

Innovating for a Sustainable Retirement System

A Social Contract to Strengthen the Financial Security of All Québec Workers



The Committee's report contains a number of technical terms specific to the topic under discussion.

When such a term is used for the first time, it is underlined, indicating that the reader can refer to the glossary of terms that begins on page 211.

Report—Innovating for a Sustainable Retirement System

Expert Committee on the Future of the Québec Retirement System

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TRANSMITTAL LETTER FROM THE CHAIR OF THE EXPERT COMMITTEE

Québec, April 2013

Ms. Agnès Maltais,
Minister of Employment and Social Solidarity

Madam:

It is with pride that I submit to you, on behalf of the members of the Committee that I chair, a unanimous report on the future of the Québec retirement system.

Initially the government gave the Expert Committee on the Future of the Québec Retirement System a mandate to study supplemental pension plans, in particular defined benefit plans, which are part of the “third floor” of our retirement system structure and fall under the supervision of the Régie des rentes du Québec.

The mandate changed over time. At the request of the stakeholders and then the government, it became obvious in February 2012 that the Committee’s endeavour should be integrated into a broader examination of financial security and its embodiment in the retirement system. The broadened mandate that we received required the study of the Québec retirement system with a view to improving it so as to make it viable and more robust, by taking into consideration the new economic and demographic realities.

Although we have a good retirement system, it has problems and is facing challenges that prevent Québec workers from looking forward to retirement with confidence. We propose renewing the Québec retirement system and making it sustainable. To that end, we had no other choice but to reconsider the raison d’être of a retirement system and to review the basis of a social contract intended to enhance retirement financial security at the right price in the strictest sense of the term, that is, to ensure a sufficient and realistic retirement income for the greatest number when the time for retirement arrives.

To meet its challenge, the Committee chose to buck current trends. For the Committee, the sustainability and viability of defined benefit pension plans must be ensured. At the same time, the greatest possible number of workers must be able to take advantage of defined benefit plans. Innovations for this purpose should be made without hesitation. In addition, workers must be assisted in their efforts to save more for retirement. In this regard, pension plans other than defined benefit plans have an essential role to play.

This report is the outcome of many hours of reflection and research to which all the members of the Committee contributed generously and on a volunteer basis.

I wish to thank them for focusing their expertise on the mandate that we were given.

I am also grateful to the team at the Régie des rentes du Québec and its president as well as the team at the Ministère du Conseil exécutif, who spared no effort to take up the challenge of a mandate with such high expectations.

Very truly yours,

Alban D'Amours

Chair of the Expert Committee on the Future of the Québec Retirement System

SIGNATURES OF THE COMMITTEE'S MEMBERS

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MESSAGE FROM THE COMMITTEE: INNOVATING AND LAYING THE FOUNDATIONS FOR RENEWING THE RETIREMENT SYSTEM

Initially the government gave the Expert Committee on the Future of the Québec Retirement System a mandate to study supplemental pension plans, in particular defined benefit plans, which are part of the “third floor” of our retirement system structure and fall under the supervision of the Régie des rentes du Québec.

At first, the mandate covered plans whose employers are in the public sector—mainly municipal and university pension plans, but excluded plans not under the supervision of the Régie des rentes du Québec, that is, plans whose employer is the government (plans under the supervision of the Commission administrative des régimes de retraite et d’assurances—CARRA).

❑ A mandate that changed over time

At the request of stakeholders and then the government, it became obvious that the Committee’s work should be integrated into a broader examination of financial security and its embodiment in the retirement system.

The Expert Committee on the Future of the Québec Retirement System presents its analysis and conclusions in seven points.

1. The public plans provide very good protection for beneficiaries whose incomes are low, but the protection drops rapidly as income increases.

Compared with other developed countries, the Québec public system provides **better retirement financial security** for individuals whose **incomes are low**.

In Québec, the gross replacement rate for public retirement plans is 81.6% for an income equal to half the average income, compared with 56.1% in the G7 countries and 57.2% in the OECD countries.¹ The Québec and Canadian systems are recognized around the world for their capacity to ensure income replacement after retirement for individuals with the lowest incomes.

¹ Gross replacement rate for public pension plans at age 65, in 2008. These data are the most recent available. Sources: OECD, *Pensions at a Glance 2011: Retirement-Income Systems in OECD and G20 Countries, 2011*; Régie des rentes du Québec, *Évaluation du système québécois de sécurité financière à la retraite par rapport à celui d’autres pays industrialisés – 2011* (Evaluation of the Québec System of Financial Security at Retirement in Relation to that of Other Industrialized Countries – 2011).

However, the situation changes rapidly as income increases.

- For average incomes, the public plans do not provide sufficient retirement security for workers.
- Within 40 years, the role of the basic federal plan in retirement income replacement will decline progressively as a result of the indexation methods used for the Old Age Security pension and the Guaranteed Income Supplement.

2. For average and above-average incomes, savings are often insufficient to ensure retirement financial security.

There is no consensus on the retirement income replacement rate required to ensure retirement financial security. For the Committee, a replacement rate between 50% and 70% was considered acceptable. In its work, the Committee used a rate of 60% for illustrative purposes.

Above low income levels, that is, for workers whose incomes are average or above-average, the protection provided by the public plans must be supplemented by supplemental pension plans or personal savings—or both—for them to reach the desired objectives with respect to financial security. In that regard, all workers are not adequately protected.

- Most Québec workers do not have a supplemental pension plan, or they have a plan that provides weak retirement financial security. Almost 1.9 million workers (47%) do not participate in any type of group plan (defined benefit, defined contribution, group registered retirement savings plan, etc.).

Overall, 61% of Québec workers (2.4 million) have neither a defined benefit plan nor a defined contribution plan.

The plans that provide the best financial security, that is, defined benefit plans, cover only 35% of workers, of whom almost two thirds work in the public sector.

- A growing number of workers—younger workers in particular—do not have a plan ensuring real financial security because of the replacement of defined benefit plans with defined contribution plans and personal savings.

The latter plans are, of course, ways to save for retirement. However, they provide lower net returns and do not have a specific benefit commitment. Defined benefit plans provide better protection and at a lower cost.

For average and above-average incomes, various studies confirm that savings are often insufficient to ensure retirement financial security.

- The various studies carried out do not come to identical conclusions as to the exact number of households that do not have sufficient savings to ensure retirement financial security, but one can generally estimate that between a fourth and a third of households are in that situation.
- According to a report published by the Régie des rentes du Québec in 2010,² 33% of Québec households are not putting aside enough money to reach an income replacement rate of 60%, if retirement is taken at age 65. The rate is 45% for a family with an income between \$38,000 and \$67,000 and 49% for a family with an income between \$67,000 and \$92,000.
- Other studies corroborate to varying degrees the findings of the Régie des rentes du Québec: in Québec, as in Canada as a whole, a large fraction of workers are not saving enough to ensure to an adequate replacement rate for their pre-retirement income.

Demographic pressures are increasing the need to save more for retirement. Life expectancy is steadily increasing. At the same time, the working life has become shorter; workers enter the labour force at a later age and retire earlier.

Workers are working fewer years to prepare financially for a longer retirement. In Québec, between 1970 and 2009, working life as a proportion of total life has decreased from around 60% to 45%.

The uncertainty surrounding future changes in life expectancy is also a growing factor in the need to save for retirement. It is a question of covering what is called the “longevity risk”, that is, the risk of living longer than the period covered by retirement savings or, in other words, outliving one’s savings.

3. Defined benefit plans, which provide the best financial security, are under significant pressure.

As in most developed countries, defined benefit plans in Québec have not been able to incorporate a suitable, future-oriented, vision to ensure their sustainability. Flaws resulting from structural weaknesses have made the system fragile.

Demographic changes, lower interest rates and weak financial market performance have brought these flaws into sharp focus. Disappointing financial market results and the drop in interest rates have led to a net decline in expected pension fund returns and personal savings. Underestimation of the impact of increased life expectancy and population aging have substantially increased the funding costs of plans to providing committed retirement income, which include defined benefit plans. In Québec, the impact of demographic changes has been amplified by the behaviour of workers, who are retiring earlier than workers elsewhere.

² Régie des rentes du Québec, *Constats et enjeux concernant le système de rente du Québec* (Facts and Issues Concerning the Québec Retirement System), 2010, p. 35.

Worrisome cracks are appearing in Quebecers' retirement financial security system. Our system has gradually become an illusion of financial security because its real costs have not been taken into account. For defined benefit plans, we have too often strayed from the goal of financial security and replaced it with the notion of maximizing returns.

The rapid deterioration in the solvency ratio of defined benefit plans in recent years is illustrative of this.

- In 2007, 12% of defined benefit plans had a solvency ratio that was under 80%, which means that the assets of these plans covered less than 80% of their commitments at the time of the valuation.
- In 2008, the ratio rose sharply to 75% due to the financial crisis and its impact on the value of the investments made by pension funds. After dropping in 2009 and 2010, the ratio rose again in 2011. According to projections, 72% of defined benefit plans had a solvency ratio that was under 80%.
- Had the plans all been terminated as at December 31, 2011, the benefits of fewer than 20,000 members would have been fully funded (100%) on a solvency basis, whereas the benefits of over one million members would have been funded at less than 80%. The benefits would have been at risk in the event of the employer's bankruptcy or insolvency.

4. The objectives, principles and values identified by the Committee.

We must come back to the *raison d'être* of a retirement system.

- A retirement system must provide financial security in the strictest sense: it must ensure **sufficient** and **realistic** retirement income for the greatest number of retirees when the time to retire comes.
- The retirement system must be designed and funded so that it **endures**. The guarantee of sufficient and realistic retirement income must be provided in conjunction with pension plans whose sustainability is ensured. Sustainability cannot be dissociated from the security the system is meant to provide.

Financial security means ensuring:

- **Sufficient** income to maintain an adequate standard of living after retiring;
- A **realistic** retirement income linked to our capacity to ensure its funding based on sound and prudent management.

It is the Committee's view that a return to the very foundations of the retirement system is required. In that way, we can sidestep the current paradigms dominated by the quest for investment returns and refocus our efforts on the real question—how best ensure retirement financial security for the greatest number of people.

❑ **Values and principles**

With respect to a return to the real objectives of pension plans, the Committee has identified three **values** and four **principles** that must be universally agreed upon.

■ **Intergenerational equity**

The Committee has placed intergenerational equity, which affects us all, in the forefront of these values. The retirement system must be designed so that it takes into consideration:

- The retirees whose former employers (public or private) are in financial difficulty;
- The workers who are actively contributing to the system;
- The young workers entering the workforce, on the assumption that they will work for several decades.

■ **Transparency and accountability**

In analyzing the current situation and drafting its recommendations, the Committee identified two additional values: transparency and accountability.

■ **Four principles**

The Committee has identified four principles, based on consensus, which correspond to the Committee's own convictions:

- The actual cost of funding retirement income must be respected;
- The diversification of retirement income sources must be maintained;
- The legal framework must provide leeway;
- Risk pooling must be promoted.

❑ **Swimming against the current**

In the Committee's opinion, returning to the true purposes of pension plans involves bucking current trends:

- The sustainability and viability of defined benefit pension plans must be ensured;
- At the same time, the greatest number of workers should participate in defined benefit plans. Innovations for this purpose should be made without hesitation;
- Workers must be assisted in their efforts to save more for retirement. In this regard, pension plans other than defined benefit plans have an essential role to play.

5. The Committee proposes a core innovation: the longevity pension.

The Committee has made **three series of recommendations**.

The first series of recommendations

First of all, the Committee has proposed a core innovation that would **provide all Québec workers with a longevity pension that would be fully funded and defined so as to bring it into line with its true costs**.

The proposal means that the Québec retirement system would have a new component, situated on the second floor of the system's structure, next to the Québec Pension Plan. As of age 75, all workers would enjoy the benefits of a defined benefit pension. It would allow all to better manage the longevity risk by concentrating the need to use personal savings over a period from retirement to age 75.

The longevity pension has two main objectives:

- **Pool the longevity risk** for the benefit of all Québec workers;
- **Make it easier for all Québec workers to plan personal savings in preparation for retirement**, knowing that the longevity risk would be at least partially assumed as of age 75.

Like the Québec Pension Plan, the longevity pension would be administered by the Régie des rentes du Québec, and its assets would be managed by the Caisse de dépôt et placement du Québec. Its funding would be based on contributions from employers and workers.

- According to valuations made by the Régie des rentes du Québec, the plan's cost is estimated to be 3.3% of earnings up to the maximum pensionable earnings, shared equally by employers (1.65%) and workers (1.65%).
- The additional cost for employers and workers, compared with their current contributions, would depend on the type of plan in which they participate.

Defined benefit pension plans could be coordinated with the longevity pension, up to the maximum pensionable earnings. In many cases, the additional cost would be limited or non-existent. For other plans, there could be a transfer of savings to the longevity pension.

The longevity pension would cover all workers, regardless of income levels. Workers with the lowest incomes would not be excluded from the longevity pension even though they already have a good protection under the public plans. Excluding them would suppose that they would always remain in the same income category.

Unlike the Québec Pension Plan, the longevity pension would be fully funded so as to ensure intergenerational equity. From its implementation, benefits under the longevity pension would accrue gradually.

The longevity pension is defined for future years. It would be of most benefit to those who contribute to it for a long time, that is, for workers who begin contributing at a young age.

■ **Changes to the Québec Pension Plan**

The Committee recommends that certain changes be made to the **Québec Pension Plan**. In this regard, the Committee supports the government's decision to modify the adjustment factor to encourage individuals to postpone the age of retirement. The Committee's recommendations concerning the Québec Pension Plan are aimed at:

- Ending the unintentional effects of the rule applicable to employment income earned after age 60;
- Fully funding any future improvements, like the longevity pension proposed by the Committee.

The Committee makes **no specific recommendation regarding the age of retirement** and proposes no coercive measures to that effect. Workers must remain free to choose the age at which they retire, provided they accept the consequences of their choice.

6. To protect the basic commitments of defined benefit plans, the Committee recommends ensuring that funding more closely reflects actual costs, as well as giving plans more leeway to improve plan governance and enabling them to restructure.

