the new retirement game

pension-opoly

With retirement savings at the mercy of markets, investment decisions are a game that can either wipe out or double your earnings *by* Robert Pouliot

IT'S A WILDLY POPULAR BUT TRICKY AND HIGH-STAKES GAME being played by hundreds of governments, thousands of Canadian companies and millions of baby boomers on the cusp of retirement. Most CFOs thought they had witnessed a perfect storm in 2000 when the interest rate and stock market plunge crippled pension funds. But that was a light drizzle compared with the storm that could be brewing for the country's pension funds.

Canadian savings for retirement exceed $2 trillion in assets and rank fourth worldwide in terms of size after the United States, the UK and Japan.

Illustration by RYAN SNOOK

Pension plan liabilities are an organization's largest liability. Financial executives are only beginning to realize to what extent this burden can endanger their company's future

Imagine a pyramid whose tip (see chart below) is represented by traditional defined benefit plans based on average end-of-career salary. Even if defined benefit plans represent barely one-third of all pension funds, they are the most worrisome for CFOs because of the considerable liability they represent for employers.

However, it is the base and largest part of the pyramid supported by contributions to diverse public plans and registered individual plans (RRSPs, mutual funds, private funds, life insurance, etc.) that constitutes the greatest threat to the future of nine million Canadian households. Why? Because defined contribution plans are not obligated to pay out a set benefit and there is no guarantee that there will be sufficient cash reserves to cover participants' needs at retirement. This is a two-tier system: those who know how much they will get upon retirement and those who don't.

Annual contributions of $90 billion put retirement savings at the mercy of markets that are more volatile and complex than ever. Making decisions is becoming more like playing a game of Monopoly, where a simple roll of the dice, represented by fluctuations in rates, prices, production and risks, can wipe out or double your winnings. Welcome to Pensionopoly.

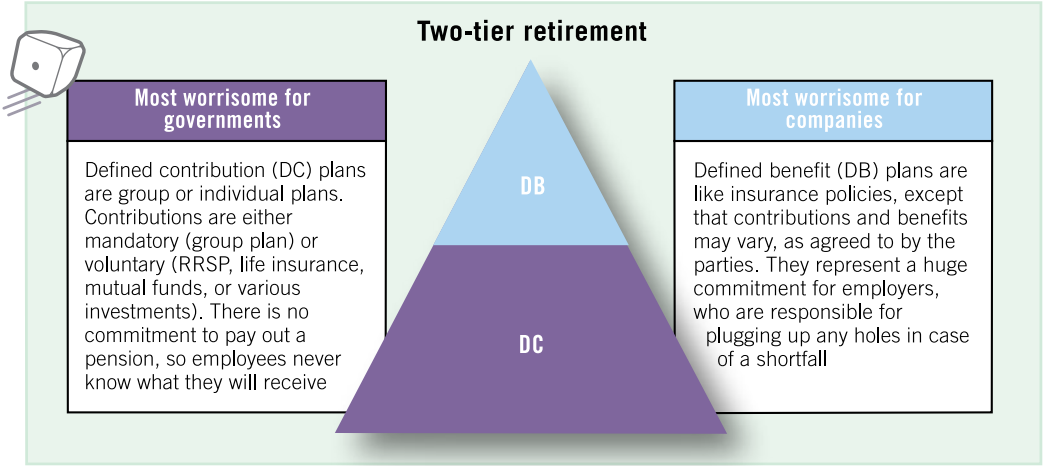
Danger of a crisis four times worse than ABCP

Defined benefit plans, undoubtedly one of the most important social gains since the Second World War, used to be relatively simple to manage. All it took to get acceptable results over time was a concern to strictly limit expenses, a handful of stable managers, a few conventional investments and healthy market volatility. In 2000, 97% of the country's retirement funds were wholly solvent, and the average Canadian fund had assets that exceeded the value of its long-term retirement obligations by 20%.

