in interest rates in response to falling inflation expectations has run its course. Finally, the pension fund shift to equities is largely complete.

If future earnings growth averages only 5%, long-term stock prices are unlikely to rise faster than underlying earnings. Adding 2% for dividends, total returns will be in the 5% to 7% range. If true, these returns would be much lower than equity returns during the 1990s, which boosted the plan's 10-year average return to an unsustainable 13.4% (or 11.3% real). If price/earnings ratios decrease to the historically average range, it would reduce our rate of return significantly.

As gloomy as this may seem, there are powerful parallels between today and extended periods of past underperformance following equity market booms. For example, following the 1973 market meltdown, it took until 1991 before the U.S. market regained its previous peak in real terms.

## Impact on the Plan

The certainty that any view of the future will be wrong to some degree remains the best argument for broad asset mix diversification. Our investment strategy aims for above-average active management of a superior asset mix. In the 1990s, the plan rode the crest of the equity market wave and earned an additional 1% per year from active management, allowing the co-sponsors to share significant returns above actuarial requirements.



Over the next decade, market returns from bonds and stocks may be barely enough to balance the 4.5% real growth in pension obligations. Moreover, 4.5% real rates of return will not suffice in the future. To provide the current level of benefits for teachers who join the plan in the future, we expect to need closer to 5%. According to the chart on page 6, this has happened only 60% of the time in history. Maintaining a 1% return from active management may be the margin that keeps the plan fully funded at current contribution rates.