Secondly, the Committee has proposed a series of measures aimed at **protecting the basic commitments of defined benefit plans**.

□ **Staying the course**

The Committee believes the current situation is no reason to give up. Defined benefit plans provide the type of financial security that should be aimed for, since only they make a specific commitment, along with the basic federal Old Age Security program and the compulsory Québec Pension Plan for all workers. No other supplemental pension plans or personal savings vehicles can provide members with the same level of financial security, mainly because they make no specific commitments, deliver poor returns and do not pool risks.

Steps should therefore be taken to determine how best to ensure the sustainability and viability of defined benefit plans.

The Committee makes three recommendations.

Ensure funding more closely reflects actual costs

To ensure funding more closely reflects **actual costs**, the Committee recommends using a single valuation method—an “enhanced funding” method—for all pension plans under the supervision of the Régie des rentes du Québec.

This method would be more stringent than the current funding method, the only method required for all plans for which the employer is a public body (mainly municipalities and universities).

The enhanced funding method would relax the criteria used for most other plans under the supervision of the Régie des rentes Québec, specifically plans where the employer is in the private sector, currently subject to the solvency rules.

Provide more leeway to enhance plan governance and management

Further to comments by stakeholders, the Committee recommends a series of measures to **enhance plan governance and management**, with the specific goal of giving partners **more leeway** to share costs as well as address the problem of asymmetry between risk taking and the advantages of risk taking.

Eliminate plan deficiencies

To **eliminate plan deficiencies**, the Committee recommends that parties to a pension plan be able to restructure plans over a 5-year period.

The exact restructuring mechanisms would be negotiated by all parties and would allow to **reformulate the concept of vested rights**. Some benefits could be re-evaluated during negotiations depending on the employers’ and the employees’ financial means.

However, the basic commitment of defined benefit plans—namely, a pension determined as a percentage of salary and according to the number of years worked—would be preserved. In addition, pensions in payment would in no way be reduced.

If no agreement is reached within three years, the employer could, in the last two years of the 5-year period, make unilateral amendments to plan indexation, subject to certain specific conditions. One such condition would oblige the employer to make a payment that would reduce the deficiency in the same proportion to the impact of any indexation changes.

7. The Committee recommends helping workers save more for retirement and making the system more effective.

Thirdly, the Committee has made recommendations in order to **support workers in their efforts to save more for retirement and to make the retirement system more effective.**

The Committee found that the implementation of the longevity pension and the efforts that have gone towards ensuring the sustainability of defined benefit plans will not suffice to increase savings to the desired level. Under the renewed retirement system proposed by the Committee, supplemental pension plans other than defined benefit plans have a key role to play: provide a predictable way for workers to meet their savings needs from the time they leave the labour force to the time payment of the longevity pension begins.

□ Two recommendations

There are a number of ways to improve saving for retirement. The Committee makes two recommendations for supplemental plans other than defined benefit plans:

- Speedy implementation of voluntary retirement savings plans, with a few adjustments;
- Loosening of the legislative framework so as to make the withdrawal of retirement savings more flexible.

In the Committee's view, the government should improve current voluntary retirement savings plans by exempting employers that offer a group tax-free savings account (TFSA) from the requirement to offer a voluntary retirement savings plan.

After age 60, individuals should be allowed to withdraw more rapidly the locked-in savings held in a locked-in retirement account or a life income fund.

An exciting and ambitious project

The new system proposed by the Committee would, over time, bolster the financial security of all workers.

For many workers, it would provide access to an improved retirement plan. It would take into account the fact that all employers do not have the financial means to offer a defined benefit plan. It would give defined benefit plans options for ensuring their sustainability. It would promise future retirees a pension that is financially sustainable by members and employers, that is, one whose funding is closer to actual costs. It would strengthen other supplemental pension plans that numerous workers and employers rely on.

With its recommendations, the Committee has laid the groundwork for an exciting and ambitious project involving the government and all Québec workers: renewing the Québec retirement system and ensuring its sustainability in order to establish what could be called an “intelligent retirement system.” Because of its very nature, this project should be part of a true **social contract** whose universal goal would be to strengthen the financial security of all Québec workers.

The Expert Committee on the Future of the Québec Retirement System

INTRODUCTION

This report is the result of work undertaken by the Expert Committee on the Future of the Québec Retirement System, at the request of the Gouvernement du Québec.

□ Terms of reference

The mandate given to the Expert Committee on the Future of the Québec Retirement System is part of an in-depth review of the retirement system undertaken by the Gouvernement du Québec.³

The Committee's terms of reference changed over time. Initially, the Gouvernement du Québec gave the Committee a mandate to study supplemental pension plans, in particular defined benefit plans, which are part of the "third floor" of our retirement system structure and fall under the supervision of the Régie des rentes du Québec.⁴

From the beginning, the mandate covered plans supervised by the Régie des rentes du Québec whose employers are in the public sector—mainly municipal and university pension plans. However, the mandate excluded public plans that are not under the supervision of the Régie des rentes du Québec, that is, plans whose employer is the government (plans under the supervision of the Commission administrative des régimes de retraite et d'assurances—CARRA).

■ A global vision

As time went by, it became obvious that the Committee's work should be integrated into a broader examination of financial security and its embodiment in the retirement system. This broadening of the Committee's terms of references was requested by the stakeholders who met with the Committee and was supported by the government.

The Committee's enlarged mandate was to study:

“...the Québec retirement system with a view to improving it so that it will be sustainable and effective, taking into consideration the new economic and demographic realities.

More specifically, the Committee:

- Will analyze the penetration of supplemental pension plans and their impact on retirees' financial situations;

³ See the press release issued on February 13, 2012, by the Minister of Employment and Social Solidarity. The Committee was set up by the Régie des rentes du Québec, at the Minister's behest.

⁴ The Committee's mandate covered plans governed by the *Supplemental Pension Plans Act*. See below, page 28. These plans are on the "third floor" of our retirement system structure, above the basic federal plan (Old Age Security pension, Guaranteed Income Supplement and the Allowance) and the Québec Pension Plan. The third floor also includes personal savings (including registered retirement savings plans and tax-free savings accounts).

- Determine the main components of current problems with a view to revising the parameters of the retirement system;
- Pay particular attention to the situation in Canada and elsewhere in the world so as to find viable solutions for Québec, in a context of openness to international realities.”⁵

■ **A specific focus and a 40-year horizon**

The Committee’s members decided to focus their work on the third floor of the retirement system, that is, the private components, including supplemental pension plans (both defined benefit and defined contribution plans) and personal savings (particularly registered retirement savings plans and tax-free savings accounts).

The Committee chose a 40-year horizon for its work in order to take into account the changes in Quebecers’ retirement financial security over a long period.

□ **The Committees’ members**

The Committee was chaired by Mr. Alban D’Amours, economist and President and CEO of the Desjardins Group (2000-2008).

The other members of the Committee were:

- Mr. René Beaudry, actuary and Partner, Normandin Beaudry;
- Mr. Luc Godbout, tax specialist, Université de Sherbrooke;
- Mr. Claude Lamoureux, actuary, President, Ontario Teachers’ Pension Plan (1990-2007);
- Mr. Maurice Marchon, economist, HEC Montréal;
- Mr. Bernard Morency, actuary, Executive Vice-President, Caisse de dépôt et placement du Québec;
- Mr. Martin Rochette, lawyer, Senior Partner, Norton Rose.

The Committee’s members carried out, on a voluntary basis, the mandate given to them.

⁵ Press release, Gouvernement du Québec, Office of the Minister of Employment and Social Solidarity and Minister responsible for the Mauricie region, February 13, 2012.

The Committee's work was supported throughout by:

- A team from the Régie des rentes du Québec, made up of Ms. Sonia Potvin, Ms. Carole D'Amours, Mr. Georges Langis, Ms. Julie Lavoie, Mr. Philippe Guèvremont, Mr. Thomas Landry and Mr. Étienne Poulin;
- A team from the Ministère du Conseil exécutif, made up of Mr. Jean-Pierre Pellegrin, Mr. Alexandre Simard, Ms. Claude Bertrand and Ms. Anne-Marie Dubocage.⁶

□ The approach taken

The Committee examined the pressures that the Québec retirement system is under—pressures that are affecting retirement systems in all the developed countries. The Committee then concentrated its study on one of the pillars of the system: defined benefit plans.

By definition, those plans fully ensure the financial security of plan members. Such plans are particularly affected by various pressures. The doubts raised about them concern the whole of Québec society. The Committee sought to clarify their future status and role in our retirement system, as well as ways to ensure that role can still be carried out.

The Committee took into account what is happening in the rest of Canada and elsewhere in the world so that viable solutions for Québec would be appropriate in the context of a Québec that is open to the world.

In carrying out its mandate, the Committee met with representatives of social partners directly affected by the Committee's work, that is, unions, employer associations and groups representing retirees. The Committee also had exchanges with several specialists, whose contributions enriched the Committee's work.

□ Outline of the report

When the Committee had completed its work, it submitted this report, which covers the Committee's studies and resulting recommendations. The report has four parts:

- In **Part I**, the Committee summarizes the main characteristics of the **Québec retirement system**;
- In **Part II**, it points out the **flaws** and **pressures** that are currently weakening the system;
- In **Part III**, it identifies the **objectives** on which everyone should agree, the **values** to be considered and the **principles** to be upheld;
- In **Part IV**, the Committee describes the **new system** that it is proposing and makes various **recommendations** that would make its implementation possible.

⁶ See Appendix 1, page 193.

Meetings held by the Expert Committee on the Future of the Québec Retirement System

The Committee received a total of 37 briefs.

The Committee received briefs from and met with the representatives of 22 groups and organizations directly concerned by its study of the Québec retirement system:

- Association of Canadian Pension Management (ACPM)
- Bombardier
- Canadian Federation of Independent Business (CFIB)
- Canadian Institute of Actuaries (CIA)
- Canadian Life and Health Insurance Association (CLHIA)
- Centrale des syndicats démocratiques (CSD)
- Confédération des syndicats nationaux (CSN)
- Conférence des recteurs et des principaux des universités du Québec (CREPUQ)
- Desjardins Group
- FADOQ (formerly Fédération de l'Âge d'Or du Québec)
- Fédération des chambres de commerce du Québec (FCCQ)
- Fédération des femmes du Québec (FFQ)
- Fédération des travailleurs et travailleuses du Québec (FTQ)
- Force jeunesse
- Gesca
- Hydro-Québec
- McKinsey & Company
- Quebec Employers' Council (CPQ)
- Québec solidaire (Mr. Amir Khadir) (at the request of the National Assembly of Québec)
- Union of Quebec Municipalities (UMQ)
- Ville de Montréal
- Ville de Québec

The Committee received 12 other briefs from groups and organizations:

- Association du personnel administratif professionnel de l'Université Laval (APAPUL)
- Association québécoise des retraité(e)s des secteurs public et parapublic (AQRP)
- Bakery and Confectionery Union and Industry Canadian Pension Fund (participating employers)
- Canadian Federation of Pensioners (CFP) and Bell Pensioners' Group (BPG)
- Commission de la construction du Québec (CCQ)
- Fédération québécoise des municipalités (FQM)
- Graphic Communications Pension Plan of Canada and Graphic Communications Supplemental and Disability Fund of Canada (participating employers)
- Pension committee of the Community and Women's Groups Member Funded Pension Plan (RRFS—GCF)
- Pension Investment Association of Canada (PIAC)
- RBC Royal Bank
- Régime de retraite des chargés de cours de l'Université du Québec (RRCCUQ)
- United Food and Commercial Workers International Union (UFCW) (section 1991P)

The Committee also received three briefs from individuals.

PART I: THE THREE “FLOORS” OF THE QUÉBEC RETIREMENT SYSTEM

In Part I of the report, the Committee summarizes the main characteristics of the Québec retirement system.

These characteristics are presented by looking successively at each of the three “floors” of the system:

- **Old Age Security, the basic plan for which most people are eligible;**
- **Québec Pension Plan, a compulsory plan for all workers;**
- **Private initiatives to fund retirement.**

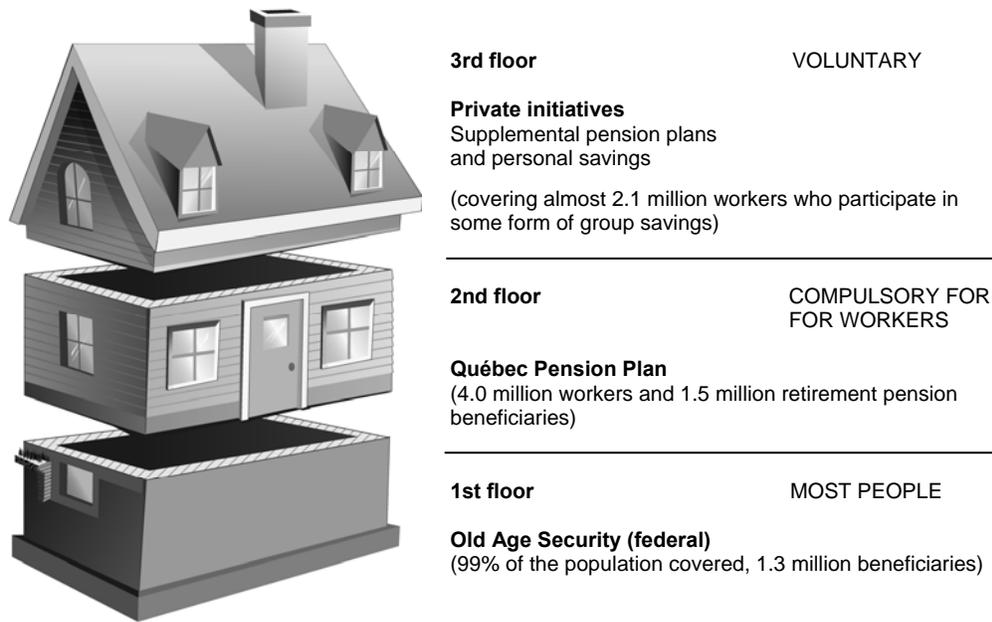
The Committee completes its review of the Québec retirement system by providing an **overall view of the efforts deployed for funding retirement.**

❑ **A structure with three floors**

The Québec retirement financial security system can be likened to a building with three floors or levels.