In eight years, this idyllic picture changed drastically. Between 2000 and 2003, average surpluses of 20% gave way to average deficits of 20%. In 2006 scarcely 49% of the 1,232 plans monitored by the federal government were fully solvent. Since then, the credit crunch has driven the average solvency rate of pension plans to less than 80%. The average return of retirement funds with balanced portfolios barely topped 2.5% in 2007 and the latest stock market turmoil has further dented returns, eroded assets and increased corporate pension liabilities.

That is why human resource departments have been increasingly handing over defined benefit plan management to finance departments. Pension plan liabilities are often an organization's largest liability. Financial executives are only beginning to realize to what extent this burden can endanger their company's future and are quickly taking back control of retirement funds. In a survey of 130 defined benefit plans conducted on behalf of *CAmagazine* by actuarial consulting firm Morneau Sobeco, three out of four employers expressed concerns about their pension plans. And nearly all of these said they would adopt special measures by July 2009 to get back on track.

Apart from the financial crisis and the longevity risk, which costs 3% to 4% of the actual value of a retirement fund for each additional year of life expectancy, nothing much has changed. People are only now recognizing the risks that years of hiding their heads in the sand prevented them from seeing. As Nobel



Prize winner and finance guru Robert C. Merton so aptly explained, the costs of defined benefit plans were systematically underestimated. Each time a plan exceeded the risk-free rate of return, the plan sponsor assumed that a gain on future contributions would be realized. But in fact, the liability assumptions were way below what they should have been.

Since 2000, a change in accounting standards forced companies to adjust their pension plans to fair market value of their investments rather than on an adjusted average.

A second rule that also caused tremendous systemic repercussions was to disclose the financial impact of any actuarial surplus or deficit on the company's balance sheet rather than off the balance sheet. If the $32-billion asset-backed commercial paper (ABCP) crisis caused tremors Canadawide, how will the country be affected by defined benefit plans that currently show a potential deficit of $120 billion with respect to their pension plan liabilities — an amount equal to four years of old age security benefits for every Canadian? This whopping sum makes the deficit seem surreal, which explains why most stakeholders have trouble believing it.

A study conducted last year by Morneau Sobeco measured the average weight of the pension plans of the 100 largest Canadian companies. It illustrates the impact of these plans' increasing volatility on corporate results. The study showed that this average weight represented 50% of shareholders' equity versus 40% in 2004. At Transcontinental, Canada's largest printing company, pension plan liabilities equalled a third of shareholders' equity and market capitalization. At Nortel, they were three times shareholders' equity and the firm's market capitalization. At Imperial Oil, the picture was the opposite: pension liabilities represent 58% of equity and barely 10% of market capitalization.

For US auto giant General Motors, pension fund problems even accelerated the financial crisis. Raymond Gaudet, associate actuary with Morneau Sobeco, explains that pension funds have yielded an average of 10% a year over the long term (10.37% over the past 25 years, 9.02% over the past 45). It is therefore not surprising that panic sets in when yields hover at 0% (as in 2007, 2002, 2001, 1994, 1990, 1981, 1974 and 1973). And yet, no one says a word when they shoot above 15% (as in 1972, 1980, 1982, 1983, 1985, 1989, 1991, 1993, 1995 and 1996).

As random as Russian roulette: no positive outcome

The challenge of retirement plans consists of arriving at a delicate balance between the short and the long term.

In the short run, corporations have to neutralize the considerable volatility effects caused by pension asset variations on their balance sheet and P&L accounts. According to Morneau Sobeco, if IAS 19, an IFRS that will apply in Canada in 2011, had been in effect last year (when pension plan deficits were smaller), Canadian companies would have seen their shareholders' equity decrease by more than $9 billion, or 3% (please see chart on p. 29).

The long-term goal is to ensure pension plan solvency by optimizing the quality and performance of portfolios to meet obligations to participants. Investment returns finance at least 70% of pension funds, while the rest comes from employer/employee contributions. When these investments flounder, contributions have to be increased. But because stocks usually earn more than bonds in the long run, equity investments weighted twice as much (58.2%) as bond and real estate investments at the end of 2007, according to members of the Pension Investment Association of Canada (PIAC). However, since stocks are riskier and much more volatile in the short term, they can harm an organization's financial health.