CHART 1

Components of the Québec retirement system



Note: In addition to supplemental pension plans and personal savings, private initiatives include several types of retirement pension vehicles, such as group RRSPs and deferred profit sharing plans (DPSPs).

Source: Régie des rentes du Québec (most recent available data).

- The first floor is **Old Age Security, the basic plan**. Set up by the federal government, it provides a monthly benefit for which **most people will qualify**.⁷ It includes the Old Age Security pension, the Guaranteed Income Supplement and the Allowance.
- The second floor is the **Québec Pension Plan, a compulsory plan for all workers** and under the authority of the Gouvernement du Québec.
- The third floor represents **private initiatives undertaken to fund retirement**. Such initiatives include supplemental pension plans set up by employers in the public and private

⁷ To be entitled to an Old Age Security pension, a person who lives in Canada must be age 65 or over and be a Canadian citizen, or be authorized to reside in Canada, and must have lived in Canada for at least 10 years after his or her 18th birthday. A person living outside Canada can qualify for an Old Age Security pension if he or she is age 65 or over, has left Canada and was a Canadian citizen or authorized to reside in Canada on the eve of his or her departure, and lived in Canada for at least 20 years after his or her 18th birthday. A person may also be eligible under a social security agreement between Canada and another country.

sectors and personal savings, including savings instruments like registered retirement savings plans.

1. OLD AGE SECURITY—A BASIC PLAN COVERING MOST PEOPLE

Quebeckers, like all other Canadians, have a basic retirement plan: the Old Age Security program. That plan covers most people and is managed by the federal government. It includes the Old Age Security pension, the Guaranteed Income Supplement and the Allowance. The plan is funded by the federal government and its commitment is defined in the *Old Age Security Act* by the federal government, which can change the protection offered at any time.

The plan was set up by the federal government, which funds it from tax revenues. No contributions are paid. It is funded each year from current revenues. This pay-as-you-go funding method does not take into account the plan's long-term commitments. Each year, benefits are funded from the federal government's Consolidated Revenue Fund. No reserve is accumulated, which means that no sums are put aside to ensure the plan's funding.

Benefits are paid to meet the federal government's commitments. They are adjusted based on the Consumer Price Index. Thus the "promise" arising from the three Old Age Security components is to pay a specifically defined benefit.

Old Age Security components Old Age Security pension, Guaranteed Income Supplement, Spouse's Allowance
<p>The Old Age Security pension is paid each month to people who are at least 65 years old.⁸</p> <ul style="list-style-type: none">– The annual amount is \$6,553.⁹– It is taxable.– The amount is reduced where net income exceeds a given threshold (\$70,954 in 2013).– The Old Age Security pension falls to zero where income reaches a certain amount (\$114,640 in 2013).– In Québec, in December 2012, 1.3 million people were receiving an Old Age Security pension. <p>The Guaranteed Income Supplement is an additional sum paid from age 65¹⁰ to low-income individuals or households.</p> <ul style="list-style-type: none">– The Guaranteed Income Supplement is not taxable, and its amount depends on the <u>beneficiary's</u> income.– The Guaranteed Income Supplement is no longer paid where annual income (excluding the Old Age Security pension and the first \$3,500 of employment income) reaches \$16,560 for an individual or \$21,888 for a couple (if both people are receiving the supplement).– In Québec, in December 2012, just over 568,000 people were receiving a Guaranteed Income Supplement. <p>The Allowance can be paid under certain conditions to the spouse (aged 60 to 64) of a Guaranteed Income Supplement beneficiary. It is not taxable. In Québec, in December 2012, 28,000 people were receiving the Allowance.</p>

⁸ The age of eligibility for the Old Age Security pension will gradually increase from 65 to 67 between 2023 and 2029.

⁹ Source: Service Canada, January to March 2013.

¹⁰ Like the Old Age Security pension, the age of eligibility for the Guaranteed Income Supplement will increase from 65 to 67 between 2023 and 2029.

2. QUÉBEC PENSION PLAN, A COMPULSORY PLAN FOR ALL WORKERS

The second floor of the Québec retirement system consists of the Québec Pension Plan.¹¹ The plan is managed by the Gouvernement du Québec and is compulsory for all workers. It has a commitment in the form of a pension benefit defined by law. The plan's cost is shared by employers and workers.

For all workers

The Québec Pension Plans covers all workers. It was put into operation in 1966 by the Gouvernement du Québec to ensure a basic income for workers who leave the workforce for retirement. Participation in the Québec Pension Plan is compulsory for all workers who live in Québec.

Funding the Québec Pension Plan

The plan is funded by contributions made by workers and employers. It uses the partial funding method, which is between a pure pay-as-you-go funding method and full funding method. According to a report published by the Régie des rentes du Québec in 2012, only 15% of the Québec Pension Plan is covered on a full funding basis, with the remaining 85% being funded on a pay-as-you-go basis.¹²

Its funding method implies that the contributions of a given year are used to pay current benefits and to accumulate a reserve. As at December 31, 2012, the reserve was \$38.6 billion, which represents three years of benefits. The actuarial report that the Régie des rentes du Québec must submit every three years gives a steady-state contribution rate, which is the contribution rate that would be required to stabilize the ratio of the reserve to cash outflows during the report's projection period.

Benefits

The age required to receive an unreduced retirement pension is 65. Like the three federal government plans, the Québec plan's benefit formula is a defined benefit.

As at December 31, 2011, the Québec Pension Plan had about 4.0 million contributors and 1.5 million retirement pension beneficiaries, as well as beneficiaries who are surviving spouses, disabled contributors, children of disabled contributors and orphans.¹³

¹¹ All work in Québec is covered by the *Act respecting the Québec Pension Plan*, except work carried out by members of the Canadian Forces and the Royal Canadian Mounted Police. Generally, workers in the other Canadian provinces and territories contribute to the Canada Pension Plan.

¹² Régie des rentes du Québec, *Évaluation du système québécois de sécurité financière à la retraite par rapport à celui d'autres pays industrialisés – 2012* (Evaluation of the Québec System of Financial Security at Retirement in Relation to that of Other Industrialized Countries – 2012), page 45.

¹³ Régie des rentes du Québec, *Rapport annuel de gestion 2011* (2011 Annual Management Report), 2012.

Québec Pension Plan

In operation since 1966, the Québec Pension Plan provides for the payment of a retirement pension, a disability pension and benefits for survivors and orphans.

The basic retirement pension under the Québec Pension Plan corresponds to 25% of the average maximum pensionable earnings for the 5 years before retirement, that is, the year of retirement and the four preceding years. The amount is then adjusted on the basis of the ratio of the worker's career pensionable earnings to the maximum pensionable earnings for each year worked.

A full retirement pension can be paid for life starting from age 65. However, a reduced retirement pension can be taken as early as age 60.

If the pension is not taken at age 65, the amount is adjusted upwards (postponed retirement) or downwards (early retirement), according to the number of months between the date retirement begins and age 65.

- The adjustment factor applied before age 65 is currently 0.5% a month (6.0% a year). As of 2014, the factor will be based on pension level and will be between 0.5% and 0.6% a month (6.0% and 7.2% a year), following a three-year transition period.
- As of January 1, 2013, the adjustment factor applied after age 65 and up to age 70 is an increase of 0.7% a month (8.4% a year).

The maximum pensionable earnings in 2013 is \$51,100.

The maximum retirement benefit payable to a person who applies for his or her pension at age 65 is \$1,012.50 a month (\$12,150 a year) in 2013.

THE FINANCIAL SECURITY PROVIDED BY THE BASIC FEDERAL PLAN AND THE PLAN COVERING ALL QUÉBEC WORKERS

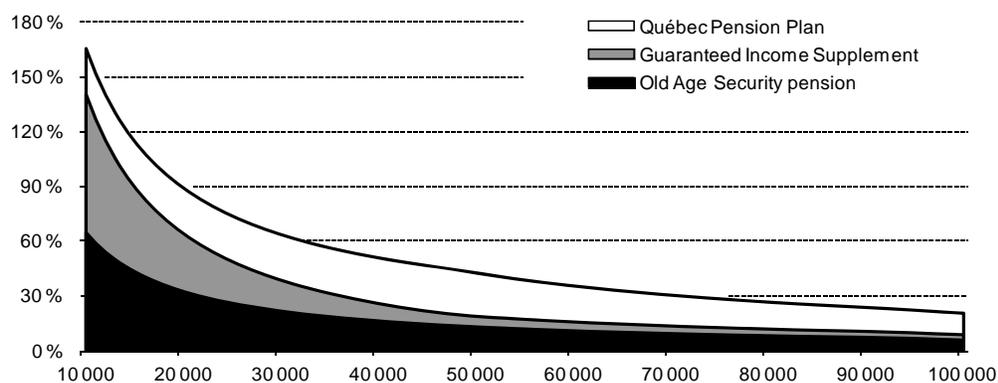
Chart 2 shows the financial security provided by the basic federal plan and the compulsory plan for all Québec workers, according to income levels, for 2012, for a person living alone who applies for benefits and pensions at age 65.

- In 2012, the basic plan and the compulsory plan replace about 90% of pre-retirement income for a person living alone who applies for benefits and pensions at age 65 and whose annual pre-retirement income was \$20,000.
- The replacement rate drops to about 55% for an annual pre-retirement income of \$35,000.

CHART 2

Income replacement levels for public plans—person living alone with no other retirement income who applies for pensions at age 65, in 2012

(income replacement as a percentage of pre-retirement income in dollars)



Note: The increase in the Guaranteed Income Supplement announced in the federal budget of June 6, 2011, is not reflected in this chart. The increase can reach \$600 a year but applies only to very low income retirees.

Source: Régie des rentes du Québec.

□ Comparison with other developed countries

Using data from the Organisation for Economic Co-Operation and Development (OECD) and the Régie des rentes du Québec, we compared the financial security provided by the basic plan and compulsory plan in Québec with the financial security under plans operating in several developed countries. The latest available data are from 2008 and are reproduced in Table 1.

To understand the comparison, two comments are necessary:

- First, it must be noted that in the main developed countries—as in Québec—the public plans are only one part of the retirement system. The system is often completed by supplemental plans, which are compulsory or optional, depending on the country.
- Second, in the table below, average income varies for each jurisdiction. Hence, although Québec and the rest of Canada have similar retirement plans, the table shows higher replacement rates for Québec compared with the rest of Canada. That is because the replacement rate calculated for Québec was calculated using an average salary that is lower than the average salary for Canada as a whole. For equal pre-retirement incomes, Québec and Canada would have equal replacement rates.

The comparison leads to the following observations.

■ Low and average incomes

For beneficiaries—in the case of Québec, the entire population of workers—who in 2008 earned half the average individual salary (just under \$20,000 in Québec), the basic federal plan and the plan for Québec workers replaced 81.6% of pre-retirement income, compared with 55.9% in France, 42.0% in Germany, 56.1% for the average of the G7 countries and 57.2% for the overall average of the OECD countries.

In 2008, for a beneficiary earning the average income, that is, around \$40,000 in Québec, the basic and compulsory plans in effect in Québec replaced 47.0% of pre-retirement income, compared with 49.1% in France, 42.0% in Germany, 43.7% for the average of the G7 countries and 42.1% for the overall average of the OECD countries.

■ Higher incomes

In terms of financial security, the performance of the basic federal plan and the compulsory plan for all Québec workers compares somewhat less favourably for higher income levels.

- In 2008, for a beneficiary earning 1.5 times the average income (just under \$60,000 in Québec, the basic federal plan and the compulsory plan in Québec are somewhat less advantageous compared with several developed countries, but are comparable to several others.
- The basic plans replace 31.9% of income in Québec, compared with 42.0% in Germany, 41.3% in France, 37.9% for the average of the G7 countries and 36.5% for the overall average of the OECD countries.

— For the same income level, the gross replacement rate for public pension plans is 35.3% in the United States, 30.0% in Japan and 22.6% in the United Kingdom.

■ Good plans for low-income workers

The data in Table 1 illustrate one of the characteristics of the Québec retirement system: the public plans provide good coverage for people with the lowest incomes.

The Québec retirement system provides good plans for people with low incomes, and that is why it was set up. The Québec and Canadian systems are recognized around the world for their capacity to ensure income replacement after retirement for individuals with the lowest incomes. That bias in favour of low income workers is a good thing. For the Committee, that characteristic must not be called into question.

■ The situation changes as income increases

However, the situation changes rapidly as income increases. For average incomes, the public plans do not fully provide for workers' retirement financial security.

TABLE 1

Gross replacement rates for public pension plans at age 65, in 2008 (as a percentage of individual earnings)

Individual earnings compared with average earnings	50%	100%	150%
Québec	81.6	47.0	31.9
Canada	76.6	44.4	29.6
Germany	42.0	42.0	42.0
France	55.9	49.1	41.3
Italy	64.5	64.5	64.5
Japan	47.9	34.5	30.0
United Kingdom	53.8	31.9	22.6
United States	51.7	39.4	35.3
G7 countries average	56.1	43.7	37.9
OECD average	57.2	42.1	36.5

Note: Replacement rates were calculated using 2008 parameters and salaries. The average earnings used are \$43,000 for Canada and \$39,900 for Québec.

Sources: OECD, *Pensions at a Glance 2011: Retirement-Income Systems in OECD and G20 Countries*, 2011 and Régie des rentes du Québec, *Évaluation du système québécois de sécurité financière à la retraite par rapport à celui d'autres pays industrialisés—2011* (Evaluation of the Québec System of Financial Security at Retirement in Relation to that of Other Industrialized Countries—2011).

3. PRIVATE INITIATIVES TO FUND RETIREMENT

The third floor of the Québec retirement system structure includes supplemental pension plans and personal savings.

3.1 Supplemental pension plans

Supplemental pension plans are pension plans set up by employers in the public and private sectors to provide employees with retirement income that will supplement the income received under the basic federal plan and the compulsory plan for Québec workers.