So what strategy should be adopted at this stage of Pensionopoly? Financial executives will need to consider two key factors: growth (or recession) and stability of prices (or across-the-board hikes).

Pensionopoly proposes four scenarios (see table on page 30):

• The current situation, characterized by low interest rates and economic growth, is difficult to picture in the long term. After such a long bull-market run, many observers anticipate a return to the mean, i.e., smaller, nonexistent or negative returns in the

A study in inefficient markets: Teachers and the CDPQ

As if it could happen with the wave of a magic wand, everyone keeps talking about de-risking pension funds. But just as death and taxes are inevitable, so is risk associated with accumulating capital. This is where the size of a pension plan can make the difference, as it can increase yield by 2% or 3% a year, not only through cost savings but through access to more select asset classes such as private equity and infrastructure. The problem with Canadian pension funds is that most are too small to take advantage of this valuable benefit.

Warren Buffett understands the importance of alternative asset classes. In 1994 his investment fund acquired 24% of the capital of Detroit International Bridge Co., which owns the Ambassador Bridge connecting Windsor, Ont., to Detroit. Then, it was the only privately owned toll bridge in the US. With the acquisition, Buffett sheltered his investors from market fluctuations by locking in a long-term revenue stream.

The Ontario Teachers' Pension Plan, known as Teachers, is a pension plan for the 278,000 public school teachers in Ontario. Teachers, which self-manages approximately 90% of its assets and has a $108-billion portfolio, is the largest independent pension fund in Canada.

For its part, the Caisse de dépôt et placement du Québec is a $155-billion umbrella fund that manages 25 pension plans and special funds, including the Quebec pension plan for public servants, the reserves of the Société de l'assurance automobile du Québec, the Québec Pension Plan and the indemnity fund for travel agency clients and Quebec's consumer protection bureau.

These two giants have chosen to optimize their assets by focusing on increasingly exclusive investments over which they have a near-monopoly. Whereas most large pension plans in Canada have been keeping up to 90% of their assets in very conventional investments (money market, bonds and stocks), such investments make up only 52% and 56% of the assets of Teachers and the CDPQ, respectively.

By favouring niche investments such as real estate, over-the-counter investments, infrastructure (highways, airports, etc.), raw materials such as lumber, and hedge funds, these two giants opted for an inefficient market strategy where the number of players is limited because of size, expertise and access to networks. Contrary to popular belief, the more efficient the market (such as the New York and London exchanges), the fiercer the competition and the smaller the returns. For one investor to make money on the stock market, another has to lose an equivalent amount. This is the zero-sum rule. That is why each investor is determined to obtain access to inefficient markets to optimize returns and lock them in for as long as possible.

That is what teachers did when it took majority control of BCE Inc. By privatizing the telecommunications company for $51.7 billion and withdrawing it from the Toronto Stock Exchange, Teachers, with the help of US private equity investment firms Providence Equity Partners Inc. and Madison Dearborn Partners, LLC, will be able to increase profitability, restructure the company unhindered and relist the company in hopes of doubling or even tripling its investment over a period of five to seven years. In business speak, this is what is called a super-profit, which can bring in an annual 25% to 35% return.

The CDPQ seems to be following the same route by prioritizing infrastructure and public-private partnerships. In July 2006 it acquired almost 29% of British Airport Authority PLC, which operates seven airports in London. Although CDPQ's interest has since decreased, only two other investors were involved: Spanish construction conglomerate Ferrovial and private equity firm GIC. The five- to seven-year deal was worth £1.2 billion ($2.31 billion). Like BCE in Toronto, BAA was delisted from the London Stock Exchange and the acquisition was very highly leveraged, which enabled the three stakeholders to invest a minimal amount and maximize the potential capital gain.

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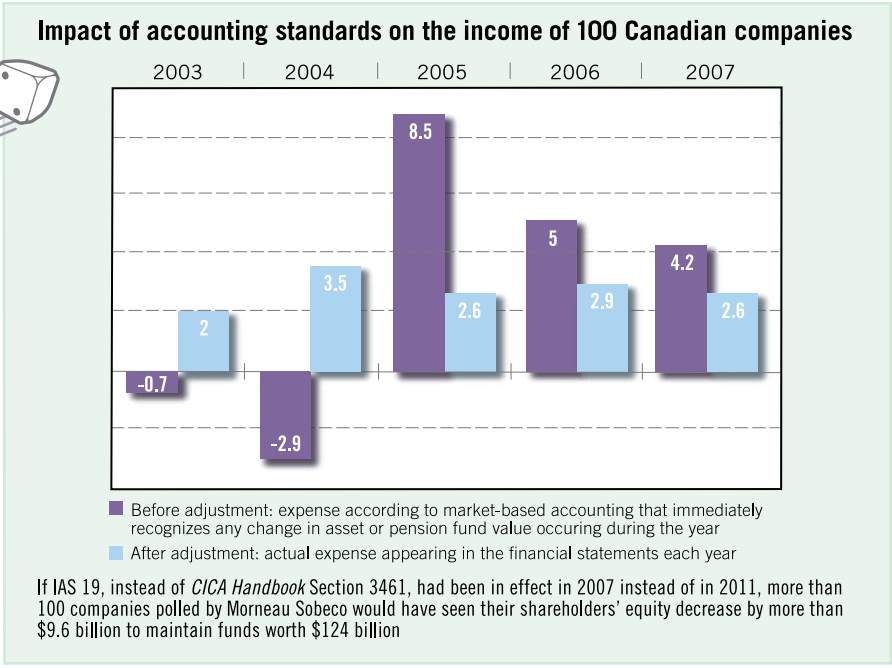
short term. Canadian interest rates are at their lowest since 1958.

• Basic inflation, along with interest rate hikes and slow economic growth, would perhaps be the least dangerous compromise, except for retirees, whose purchasing power would be eroded. Higher interest rates would lower unfunded liabilities, which in itself is good news. However, they would also cause short-term portfolio losses from bonds, which would be bad news.

• Stagflation accompanied by ballooning interest rates would reduce unfunded liabilities — another good news scenario. Yet if the 80-month period of stagflation that occurred in the 1970s is anything to go by, economic inertia and price increases would undermine the health of many businesses over a longer term. The bad news would be an ongoing decline in bond portfolios as interest rates rise, together with poor stock performance.

• A recession, accompanied by a drop in rates, would again increase unfunded pension liabilities because of lower interest rates, producing another bad news scenario. Bond portfolios could see their valuations rise, but would not compensate for poor stock returns. Although recessions may be short-lived (11 months versus 72 months for periods of economic growth), during this



time bankruptcies increase and many pension funds could lose their main guarantor, as has been the case in the manufacturing industry since 2000.

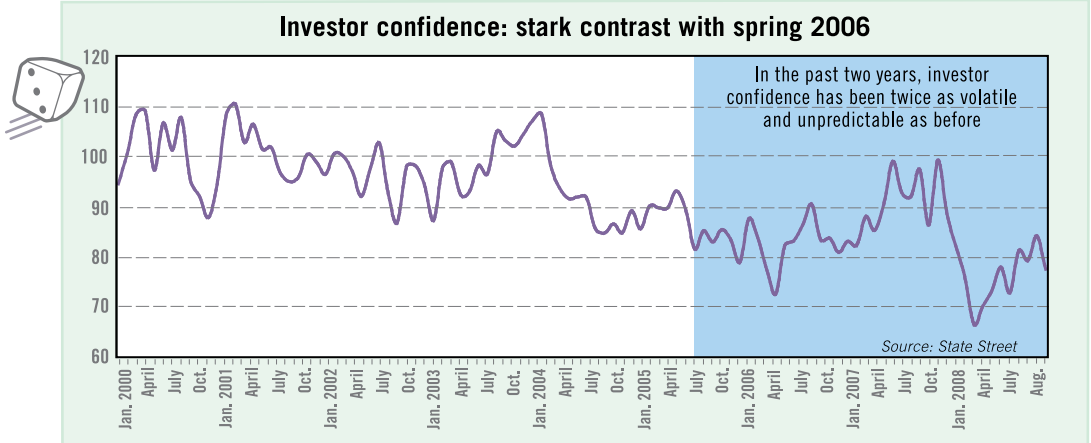
Four Pensionopoly solutions

Could winning scenarios be combined? Pension plan managers are better prepared than they were in 2000 and have four solutions to choose from. Two are designed to increase assets, two are intended to reduce or even transfer all liabilities (see table on p. 32).