Main characteristics

Supplemental pension plans have the following characteristics.

In all cases, they are plans defined under a contract between the employer and the workers that arises from two considerations:

- The basic federal plan and Québec's compulsory plan are insufficient, above a certain income level, for ensuring retirement financial security.
- The government does not have sole responsibility for ensuring financial security. Employers and workers also have a role to play and must contribute through private initiatives.

Supplemental pension plans are most often funded by contributions made by the employer and plan members. Fulfilling a plan's benefit commitment, if any, is usually the employer's responsibility. The pension plans supervised by the Régie des rentes du Québec are administered by a pension committee. Pension committees are made up of people who represent the employer, the employees and the retirees as well as an independent member. Pension committees are responsible for managing the plan's pension fund and the day-to-day operations of the pension plan.

The creation and operation of supplemental pension plans are closely circumscribed by law. In Québec, the legal framework is mainly defined in the *Supplemental Pension Plans Act*.

Government regulation of plans is two-pronged:

- The government defines the legal foundation that allows employers and workers to contribute to various types of pension plans.
- The government also intervenes by providing tax advantages to encourage plan members to put aside money for retirement. Workers who so desire can put aside tax-sheltered funds for retirement. The shelter is temporary; the funds used by the worker to increase his or her retirement income will be taxed when used.

Legislative framework for supplemental pension plans

Supplemental pension plans are established by public sector and private sector employers whose activities are under provincial or federal jurisdiction.

Private sector plans set up for Québec workers are governed by the *Supplemental Pension Plans Act* where the sponsoring employers are under provincial jurisdiction.¹⁴ These plans are supervised by the Régie des rentes du Québec, which is responsible for ensuring that plan administration and operations are in accordance with the Act.

Generally, however, Québec public sector pension plans are governed by specific laws and administered by the Commission administrative des régimes de retraite et d'assurances (CARRA).¹⁵

Exceptionally, some public sector plans are governed by the *Supplemental Pension Plans Act* and are under the supervision of the Régie des rentes du Québec. Those plans are mainly in the municipal and university sectors, as well as the plans of some government corporations, such as Hydro-Québec.

Since some private sector plans have a plurality of members in a province other than Québec, they are registered with a supervisory authority outside Québec. For example, some plans registered with the Financial Services Commission of Ontario have members who work in Québec. The Québec *Supplemental Pension Plans Act* applies to workers in Québec who are members of such plans, to the extent provided for in interprovincial agreements.¹⁶

Generally, private pension plans are set up on a voluntary basis. They are contracts under which the plan members will receive a retirement benefit, called the plan commitment, under the conditions set out in the plan and as of a given age. The funding of such plans is provided by contributions made by the employer only or by the employer and the plan members.

¹⁴ Some Québec workers are members of plans whose employers are under federal jurisdiction, for example, bank employees. Those plans are subject to the federal *Pension Benefits Act, 1985* and are supervised by the Office of the Superintendent of Financial Institutions.

¹⁵ CARRA administers the Government and Public Employees Retirement Plan, the Pension Plan of Management Personnel and some other plans, such as the Pension Plan of Elected Municipal Officers and the Superannuation Plan for the Members of the Sûreté du Québec.

¹⁶ *Agreement Respecting Multi-Jurisdictional Pension Plans and Memorandum of Reciprocal Agreement.*

**General plan and supplemental plans: approaches observed
in the main developed countries**

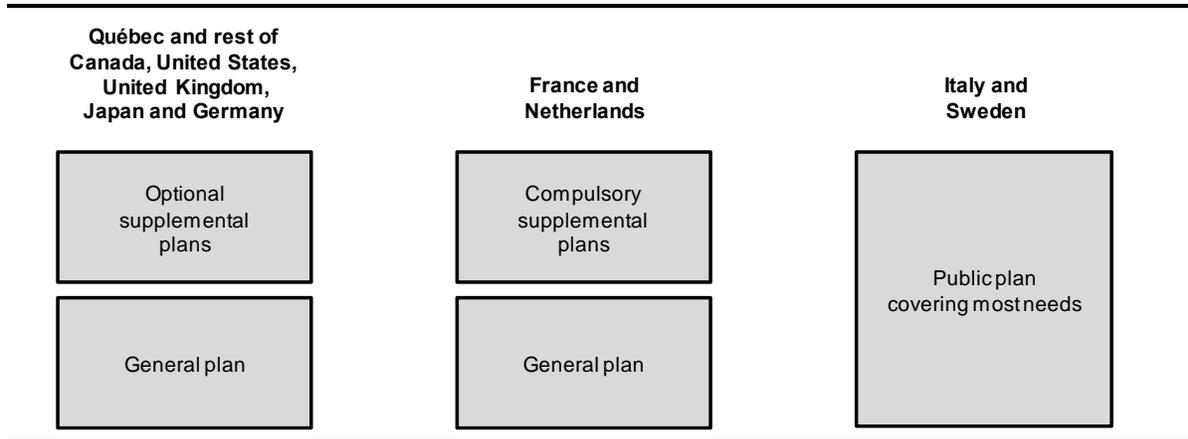
In the main developed countries, there are three types of structures:¹⁷

- Québec, the rest of Canada, the United States, the United Kingdom, Japan and Germany have a similar structure: retirement financial security is ensured by a general public plan, to which are added optional supplemental plans.
- France and the Netherlands have adopted another approach: retirement financial security is ensured by a general public plan and compulsory supplemental plans.
- Italy and Sweden have a third approach: their objective is to develop a public plan able by itself to provide an income replacement rate that is high enough to ensure good retirement financial security.

The funding and performance of retirement systems vary widely from one country to another.

CHART 3

Retirement systems in several industrialized countries—three types of structures



Source: Régie des rentes du Québec, *Évaluation du système québécois de sécurité financière à la retraite par rapport à celui d'autres pays industrialisés—2011* (Evaluation of the Québec System of Financial Security at Retirement in Relation to that of Other Industrialized Countries—2011).

¹⁷ Régie des rentes du Québec, *Évaluation du système québécois de sécurité financière à la retraite par rapport à celui d'autres pays industrialisés – 2011* (Evaluation of the Québec System of Financial Security at Retirement in Relation to that of Other Industrialized Countries – 2011), page 25.

□ **Defined benefit plans and defined contribution plans**

Supplemental pension plans have differences in terms of their benefit commitments and the responsibilities assumed. They fall into two categories: defined benefit plans and defined contribution plans.

■ **Defined benefit plans**

Defined benefit plans are plans that make a commitment, that is, a promise to pay a retirement pension. The pension is generally determined in advance, according to a formula that takes into account, for example, a worker's remuneration and number of years of service.

Defined benefit plans are funded. That means that the capital needed for future benefits is determined in advance and covered by the collection of contributions and the returns on their long-term investment. The presence of a commitment means that defined benefit plans have liabilities that must be offset by assets. The employer is responsible for funding any plan deficiency, a requirement that the employer alone must meet.

■ **Defined contribution plans**

Defined contribution plans have no specific benefit commitment. The pension paid depends on the total capital accumulated in the pension fund and the annuity purchase rates of the markets at the time of retirement. These plans are funded by the accumulated capital. The plan member assumes the financial risk. The eventual retirement income depends on the pension fund's return on investments. Since investments are grouped, plan members benefit from economies of scale.

■ **Advantages of each plan type**

Both plan types have advantages.

Compared with defined contribution plans, the main advantage of defined benefit plans is the benefit commitment. Other than the benefit commitment, another advantage of defined benefit plans (compared with defined contribution plans) is the fact that the investment risk and the longevity risk are pooled. Defined benefit plans perform better than defined contribution plans, from the financial point of view.

Defined contribution plans have some advantages.

- Plan members are more likely to have a heightened awareness of the importance of saving money for retirement, which can lead to a greater sense of responsibility.
- Defined contribution plans are generally simpler and less costly to administer than defined benefit plans.
- Defined contribution plans have a predictable cost, for both the employer and the employee; the costs to be borne are stable and fixed.

- These plans are better suited to the situation of small- and medium-sized businesses, which is why they have a place in our retirement system.
- Defined contribution plans play a role in the diversification of the retirement system.

Actuarial valuation of defined benefit pension plans—general rules

The general rules surrounding the actuarial valuation of defined benefit pension plans are given below.¹⁸ There are two types of actuarial valuation for defined benefit plans:

- Valuation assuming the continuity of the plan (valuation based on funding rules);
- Valuation assuming plan termination (valuation based on solvency rules).

Valuation assuming the continuity of the plan (valuation based on funding rules)

The rules are used to set the contribution needed to fund benefits. This method is also used to estimate the value of long-term plan's commitments. The rules assume that the plan continues indefinitely. Any deficiency must be amortized over a 15-year period.

Valuation based on funding rules has certain specificities:

- In this valuation, the probability that certain events (death, termination of membership, date of retirement) will occur is taken into account.
- For some plans, future salary increases are also taken into account.
- The discount rate used to value liabilities and contributions is the pension fund's expected net rate of return.
- Plan assets can be smoothed (i.e. investment losses and gains are recognized gradually over time).

Valuation assuming plan termination (valuation based on solvency rules)

The rules are intended to ensure that benefits are secure. The valuation of solvency makes it possible to estimate the market value of the pension fund, that is, its liquidation value. It is a way to measure the plan's capacity to meet its commitments as at a given valuation date. It is often said that the valuation determines the fair value¹⁹ of the benefits payable by the plan, because the benefits are valued by simulating a plan windup.

Any deficiency must be amortized over a 5-year period, subject to recent relief measures. Valuation under solvency rules has certain specificities:

- It is assumed that the plan's members will retire when it will be most advantageous for them under the plan's provisions.
- For retirees and beneficiaries, the premium that would be charged by an insurer is estimated. That premium is considered to be the actuarial liability.

For the other members, the interest rate used to value liabilities is based on the interest rate curve for bonds issued by the federal government and increased by an adjustment factor.

¹⁸ Specific rules apply to some plans.

¹⁹ In this report, the term "fair value" is used for liabilities and "market value" is used for assets.

□ Penetration of supplemental pension plans

Supplemental pension plans grew rapidly until the end of the 1970s. At the end of 2011, slightly more than 1.5 million workers were members of a supplemental pension plan, that is, somewhat less than 40% of the total number of Québec workers. Slightly more than 2.4 million workers did not have any supplemental pension plan.

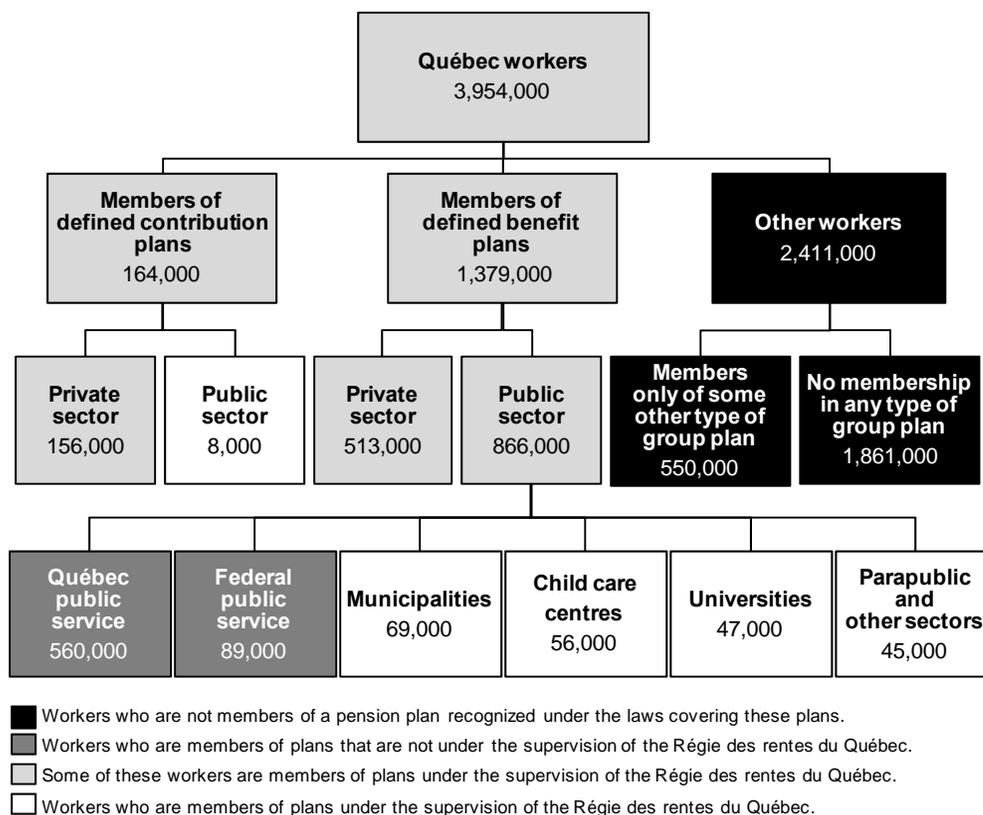
Among the workers who were members of a supplemental pension plan, almost 1.4 million (almost 90%) had a defined benefit plan,²⁰ whose employer was in either the private sector (37% of those workers) or the public sector (63% of those workers).

Various surveys have shown that a large majority of workers prefer defined benefit plans because of the financial security that they offer.

²⁰ The number of workers considered to be members of a defined benefit plan includes the members of plans in which future entitlements are accrued in a defined contribution component but past entitlements are in a defined benefit component.

CHART 4

Distribution of Québec workers⁽¹⁾ by plan type
(number of workers)



(1) Employed and self-employed workers.

Notes: The data are rounded to the nearest thousand. The number of Québec workers is the average, during 2011, of the number of workers living in Québec, obtained from Statistics Canada's monthly *Labour Force Survey*.

The number of Québec workers who are members of a defined benefit or defined contribution supplemental pension plan includes members of plans that are not under the supervision of the Régie des rentes du Québec, but whose pension benefits are governed by the *Supplemental Pension Plans Act*. According to information on page 24 of the Régie des rentes du Québec's *Rapport annuel de gestion 2011* (Annual Management Report for 2011), there are 578,000 members of defined benefit plans and 115,000 members of defined contribution plans (including simplified pension plans) in plans supervised by the Régie des rentes du Québec, for a total of 693,000 workers. This data and the distribution of workers is based on the most recent available data when this report was published.

The number of members only of some other type of group plan includes members of group RRSPs, deferred profit sharing plans (DPSPs) and any type of private group plan other than those shown on the chart. That number is given in *Portrait du marché de la retraite au Québec* (Study on the Québec Retirement Market), published in 2010 by the Régie des rentes du Québec. The survey made at that time has not been repeated since.

To distinguish between public sector and private sector entities, the main determining factor is the intervention of public authorities. Such authorities are characterized by their power to tax, to manage public funds and to control and regulate activities.

Source: Régie des rentes du Québec.

Economies of scale and pooling of the longevity risk

Economies of scale

The economies of scale from which members of group plans benefit make it possible to reduce administration costs and investment management fees.

Analyses are available comparing the management fees of mutual funds and defined benefit pension plans. Mutual investment funds are used as an investment vehicle by a large number of people who accumulate savings in RRSPs.

- According to Morningstar Inc., an investment research firm,²¹ the median ratio of management fees to fixed-income mutual fund in Canada is 1.31% as it is of 2.31% for equity funds.
- For an investment strategy of 60% stocks and 40% bonds, which is similar to the strategy used by a number of defined benefit plans, average fees are estimated to be 1.91%.²²

According to data from CEM Benchmarking, it is estimated that the total fees for defined benefit pension plans vary between 0.2% and 1%, depending on the size of the pension fund.

Economies of scale are directly related to the size of a defined benefit plan.

Pooling of the longevity risk

Defined benefit plans go further and give members the advantage of pooling the longevity risk, that is, of pooling the risk that a person may live longer than the period covered by his or her retirement savings. Pooling of the longevity risk enhances risk distribution and therefore reduces the costs that must be assumed to bear that risk.

We can better illustrate the advantage afforded to the members of defined benefit plans with a concrete example.

- By using a mortality table²³ and a discount rate of 3.12%,²⁴ in the case of a defined benefit plan, a life annuity of \$10,000 a year for a woman aged 60 has a value of around \$169,000.
- If another woman opted for self-management of her retirement income and wanted to accumulate an amount that would allow her (in 90% of situations) to have an annual income of \$10,000, it would cost her around \$220,000.
- Pooling is what makes the difference in the two cases. The woman who assumes the entire longevity risk must have enough retirement savings to cover her needs until age 97. In fact, she has a 10% chance of living longer.

A double advantage

Economies of scale and risk pooling demonstrate that it is more effective and less costly to amass a retirement income using a defined benefit pension plan than by means of personal retirement planning.

²¹ Morningstar Inc., *Global Fund Investor Experience 2011*, March 2011.

²² $1.91\% = (60\% \times 2.31\%) + (40\% \times 1.31\%)$.

²³ The UP-1994 generational mortality table was used.

²⁴ Rate of return used to determine the value of a retiree's pension according to the standards of the Canadian Institute of Actuaries, September 2012.

❑ Comparison with other developed countries

We cannot directly compare private initiatives undertaken in Québec to fund retirement with initiatives in other developed countries. As we indicated earlier,²⁵ the underlying philosophies of retirement systems are different. In some cases, personal initiatives are compulsory, whereas in others, they are optional. Some countries even seek to give the public plan a virtually exclusive role. The funding of plans varies greatly from one country to another. Only some of them are financed by funding.

Faced with such diverse approaches, it would be foolhardy to directly compare supplemental pension plans. However, the Committee looked at two systems—the Netherlands system and the New Brunswick system.

- The Netherlands retirement financial security system is recognized as being one of the most secure among all the developed countries. Therefore, to learn from the Netherlands best practices, the Committee made a detailed analysis of the various mechanisms implemented by Netherlands authorities that explain the results obtained.²⁶
- The Committee also studied innovations now being introduced in New Brunswick. Against a backdrop that differs in several respects from that of Québec, New Brunswick is trying to improve plan funding by encouraging an overhaul of vested benefits by the various partners concerned.²⁷

²⁵ See page 29.

²⁶ See Appendix 2, *Main Characteristics of the Netherlands Retirement System*, page 197.

²⁷ See page 97.

3.2 Personal savings

The third floor of the Québec retirement system also includes personal savings, which comprise all private initiatives undertaken by a individual to put aside money and eventually invest it to build savings that can be used to provide retirement income.

Shared characteristics

These initiatives share several characteristics.

- They are voluntary and independently undertaken by individuals.
- There is no specific benefit commitment. As is the case for defined contribution plans, the sums that an individual will have available during retirement depends on the capital he or she has been able to accumulate.
- The individual bears all the risks. The income available upon retirement depends on the return on investments, before and after retirement.
- Investment yields are improved when an individual has the guidance and advice of professionals.

Tax-advantaged savings must be distinguished from other forms of savings.

Tax incentives have been put in place by the government to encourage personal savings for retirement. These incentives take the form of registered retirement savings plans (RRSPs) and tax-free savings accounts (TFSA). Voluntary retirement savings plans (VRSPs), which are expected to come into effect in the near future, are also in this category.

Registered retirement savings plans (RRSPs)

RRSPs were started about 50 years ago and get preferential tax treatment.

- They are a way for workers who use them to put aside tax-sheltered savings for retirement.
- Tax sheltering is temporary; the sums withdrawn from an RRSP to increase income are taxed upon withdrawal.

Sums put aside are not locked in; they can be withdrawn at any time.

As at December 31, 2011, the savings accumulated by Quebeckers in RRSP holdings was approximately \$155 billion.²⁸

²⁸ RRSP assets (in individual and group plans) include assets in locked-in retirement accounts (LIRAs), life income funds (LIFs) and registered retirement income funds (RRIFs).

■ **Group RRSPs**

A group RRSP is an aggregation of individual RRSPs. Group RRSPs are set up by employers. They may indirectly contribute to the accounts of their employees, if they wish, by an increase in pay.

The management of a group RRSP is consolidated, in a manner similar to the management method used for defined contribution pension plans. Investments are grouped, which give participants the advantage of economies of scale. Management fees are lower than those for individual RRSPs, as a result of those economies of scale.

As is the case for the other forms of personal savings, there is no benefit commitment. Like individual RRSPs, the sums on deposit are not locked-in.

Compared with individual RRSPs, group RRSPs make it easier to save because contributions are made by automatic withholdings from a worker's pay.

■ **The financial security provided by RRSPs**

RRSPs make it possible to accumulate tax-sheltered savings for retirement. However, they provide no guaranteed income for their holders, who must bear all the risks.

□ **Tax-free savings accounts (TFSAs)**

Tax-free savings accounts (TFSAs) were started in 2009. They are a general savings vehicle and not specifically dedicated to retirement savings. A TFSA allows one to invest up to \$5,500 a year (in 2013).

This savings incentive has been a great success since its inception. It is still too early to know whether TFSA holders will use a portion of the accumulated savings to fund their retirement.

□ **Penetration of group plans**

According to studies by the Régie des rentes du Québec, almost 15% of Québec workers have contributed to a group plan (other than a defined benefit or defined contribution pension plan). For almost half of them, that plan is a group RRSP.

In other words, almost 1.9 million workers (47% of all Québec workers), do not have any registered group savings plan for their retirement.

Proposals for voluntary retirement savings plans (VRSPs)

In the 2013-2014 Québec budget, the Minister of Finance and the Economy announced “that the government will table in the coming months a bill to establish voluntary retirement savings plans.”²⁹ The new VRSPs are specifically intended for the majority of the 1.9 million workers who do not have a pension plan.

Main characteristics

According to the announcement made when the Budget 2012-2013 was tabled, in March 2012, the main characteristics of the new plan will be the following:³⁰

- Employers with 5 or more employees who do not already sponsor a pension plan or a group RRSP will be required to sponsor a VRSP for their employees, enrol all their employees in it and make payroll deductions for their employees, which would be remitted to the VRSP administrator;
- Employers will not be required to contribute to the plan. If they choose to contribute, their contributions will be locked-in.
- Member contributions will be deducted from taxable income. They will be subject to the same ceiling as RRSPs and not be locked-in.
- Employees enrolled automatically will have 60 days to opt out of the plan.
- The Régie des rentes du Québec will supervise VRSPs.

At this time, the government has not yet implemented VRSPs.

Tax advantage

Compared with group RRSPs, VRSPs would provide a tax advantage for the employer. An employer contribution to a group RRSP is deemed to be a pay increase for members. It is, therefore, subject to payroll taxes. However, an employer contribution to a VRSP will not be subject to payroll taxes; it would be considered to be the same as a contribution to a defined contribution pension plan.

²⁹ Gouvernement du Québec, *Budget Speech, Budget 2013-2014*, made on November 20, 2012, page 10.

³⁰ Gouvernement du Québec, *Quebecers and Their Retirement, Accessible Plans for All, Budget 2012-2013*, page 18ff.

A GLOBAL VIEW OF THE EFFORTS DEVOTED TO FUNDING RETIREMENT

We have used surveys and macro-economic data to complete our review of the components of the Québec retirement system. They shed light on the extent and nature of the efforts Quebecers devote to funding their retirement.

□ Household savings

Studies confirm that for people with average or above-average incomes, savings are often insufficient to ensure retirement financial security. The various studies carried out do not come to identical conclusions as to the exact proportion of households that do not have sufficient savings to ensure retirement financial security, but one can generally estimate that between a quarter and a third of households are in that situation.

■ Report published by the Régie des rentes du Québec in 2010

The Régie des rentes du Québec looked into this question in 2010.³¹ The report reiterates the observations of two surveys carried out in 1999 and 2005, with similar results.

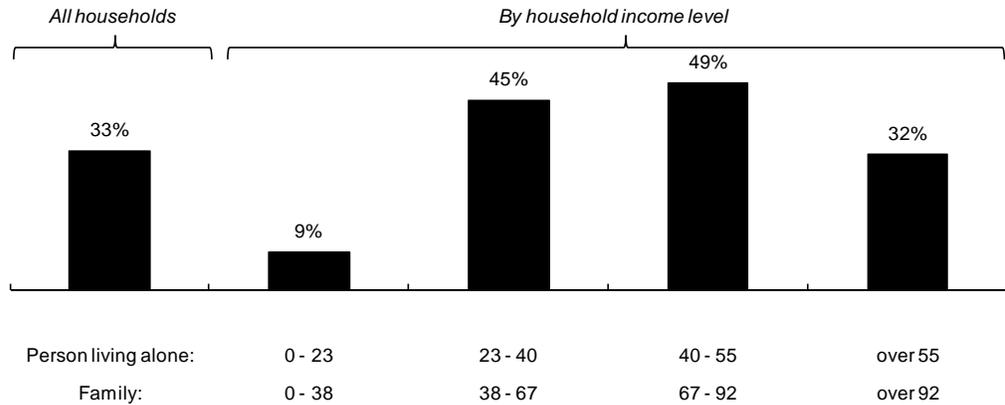
- According to the 2005 survey, 33% of Québec households are not saving enough money to reach an income replacement rate of 60%, if retirement is taken at age 65.
- The rate reaches 45% for a family with an income between \$38,000 and \$67,000 and 49% for a family with an income between \$67,000 and \$92,000.

³¹ Régie des rentes du Québec, *Constats et enjeux concernant le système de rente du Québec* (Facts and Issues Concerning the Québec Retirement System), 2010, p. 35.

CHART 5

Proportion of households for which the income replacement rate in retirement will be less than 60% following retirement at age 65

(as a percentage of annual income in thousands of dollars, for a person living alone or a family)



Source: Régie des rentes du Québec, *Constats et enjeux concernant le système de retraite québécois* (Facts and Issues concerning the Québec Retirement System), 2010, p. 36.

These observations are consistent with findings for the public plan:³²

- Generally, public plans provide adequate coverage for people with low incomes. This is because only 9% of low-income households have an income replacement rate under 60%. Those households are an exception because some low-income people or households do not have an income replacement rate reflecting their income level as they were not, for example, in the labour market for a long period of time.
- However, the survey confirms that the most significant problems are experienced by households (persons living alone and families) who have average pre-retirement incomes at a level at which the public and Québec plans are less generous.

³² See page 23.

■ Other studies

Other studies corroborate to varying degrees the findings of the Régie des rentes du Québec: in Québec, as in Canada as a whole, a large number of workers are not saving enough to ensure themselves of a certain replacement rate for their pre-retirement income.

In particular, we can cite the following studies:

- *Summary Report on Retirement Income Adequacy Research*, made by Jack M. Mintz in December 2009 (the report summarizes the results of the research carried out for the Research Working Group on Retirement Income Adequacy set up by the federal, provincial and territorial ministers of finance);
- *Are Canadians Ready for Retirement? Current Situation and Guiding Principles for Improvement*, a 2012 report published by McKinsey & Company;
- *Projecting the Adequacy of Canadians' Retirement Incomes*, a 2011 study by Michael C. Wolfson, Institute for Research on Public Policy (IRPP).

■ A phenomenon already pointed out by the Gouvernement du Québec

The lack of sufficient retirement savings has previously been pointed out by the government. The failure of a large proportion of households to plan for retirement, particularly households with average incomes, was strongly emphasized in the Gouvernement du Québec's *Budget 2011-2012*.

A Budget paper on the retirement system says:³³

“Despite adequate average replacement rates, a certain proportion of retirees must come to terms with retirement income that is insufficient to maintain their standard of living. According to estimates by the Régie des rentes du Québec, the earned income replacement rate of between 30% and 40% of Québec workers will be less than 60%.

The situation is particularly worrisome for workers with earned income between \$20,000 and \$60,000.

- A relatively high proportion of workers in this income bracket have saved little for retirement.
- However, a low replacement rate for these workers means that they may be in financial difficulty at retirement, unlike higher-income households.”

Although it is difficult to precisely evaluate the scope of the problem, we can conclude that the current situation is worrisome.

³³ Gouvernement du Québec, *A Stronger Retirement System, Budget 2011-2012*, March 2011, page 9.

□ How much savings is needed for retirement?