The first solution would improve the position of a pension fund and optimize its portfolio performance through the adoption of better practices or access to privileged markets. About 50 pension funds have chosen this scenario, joining forces in a program called FidRisk (fiduciary risk). Its objective is to improve the performance of portfolio managers by reducing what could be called performance leaks. According to this program, any value a manager claims to be able to add in excess of market indexes, called alpha in financial lingo, is unpredictable, since past does not guarantee future performance. What's more, there seems to be no correlation between a manager's talents and a portfolio's returns. Four out of five managers' investments generally underperform the market. This poor performance is more the result of inadequate practices than of a lack of talent or resources. According to a KPMG study, the credit crisis proves that managers are ill-equipped to work with increasingly complex instruments. In short, FidRisk tools help to control cost (risk and cash expenses) for lack of controlling future revenue.

Reynald Harpin, former head of pension plan asset management at Rio Tinto Alcan and spokesperson for the College of Investors in charge of monitoring the FidRisk program, believes that if all fiduciary practices were diligently implemented, more managers would achieve market-level results.

The second solution, liability-driven investing, the financial equivalent of a surgical operation, is designed to align asset man-



Four Pensionopoly scenarios

Scenario		Asset	Liability		Notes
			Solvency	Capitalization	
Status quo	Low inflation and returns (2% a year)	Decrease	Increase	Increase	Appears less and less likely, but is the best scenario
Inflation	Interest rate hikes and low returns (2% per year)	Decrease	Decrease	Stable	Transitional phase before stagflation. Avoiding stagflation would be a good compromise, except for retirees
Stagflation	Ballooning inflation and nonexistent or negative returns	Decrease	Decrease	Stable	Appears more likely. Would be long and painful as in the '70s
Recession	Low inflation and nonexistent or negative returns	Decrease	Decrease	Decrease	Scenario that would cause the most pain but for a shorter length of time

by increasing investments that are sheltered against inflation).

On another front, this year Merrill Lynch expects US pension funds to jettison more than US$30 billion in stocks for matching purposes in order to focus on bonds and niche investments. This strategy reduces portfolio risk, which is compensated through the use of derivatives to beat market indexes and create an added value (called alpha). Assets are stabilized in hopes of greater long-term gains. Henry M. Kat, who teaches risk management at the Cass Business School in London, described this method rather crudely by comparing alpha to teen sex: "Everyone seems to be getting in on the action except you." The danger of this strategy is it could compromise overall pension fund performance and encourage employees to blame the trustees, which is what happened in England.

agement with future pension liabilities. As Richard Neault, vice-president of pension fund management at Bombardier, points out, this approach is popular in England and will be increasingly favoured in Canada. In the past few years, Bombardier has introduced measures to reduce asset/liability risks (for example, by reducing interest rate and foreign currency risks and

The third solution consists of converting a defined benefit plan to a defined contribution plan or of closing the defined benefit plan to new participants and inviting them to join a new defined contribution plan. This trend is on rise in Ontario, according to PIAC. Defined benefit plans promise a retirement income based on average end-of-career income. However, because of market fluc-

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Clockwise from top left: **Joan**, Assistant Deputy Minister, **Michelle**, Financial Systems Officer, **Kanwal**, Controller, **Osami**, Financial Analyst, **Rob**, Sr. Manager