Simulations carried out by the Régie des rentes du Québec give an idea of the savings needed for retirement.

According to calculations made by the Régie des rentes du Québec, a worker who is 22 years old and earns \$50,000 a year must, in addition to his or her Québec Pension Plan contribution, save 17% of his or her pay to retire at age 60 with a retirement income corresponding to 60% of his or her pre-retirement income (assuming a 2% real annual rate of return on savings). The worker must put aside money at that rate every year until retirement.

The savings needed decreases to 15% of income if retirement is taken at age 62 and to 11% if retirement is taken at age 65.

Table 2 shows these results and another example, which applies to a worker who is 30 years old. The savings needed is more than in the first example, which is to be expected. In the second example, the worker has less time to accumulate the savings needed to ensure the desired retirement income. The table also shows a scenario where the real return on savings is 3% a year.

To have an income replacement level greater than the one given in the example, even more savings would clearly be required.

TABLE 2

Savings needed for retirement⁽¹⁾ to replace 60% of a pre-retirement income of \$50,000
(savings rate as a percentage of income)

Age when saving begins	Retirement at age 60		Retirement at age 62		Retirement at age 65	
	22	30	22	30	22	30
Savings needed ⁽²⁾ at a 2% real rate of return	17	23	15	19	11	14
Savings needed ⁽²⁾ at a 3% real rate of return	13	18	11	14	8	10

(1) Savings needed over and above the coverage provided by the public plans (Old Age Security and Québec Pension Plan).

(2) Personal savings where the person does not have a supplemental pension plan to cover needs.

Notes: For the purpose of making calculations, it is assumed that the person is currently earning \$50,000, stops working and takes retirement at the ages shown in the table. The savings rates were calculated by taking into account a 1% real rate of salary increase and depending on the scenario, a 2% or 3% real rate of return, before and after retirement.

Income from private savings was determined by assuming that an Old Age Security pension begins at age 67 (with no adjustment to reflect eventual changes to the program) and by assuming that a retirement pension under the Québec Pension Plan begins at age 65.

It is also assumed that the person began contributing to the Québec Pension Plan at 20 years of age.

For simplification purposes, no mortality was assumed before or after retirement. Death is assumed at age 90.

Source: Régie des rentes du Québec.

CONCLUSION

Overall, successive surveys confirm that Quebecers do not save enough for retirement.

A key role for private initiatives

In Québec, as in the rest of Canada and many developed countries, private initiatives, supplemental pension plans in particular, have a key role to play in the retirement system. The extent of those initiatives increases as income increases. The three floors of the Québec retirement system serve to distribute retirement responsibility and risks between the society as a whole (through government action) and participants in the system (workers and employers).

- The system's first two floors (the basic federal plan and the Québec Pension Plan, which is compulsory for all workers) are largely funded by taxpayers and all workers according to a commitment defined by law. For the first two floors, pay-as-you-go funding for some or all of the benefit commitment means that funding the retirement of a given generation depends on the taxes and contributions of succeeding generations.
- The system's third floor is built on private initiatives. Supplemental pension plans are based on contracts between employers and workers, in accordance with a legislative framework defined by the government. Personal savings come from individual initiatives, which are sometimes under group management. The government stimulates the growth of private initiatives through tax incentives.

A better system for low-income workers

Based on two criteria—plans penetration (number of workers covered) and the financial security plans provide—we find that compared with other developed countries, Québec has a better system for low-income workers. The Québec system is characterized by:

- Very broad coverage;
- Better income replacement after retirement, resulting from a higher level of benefit commitment.

Compared with other developed countries, Québec provides comparable advantages for average-income workers.

The situation changes as income increases

The plans offering the best financial security are defined benefit plans, which have a specific income replacement commitment for retirees. However, they are available to only some workers, mainly those working in the public sector.

Our study of the Québec retirement system confirms the crucial role played by defined benefit plans. Their specific income replacement commitment for retirees is the foundation of financial security. In our system, such a commitment is provided only by the Old Age Security program,

the Québec Pension Plan and defined benefit pension plans. Those programs are the pillars of our retirement system.

❑ Two questions

Two questions arise from our findings:

- As we will see in Part II of this report, the plans under the greatest pressures are defined benefit plans. They are in decline, and some have even predicted their gradual disappearance. The threats that they face affect the soundness and sustainability of the entire retirement security system.

The Committee's first question is whether we must accept the decline, taking it for granted that defined benefit plans are destined to disappear. This question must be asked given that they are a core component of our system.

- The second question goes even further and concerns the current extent of plan coverage. Defined benefit pension plans cover only slightly less than 35% of Québec workers. Almost 1.9 million workers (47% of all Québec workers) do not participate in any registered group savings plan that will provide for their retirement needs.

Rather than accepting the decline and disappearance of defined benefit plans, should we not instead ask questions about the extent of their coverage and the possibility of covering a larger number of workers in a realistic and functional manner?

The direct link between retirement financial security and the quality of the benefit commitment made by defined benefit plans makes that question unavoidable.

PART II: FLAWS AND PRESSURES WEAKENING THE RETIREMENT SYSTEM

After outlining the main characteristics of the Québec retirement system, the Committee now turns to the flaws and pressures currently weakening the system.

The Committee carried out its analysis in three steps:

- First, the Committee analyzed the **system's flaws**.

Over time, the retirement financial security system has become fragile, primarily because of structural weaknesses leading to flaws in the system.

- The Committee then studied the **pressures being exerted on the system**.

Because of the flaws mentioned earlier, pressures from demographic changes, falling interest rates and volatility in the financial markets are increasingly difficult to manage.

- Then, to complete its analysis, the Committee studied the **impact** of the flaws and pressures **on pension plans**.

All plans affected by these pressures are threatened, but the impact is particularly obvious for plans that make a specific benefit commitment, that is, defined benefit plans.

1. FLAWS IN THE SYSTEM

In accordance with its mandate, the Committee concentrated its work on identifying the flaws and pressures that are weakening the “third floor” of the retirement system, mainly the supplemental pension plans sponsored by public and private employers.

However, the Committee wanted to emphasize some concerns for the “first floor” and the “second floor”, that is, the federal Old Age Security program and the Québec Pension Plan.

1.1 The basic federal plan is not keeping step with salary increases

Within 40 years, the role of the basic federal plan in retirement income replacement will decline progressively as a result of the indexation method used for the Old Age Security pension and the Guaranteed Income Supplement. The Old Age Security pension and the Guaranteed Income Supplement increase each year to reflect inflation, whereas salaries tend to increase at a rate greater than inflation.

Because of that gap, in the future, the Old Age Security pension and the Guaranteed Income Supplement will play less and less of a role in replacing income after retirement. The same phenomenon will not affect the Québec Pension Plan because pensions under that plan are tied to the average increase in salaries.

Charts 6 and 7 show the part played by the public plans in income replacement levels.

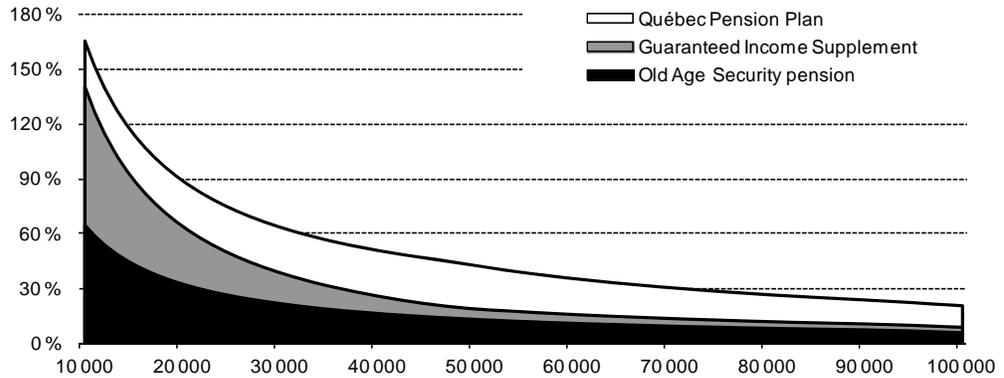
Chart 6 shows the situation in 2012. For an income of \$40,000, the public programs replaced 51% of income. At age 65, the Québec Pension Plan provided income replacement that represented 25% of pre-retirement pensionable income. At that age, under the Old Age Security pension, the income replacement rate represented 26% of pre-retirement income

Chart 7 is a projection of the situation in 2052. It is assumed that incomes will increase at a rate that is 1% above inflation, and the increase in the eligibility age to 67 for the Old Age Security pension and the Guaranteed Income Supplement is not taken into account.

- The result is as follows: in 2052, at age 65, the Québec Pension Plan will still replace 25% of pre-retirement pensionable income. However, the federal Old Age Security pension and Guaranteed Income Supplement will replace only 13% of income.
- Overall, because of the indexation method used for the basic federal plan, the income replacement rate after retirement will decrease from 51% to 38% over the 40-year projection period.

CHART 6

Income replacement levels for public plans for a person living alone with no other retirement income who applies for pensions at age 65, in 2012
(income replacement as a percentage of pre-retirement income in dollars)

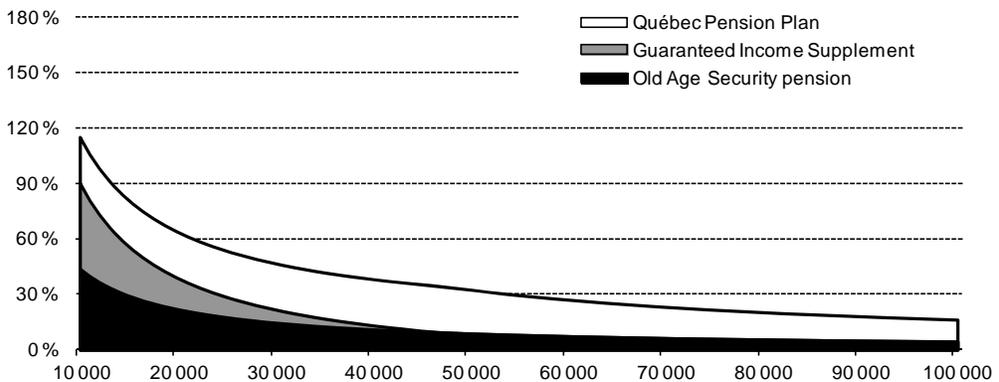


Note: The increase in the Guaranteed Income Supplement announced in the federal budget of June 6, 2011, is not reflected in this chart. The increase can reach \$600 a year but applies only to very low income retirees.

Source: Régie des rentes du Québec.

CHART 7

Income replacement levels for public plans for a person living alone with no other retirement income who applies for pensions at age 65,⁽¹⁾ in 2052
(income replacement as a percentage of pre-retirement income expressed as a 2012 income equivalent, in dollars)



(1) To simplify the comparison with the current situation, the scheduled increase in the eligibility age from 65 to 67 for the Old Age Security pension and the Guaranteed Income Supplement is not taken into account. The situation shown would, in fact, apply only as of age 67 but that does not change in any way the illustration given here.

Note: Normally for this type of chart, the abscissa is expressed as a percentage of the maximum pensionable earnings (MPE), but to make the chart easier to read, it is given here in terms of today's salaries.

Source: Régie des rentes du Québec.

1.2 Québec Pension Plan: financing and funding

An examination of the Québec Pension Plan was not central to the Committee's terms of reference. However, given the plan's importance for all Québec workers and its links with supplemental pension plans, the Committee thought it essential to point out some of the weaknesses in the Québec Pension Plan, with a view to possible improvements.

The weaknesses observed by the Committee concern two points:

- The currently paradoxical effects of the rule regarding employment income earned after age 60;
- Plan funding.

□ Effects of the rule on the contributory period

Currently, the basic retirement pension under the Québec Pension Plan depends on the beneficiary's age when payment of the pension begins and is based on the beneficiary's employment earnings during the period from his or her 18th birthday to the retirement pension's starting date. Where a beneficiary decides to delay his or her pension application until after age 60, the new earnings received in each year of delay must be added to the pension calculation.

The paradox occurs where the earnings for subsequent years are lower than the beneficiary's average career earnings. In that case, the decision of the beneficiary to delay his or her retirement may have the effect of reducing the amount of his or her basic pension compared with to the amount it would have been if new earnings had not been taken into account.

Table 3 illustrates the paradox.

- In the case shown, the person is entitled to the maximum basic pension at age 60, that is, \$12,150 before being adjusted for early retirement (i.e., before the normal retirement age of 65).
- If the person waits until age 65 to apply for a pension and while waiting, he or she earns a salary that is less than his or her average career earnings, a 5.3% reduction will apply to the basic pension, excluding the indexation of the maximum pensionable earnings for the 5 years between age 60 and the application. Thus, the pension will be \$11,509.

To show the net effect of the additional years of work, the table isolates the effect of the increase in maximum pensionable earnings and the application of the adjustment factor.

- In fact, indexation and adjustment factors will offset the decrease resulting from lower income during the latter years.
- Nevertheless, the contributory period paradox is real. The beneficiary will be penalized for the lower earnings during the latter years and will have a lower pension than he or she would have received if those latter 5 years had not been taken into account in calculating the pension.

TABLE 3

Example of the impact of lower earnings after age 60⁽¹⁾ on the basic retirement pension
(pension in dollars and differences as percentages)

	Basic pension according to age at retirement		
	60	61	65
Pension payable	7,776	8,783	13,234
Basic pension (without applying the adjustment factor)	12,150	12,326	13,234
Basic pension with no increase in average maximum pensionable earnings	12,150	12,013	11,509
Difference with respect to the basic pension at age 60 (with no increase in average maximum pensionable earnings and without applying an adjustment factor)	—	-1.1%	-5.3%

(1) The person turns 60 on January 1, 2013.

Note: It is assumed that the years of low income (15%) excluded from the calculation of the pension were at the beginning of his or her career. Thereafter, it is assumed that the person earned at least the maximum pensionable earnings each year until age 60. The actual maximum pensionable earnings were used for the years before age 60. It is assumed that the increase in the maximum pensionable earnings was 3% a year thereafter. The adjustment factor is the one applicable as of January 1, 2016, that is, after the scheduled transition period.

Source: Régie des rentes du Québec.

□ Plan funding

As we pointed out earlier,³⁴ the Québec Pension Plan is only partially funded. According to a report published by the Régie des rentes du Québec in 2012, only 15% of the Québec Pension Plan's financing is from funding; the remaining 85% is from pay-as-you-go funding.³⁵

This situation means that today's workers are funding the bulk of pensions already in payment. That can lead to inequity where there are variations in the generational makeup of the population.

For the Committee, any future improvements to the Québec Pension Plan should be fully funded, which means that they should be funded by those who will eventually receive them.

³⁴ See page 21.

³⁵ Régie des rentes du Québec, *Évaluation du système québécois de sécurité financière à la retraite par rapport à celui d'autres pays industrialisés – 2011* (Evaluation of the Québec System of Financial Security at Retirement in Relation to that of Other Industrialized Countries – 2011), page 45.

1.3 Defined benefit pension plans: several large flaws

The growing fragility of the Québec retirement system can be explained in large part by flaws in defined benefit pension plans.

❑ Better financial security based on specific requirements

These plans are on the “third floor” of our retirement system. Among the various supplemental plans and personal savings vehicles, they offer better financial security since they alone make a specific benefit commitment to their members.

That commitment entails specific requirements for plan management. A defined benefit pension plan commits (promises) to pay a pension to the workers who contribute to it. That commitment is covered by managing the pension fund’s accumulated assets and the contributions made by the employer and the employees.

That commitment and the means used to cover it is regularly examined by using discounting methods to value the pension plan. If the commitment is not sufficiently covered, adjustments must be made to benefits or contributions, or both.

❑ Six flaws identified

In reality, the apparently simple process is not always followed, leading to flaws in the system, which are now becoming apparent because of demographic and financial market pressures.

These flaws, which are not limited to the Québec system, are six in number:

- First, **risk management**, which is crucial in a defined benefit plan, is **deficient**;
- Second, in the event of surplus assets, there is **asymmetry** between the **risk-taking** and the **advantages resulting from taking those risks**, which leads to non-intended effects;
- Third, too often, the benefit **commitment** is **too costly** in relation to the contributions made;
- Fourth, **plan commitments**, which are the basis for determining contribution levels, are **undervalued**, which means that their financial reality is not properly considered.
- Fifth, the rules applied where a member terminates his or her membership in a pension plan lead to **transfer values** that are **too high**.
- Sixth, the **legislative framework makes it difficult for the parties to reach agreements** that would enable them to make adjustments to strengthen plans.

1.3.1 Deficient risk management

The first flaw in defined benefit pension plans concerns risk management, which can be called deficient. In a defined benefit plan, risk management is crucial. To meet a plan's benefit commitment, administrators must manage the risks resulting from the uncertainty as to the rate of return on the plan's accumulated assets, which is related to market returns or interest rate changes, and demographic risks.

Risk management must be addressed in a plan's funding policy (including determining contributions) that is part of the investment policy, and must be the basis for defining the benefit commitment.

First of all, the Committee has found that legislation is relatively muted on risk management. Conversely, the lawmakers have been very active in enacting all kinds of provisions concerning the detailed operation of plans. A better legal framework for risk management would make financial security for pension plans a priority.³⁶

The 1990s: higher tolerance for risk

In the 1990s, because of the relative legal vacuum, unusually high returns on the financial markets led to short-sighted behaviours that were more tolerant of risk.

It became increasingly attractive to fund plans with investment income rather than taking action on contributions, monitoring the benefit commitment and building margins and reserves. An aggressive investment policy for large pension assets did allow to expect high asset returns and as a consequence to artificially decrease the liability value of the plan, and the required contributions at the same time. An aggressive investment policy in the presence of large assets made assuming high yields possible, which artificially reduced the value of plan commitments and thus the contributions needed.

The surplus assets generated by high returns on investments were often used to improve the benefit commitment, give contribution holidays to employers and, in some cases, to plan members.

Asset and liability matching and establishing a provision for adverse deviations have generally been absent from the concerns of pension committees and plans sponsors.

³⁶ The *Supplemental Pension Plans Act* already requires pension committees to adopt by-laws to regulate their operations and governance. The Act does not provide for the kind of risk-management measures that should be included in such by-laws.

❑ A veritable investment performance culture

A veritable investment performance culture gradually developed, to the detriment of managing risks on the basis of liabilities. This performance culture with its firm belief in high rates of return on investments distorted expectations for the future.

Since the standards for selecting the actuarial assumptions used for funding purposes are imprecise, the actuarial valuation of plan commitments and their coverage was carried out by using actuarial assumptions that over time, involved an increasing level of risk. The expected returns on assets, in particular at-risk assets, were used to determine the discounted value of liabilities.

In fact, funding policies were based on the full value of expected returns, without fully taking into account the related risk. For most plans, the average discount rate assumption used in valuating funding was higher than current interest rates. The difference between the valuation assumptions and the economic context led to an underestimation of plan commitments and required contributions.³⁷

❑ Plans were weakened when the markets crashed

This major flaw in risk management considerably weakened defined benefit plans when the financial markets crashed.

The financial crisis and the fall of interest rates (which we discuss later³⁸) meant that expected increases in returns never happened. As a result of poor risk management, the situation of defined benefit plans greatly deteriorated.

³⁷ Régie des rentes du Québec, *Working Paper, Toward Better Funding of Defined Benefit Pension Plans*, 2005, page 43ff.

³⁸ See page 81.

**Deficiencies resulting in part from weaknesses in
the framework of the *Supplemental Pension Plans Act***

Like many Canadian laws,³⁹ the *Supplemental Pension Plans Act* has few requirements for risk management. The Act requires pension committees to adopt a by-law that includes risk-management measures. It relies on rules of good governance and prudence to encourage administrators to assess risk and obtain the necessary tools for risk management.

The *Supplemental Pension Plans Act* restricts the means that may be used for risk management related to retirees by not allowing, for example, the transfer of full responsibility for paying pensions by the purchase of annuities from an insurer while the plan is on-going.

Some improvements

In recent years, some measures have been taken to improve risk management. Plans are now required to use gains to create a provision for adverse deviations so as to manage the risk of mismatching the assets and liabilities, but are not forced to fund the provision with additional contributions.

Plans must now undergo a complete actuarial valuation once a year.⁴⁰ The valuation report, which must be submitted to the Régie des rentes du Québec, makes it possible to improve the monitoring of plans' financial situations.

³⁹ Bill 38, in British Columbia, and Bill 10, in Alberta, are aimed at overhauling the pension benefits standards of those two provinces. The bills provide that the administrators of defined benefit pension plans and target benefit pension plans will have to adopt governance and funding policies. The new measures will come into effect when the related regulations are published. New Brunswick's *Shared Risk Plans Regulation*, adopted under the *Pension Benefits Act* (S.N.B. 1987, c. P-5.1), requires plans to adopt a funding policy, management objectives for funding basic and ancillary benefits, as well as risk-management procedures applicable to target benefit pension plans.

⁴⁰ This measure does not apply to pension plans in the municipal and university sectors.

1.3.2 Asymmetry between risk taking and the advantages of risk taking

The second flaw in defined benefit pensions arises from the asymmetry between risk taking and the advantages of risk taking. It can be called a genuine structural defect. During its consultations, this problem was called to the Committee's attention several times.

❑ The problem

The problem is that where a plan has surplus assets, the current practice is to share the surplus between the employer and the plan members and beneficiaries. In the case of a deficiency, however, the employer alone has to bear the financial consequences.

This asymmetry became worse in the 2000s as a result of amendments to the *Supplemental Pension Plans Act*.

- Under the new rules, a plan's members must be consulted to confirm an employer's right to take contribution holidays or use surplus assets to fund plan changes;
- Since 2010, an amendment funded with surplus assets must take into account the equity principle with respect to the group of active members and the group of retirees and beneficiaries.

The various rules and practices, as well as litigation over the use of surplus assets, have had a harmful effect on the financial soundness of defined benefit pension plans. Because of the existing asymmetry, employers refuse to pay additional contribution. For them, there is nothing to be gained by creating financial cushions since there is only a slight possibility that they would ever be able to use eventual surplus assets to offset such contribution.

❑ Tax rules

In the past, tax rules contributed to keeping pension plan funding at a minimum. The rules set a limit on the maximum level of surplus assets that a plan could have. If those tax limits had not existed, surplus assets accumulated in good years could have been used to create a provision for adverse deviations.

This problem has been partially eliminated. Since 2010, the ceiling for surplus assets in pension funds has increased from 10% to 25% of a plan's actuarial liabilities.⁴¹

⁴¹ See section 147.2(2) d) iii) of the federal *Income Tax Act*, R.S.C.1985, c. 1 (5th suppl.).

1.3.3 Commitments costing too much in relation to contributions paid

The third flaw in defined benefit pension plans is benefit commitments that are too costly in relation to the contributions paid. Such commitments may be decided jointly by the employer and employees.

The problem becomes apparent where plan commitments are too costly and contributions are insufficient to ensure funding for the promised benefits. Thus, indexation of benefits is an element of the benefit commitment that can rapidly increase plan costs. According to calculations by the Régie des rentes du Québec, full indexation to the cost of living can increase in a plan's total cost by 30%.⁴²

□ The example of municipalities and universities

There are many examples of such costly commitments. The defined benefit plans sponsored by municipalities are particularly illustrative of the problem.

- Municipal pension plans are generally more costly than the average for other defined benefit plans, mainly because of their advantages, such as early retirement benefits and indexation. Some plans even provide subsidized early retirement to members under age 55.
- The costs of these plans are amplified by their advanced maturity (because they were created quite some time ago) and their employee turnover rate, which is below average.

In some plans, especially in the municipal and university sectors, the parties have agreed to share pension plan costs by increasing member contributions for current service or by arrangements affecting overall remuneration. Such agreements may be provided for in the plan text or by amendments resulting from a new collective agreement.

- Under such agreements, active plan members bear some of the financial risk. The agreements promote better risk management, by making members, for example, more aware of the pension plan costs.
- Some universities would have problems similar to those of municipalities were it not for 50-50 cost-sharing that provides for increasing member contributions up to 9% of salaries, accompanied with a downward revision of some future service commitments.

Thus, the extent of problems related to the benefit commitment is less than it is in the municipal sector. Cost sharing has promoted better management of improvements in the benefit commitment.

⁴² The calculation made by the Régie des rentes du Québec can be illustrated by two simple examples. In the first, the discounted value of a life pension payable to a man at age 55 and indexed at 2% a year is 26% higher than the value of a non-indexed pension. That percentage drops to 22% and to 19% for men aged 60 and 65, respectively. In the second example, the discounted value of a life pension payable to a man at age 55 and indexed at 2.5% a year is 34% higher than the value of a non-indexed pension. That percentage drops to 29% and 25% for men aged 60 and 65, respectively.

❑ The illusion of market improvements

Some people believe that a sustained, significant turnaround in the financial markets will solve pension plan problems in the long term; we just have to be patient. As shown in the two boxed texts below, putting our hopes in improved market conditions is illusory.

People who expect a sudden rise in interest rates need to understand that such a rise will not solve the problems faced by defined benefit pension plans. Nor can we count on high returns on the financial markets to solve current problems.

In the real world, no solution is possible without rethinking the cost-benefit equation.

Funding benefit commitments that are too costly: the illusion of higher interest rates

We cannot count on higher interest rates as a long-term solution to problems. This warning is easily illustrated.

The example given is a pension plan with liabilities of \$100 million, distributed equally between the active members and the retirees and beneficiaries. With a current 70% degree of solvency, the plan's assets are \$70 million, and the solvency deficiency is \$30 million. It is assumed that the plan's assets are equally distributed between fixed-income securities (bonds) and variable-income securities (company shares).

A sudden 1% interest rate increase would raise the solvency ratio by 5 percentage points. The plan's deficiency would then be around \$22 million and the solvency ratio would be 75%. Even if we unrealistically assume a sudden 2% interest rate increase, the plan would still have a deficiency of around \$16 million and the solvency ratio would be 80%.

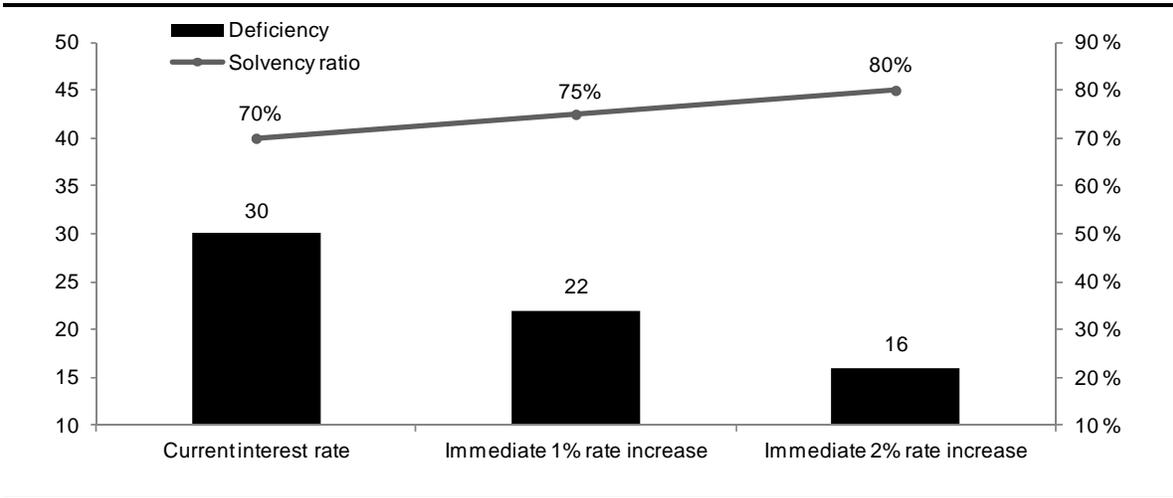
In this example, it is assumed that the sudden increase in interest rates would have no collateral impact on variable-income securities. In fact, a rapid, significant rise in interest rates would have a negative impact on the stock markets and thus would increase a pension plan's deficiency.