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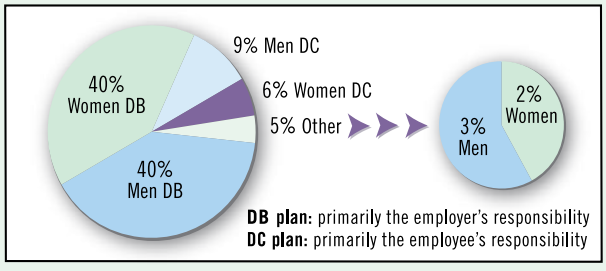
Four Pensionopoly solutions

Assets		Liabilities	
Maximize assets	**Stabilize assets**	**Cancel commitment**	**Transfer the risk**
Increase yield through better practices or more exclusive and less competitive markets	Adjust assets according to current and long-term liabilities by neutralizing an entire series of risks	Limit or cancel the final commitment by dividing the plan into DB and DC or by converting the DB plan into a DC plan	Transfer all or part (buyback) of the pension liabilities to a third party, either a financial institution or an insurance company
Greater control over risks		**Elimination of risks**	
The plan is a plus for the company and staff. Advantages include retaining the best and brightest while better controlling risks		The plan represents too great a risk for the company, and it is more important to ensure the survival of the company than to increase future employer liabilities	

tuations, no one knows exactly how much these plans will cost. This means employers bear the full fiduciary market risk while employees have to worry about credit risk in case the employer goes bankrupt and defaults on its commitments. In a defined contribution plan, participants — employees and employers — commit to making fixed contributions without knowing what the payout at retirement will be. The entire fiduciary risk is shouldered by employees, who have no guarantee their employer will remain in good financial health and continue its contribution.

Overview of pension plans in Canada



- 80% are defined benefit (DB) plans, the third largest proportion in the world after Japan and the Netherlands
- For the first time, more women are enrolled in DB plans than men (except in Quebec, Alberta and NB), because of their large presence in the public sector, which is dominated by DB plans
- The largest increase in 2006 comes from female participants and the provinces of Alberta and BC, which have more than two-thirds of new participants

Source: StatCan - June 2008

The fourth solution is the good riddance solution. It consists of purchasing annuities from an insurer or selling the liabilities outright to a bank or insurance company that believes it can manage the funds better and pay itself from the till. The latter technique, called a buyout, is especially popular in England, where deals of more than $20 billion are expected to go through this year. But regulatory agencies view this solution with a wary eye as they fear it will be abused by predators. According to reinsurance giant SwissRe, pension fund liabilities in Europe and North America offer buyout potential of $4 trillion. Canadian pension plans will need to wait several years before they can take advantage of this option, as current regulations make such buyouts very difficult. This summer, the US Treasury and IRS made it illegal to transfer a pension fund from one company to another unless a substantial part of the company, in the form of assets, operations or employees, was also being transferred. The news was a blow, but according to Greg Fenton and Étienne Dubé of the National Bank, this trend is irreversible and virtual short-term solutions are available. "It's not all or nothing," they say. "We already offer a whole series of tools, and it's possible to buy back parts of pension plans or to maintain the current structure while releasing the employer from as much liability as possible."

Despite the corporate headaches defined benefit plans can cause, defined contribution plans remain the main source of anxiety for pension fund specialists. Even though in 2005, 9.4 million out of 13.3 million (71%) Canadian households had an RRSP, a registered retirement income fund, or a complementary pension plan (a pension fund) or all three, according to the Canadian Institute of Actuaries, less than half these households are guaranteed to have an adequate retirement income 21 years down the line. And this is a conservative estimate, as the institute's figures do not include households with annual incomes less than $40,000. According to the institute, only a third of Canadian households save enough to be able to meet their basic needs by 2030.

Canadian pension fund governance guru Keith Ambachtsheer believes that at least 3.5 million Canadian adults are heading for disaster and will end up with a shortfall in retirement income. The number of people left high and dry could increase dramatically by 2010. That's why he suggests establishing an additional Canada (or Quebec) pension plan that would mobilize all workers to stop up the gaps while there is still time, an initiative supported by Canada's largest economic research organization, the CD Howe Institute.

Robert Pouliot is managing partner of Rating Capital Partners SA and coordinator of FidRisk. He also teaches fiduciary risk at the Université du Québec à Montréal (UQÀM) Business School