From this example, we can estimate that an increase in interest rates would be of some benefit to the sponsors of defined benefit pension plans but would not be enough to completely solve the funding problems of such plans.

CHART 8

Effect of a variation in interest rates on the solvency deficiency of a defined benefit pension plan— best-case scenario, interest rate changes neutral on the stock markets

(deficiency in millions of dollars at left and degree of solvency as a percentage at right)



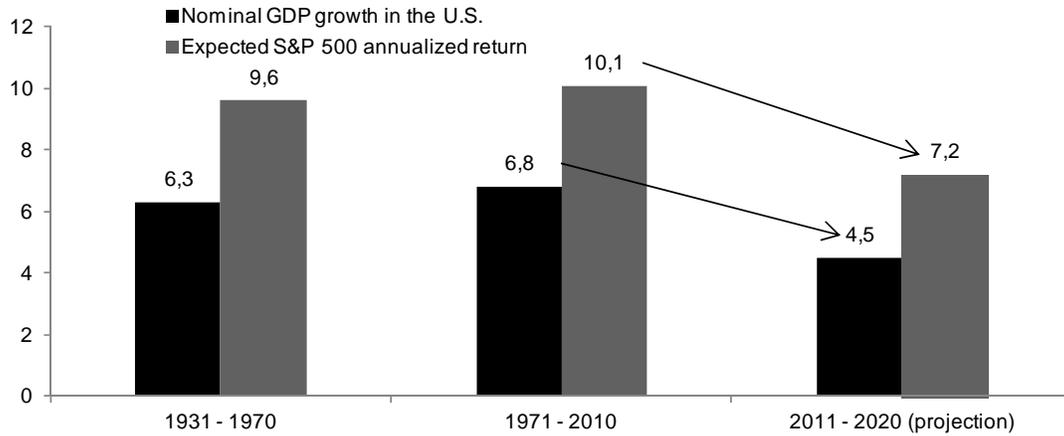
Note: Assumption based on a pension plan with liabilities of \$100 million distributed equally between the group of active members and the group of retirees and beneficiaries. Plan assets are divided equally between fixed income securities (bonds) and variable-income securities (company shares).

An illusion: counting on high stock market returns

In the short term and medium term, we should not expect stock market returns to reach very high levels. There is a strong historical relationship between stock market growth and economic growth. In the near future, experts expect economic growth to be moderate.

CHART 9

Expected returns from financial markets (as a percentage)



Source: Caisse de dépôt et placement du Québec.

1.3.4 The undervaluation of plan commitments

The fourth flaw in defined benefit pension plans is the undervaluation of plan commitments in setting contributions, which leads to a disregard for plans' financial reality.

The valuation of commitments (i.e., the valuation of liabilities), is fundamental to the management of defined benefit pension plans. That valuation is the basis on which those responsible for a plan rely to make appropriate decisions—both for investments and contributions—while following a risk-management policy.

As we saw earlier,⁴³ the actuarial valuations of defined benefit plans are made according to two different methods, that is, on the basis of funding and on the basis of solvency. The Act requires that a deficiency under either of the methods must be amortized over a prescribed period, which is 5 years in the case of a solvency deficiency and 15 years in the case of a funding deficiency.⁴⁴

❑ Shortcomings in both methods

Specialists disagree as to which is the preferred method. For the Committee, neither of the two methods is satisfactory, and each, for different reasons, takes us away from a plan's true costs.

For valuations based on funding, the key assumption is that a defined benefit pension plan will be on-going for a very long time. As we pointed out earlier, that approach has been misused by making overly optimistic assumptions as to the future rate of return on plan assets.⁴⁵

Valuation based on solvency is founded on the assumption that a pension plan will terminate as at the valuation date. For the Committee, the method does not correspond to financial reality any more than valuation based on funding because it does not correctly represent the financial reality of an on-going plan.

The shortcomings of the two existing methods are a major flaw in defined benefit pension plans.

⁴³ See boxed text, page 31.

⁴⁴ *Supplemental Pension Plans Act*, section 142.

⁴⁵ See page 54.

Some requirements of the *Supplemental Pension Plans Act* concerning deficiencies—general rules

The general rules for deficiencies are the following.⁴⁶

According to the *Supplemental Pension Plans Act*,⁴⁷ the employer must, during a given fiscal year, make payments covering:

- An employer contribution for current service, which is added to the contributions made by the active plan members;
- The higher of the following amounts: the amortization payment for a funding deficiency or the sum of the amortization payments for solvency deficiencies and any special amortization payments.

According to the *Supplemental Pension Plans Act*,⁴⁸

- The amortization period for a funding deficiency is 15 years;
- The amortization period for a solvency deficiency is 5 years

Some changes have been made to these rules.

- First, since December 31, 2006, municipal and university pension plans are exempted from the solvency rules, because of the permanent nature of those institutions.⁴⁹ Similar rules apply to the *Régime de retraite du personnel des CPE et des garderies privées conventionnées du Québec* (Pension Plan for the Personnel of Early Childhood Centres (CPEs) and Subsidized Daycare Centres in Québec) and the *Régime complémentaire de rentes des techniciens ambulanciers œuvrant au Québec* (Supplemental Pension Plan for Ambulance Technicians Working in Québec);
- Second, following the financial crises in the 2000s, some temporary relief measures were introduced by the government:
 - In the private sector, contributions for solvency deficiencies may be reduced by using one or more of the following methods: consolidation of certain deficiencies, extension to 10 years of the amortization period for solvency deficiencies and assets smoothing on the basis of solvency.
 - In the public sector, municipalities are allowed to pay only 33% of the required contribution related to a technical funding deficiency; universities are allowed to pay 20% of such contributions.⁵⁰ These relief measures apply to monthly payments due before January 1, 2014.

⁴⁶ Specific rules apply to some plans.

⁴⁷ Section 39.

⁴⁸ Section 142.

⁴⁹ *Regulation respecting the funding of pension plans of the municipal and university sectors*, c. R-15.1, r.2 and *Regulation respecting the exemption of certain pension plans from the application of provisions of the Supplemental Pension Plans Act*, c. R-15.1, r.8.

⁵⁰ This measure also applies to the *Régime de retraite du personnel des CPE et des garderies privées conventionnées du Québec* (Pension Plan for the Personnel of Early Childhood Centres (CPEs) and Subsidized Daycare Centres in Québec) and the *Régime complémentaire de rentes des techniciens ambulanciers œuvrant au Québec* (Supplemental Pension Plan for Ambulance Technicians Working in Québec).

1.3.5 Overly generous transfer values

A transfer value is the value given to the accumulated benefits of a pension plan member when his or her plan membership ends before the age of retirement. The determination of transfer values is required to calculate the benefits of a member leaving the plan, who during his or her working life had been contributing.

Transfer values have another effect. The solvency valuation is based on members' transfer values.

A problem arises because the formula currently used to determine transfer values leads to an inequitable situation where it is applied to a plan member whose employment ceases. The current formula for determining transfer values results in values that are too generous because of the discount rate used.

The formula leads to the use of a low discount rate, which inflates the monetary value of benefits transferred out of the plan, to the detriment of members who remain in the plan. That is unfair for those who continue to participate in the plan.

1.3.6 The legislative framework makes agreements between the parties difficult

The last flaw in defined benefit pension plans that was identified by the Committee arises from the rigid character of the legislative framework.

The Committee observed that in Québec, the current legislative framework does not give the parties much leeway to restructure plans and adapt them to current realities. In some cases, the Act blocks some initiatives the parties could want to agree on.

- For example, it is impossible to insure retirees' pensions with an insurer while separating retirees from the plan.
- Such an approach would, however, be advantageous to all. It would provide more security for the retirees while reducing the plan's financial burden and the risk that the plan represents for the employer.

Protection of vested rights

The protection of vested rights illustrates the rigidity of the current legislative framework. The provisions of the *Supplemental Pension Plans Act* concerning reducing amendments makes it virtually impossible for the parties to agree on amendments affecting accrued benefits, such as the reduction or suspension of pension indexation.

The Committee was made aware of this situation by employers, who pointed out the legislative obstacles that prohibit them from adopting innovative solutions that would be likely, over time, to bolster pension plans.

❑ Pension indexation

The indexation of pensions is an example of a vested right which, under the current legislative framework, cannot be called into question.

Indexation is very costly for pension plans. The Régie des rentes du Québec estimates that full indexation can increase a plan's costs by up to 30%.⁵¹

Only a minority of plans under the supervision of the Régie des rentes du Québec provide for indexation. Defined benefit plans under the supervision of the Régie des rentes du Québec provide for indexation of pensions in payment in 37.1% of cases—which cover 31.6% of plan members.

The situation differs significantly for public sector plans compared with private sector plans. The pensions of more than half (56.8%) of defined benefit plan members who work in the public sector will be indexed while being paid. In the private sector, that is the situation of only 17.8% of plan members.⁵²

❑ Continuation of temporary measures

The continuation of measures originally considered to be temporary is another example of the unintentional protection of vested rights.

Measures taken in the past to encourage employees to retire were based on a particular labour market situation; such measures were needed to free up positions for new workers.

Those measures have, in fact, become permanent and cannot be called into question, even though the labour market trend has reversed, and the current objective is to retain experienced workers.

⁵¹ See page 58.

⁵² Régie des rentes du Québec, *Régimes complémentaires de retraite, Statistiques 2009* (Supplemental Pension Plans, 2009 Statistics), page 28.

❑ **Additional pension benefit for members who leave employment before age 55**

To account for worker mobility, the *Supplemental Pension Plans Act* requires pension plans to provide an additional pension benefit⁵³ to members who leave their employment before age 55. The benefit must be in the form of a life pension or be payable in a lump sum. This can create a situation where a pension plan has to pay a higher benefit than the one initially promised.

Québec's *Supplemental Pension Plans Act* is the only legislation that provides for such a minimum requirement. In a period financial crisis affecting pension plans where we are calling into question the rigidity of the Act with respect to vested rights, we must ask ourselves whether such a measure can still be justified.

Surely, the main purpose of a pension plan is not to subsidize in any way plan members who leave their employment.

❑ **Funding rules for multi-employer plans**

The funding rules for multi-employer plans are another example of unintended effects that protect vested rights in the case of an insolvent plan that is on-going.

Where an employer who is party to a multi-employer plan withdraws, the employer's retirees and active members can choose to keep their benefits in the pension plan, mainly so that they can have a share in the distribution of any eventual surplus assets. The benefits of such members who stay in the plan following their employer's withdrawal cannot be reduced to take into account the plan's degree of solvency.

The plan's remaining employers are required to pay additional contributions to cover the plan's deficiency. They are responsible for deficiencies with respect to all the members, including members whose employer has withdrawn from the plan and who have no employment relationship with the remaining employers. Thus, in some plans where only a few employers remain, those employers have to cover deficiencies that are continually increasing.

The financial situation of multi-employer plans whose contributions are negotiated is worrisome.

- Those plans cover unionized employees where the employer contribution is negotiated with the union and part of the collective agreement.
- The administrator of this type of plan (a pension committee or a board of trustees) usually does not have the power to change the employer contribution since it is determined through employer-union negotiations.
- Generally, the parties to these plans have always believed that the employer's financial responsibility is limited to the negotiated contribution.

⁵³ Section 60.1 of the *Supplemental Pension Plans Act*. This requirement is intended to grant members who cease being active members more than 10 years before the normal retirement age (i.e., generally before age 55) an additional pension benefit equal to the difference between a partially indexed pension and the deferred pension offered under the pension plan. The measure also applies in the event of a member's death.

- However, unlike other Canadian laws, Québec's *Supplemental Pension Plans Act* does not take into account the status of multi-employer plans whose employer contribution is negotiated, and they are treated like all other plans.
- Their situation is made more complicated by the fact that several of these plans are affected by demographic factors, the employers' financial situation and the sector in which they are active.

Multi-employer plans elsewhere in Canada

General observations on the rules applied elsewhere in Canada for funding and pension benefits under defined benefit multi-employer pension plans in which contributions are negotiated

At the Canadian federal level and in some Canadian provinces, for example, in British Columbia and Ontario, on-going multi-employer plans are allowed to reduce the benefits of active members and retirees to take into account a funding deficiency.

Generally, an on-going multi-employer pension plan must show that the required contributions are sufficient to pay the pension benefits promised under the plan. Otherwise, the plan administrator must propose solutions to ensure that contributions are sufficient.

Such solutions usually result in a reduction in pension benefits or, with the employers' consent, an increase in contributions.

1.4 Defined contribution plans and personal savings plans

Defined contribution plans and personal savings plans are also being weakened by a certain number of flaws and shortcomings.

- People who have a defined contribution pension plan or a personal savings plan often do not know how much replacement income they will have.
- Retirees with a defined contribution plan must withdraw their funds when they retire.
- In personal savings plans, management fees are often too high and rates of return are low.

Lack of knowledge about replacement income after retirement

We found that people who have a defined contribution pension plan or a personal savings plan have only a vague idea of the replacement income that they will obtain from their retirement capital. They do not seem to know whether the rate at which they contribute is high enough for them to meet their personal income replacement objective. The burden of financial planning falls on the individual. This is particularly true for people with personal savings plans.

The Régie des rentes du Québec provides calculation tools to help people with a defined contribution plan or a personal savings plan improve their planning so as to have sufficient retirement income. The Régie des rentes du Québec carries out an annual information campaign on financial planning for retirement.

In spite of those efforts, various surveys have shown that people with a defined contribution pension plan or a personal savings plan lack sufficient knowledge about the retirement income that they will have.

More generally, it seems evident that awareness about saving for retirement could be improved.

Retirees' obligation to withdraw their funds when they retire

Under defined contribution pension plans, as soon as a member retires, the member must transfer his or her retirement capital to a life income fund or use it to purchase a life annuity from an insurer.

Management fees that an individual must pay for investments in a life income fund are generally higher than management fees for a pension plan. The current low interest rates make the purchase of a life annuity expensive.

Federal tax rules allow a defined contribution pension plan to pay variable pension benefits in a way similar to a life income fund. This is allowed in Alberta and Manitoba but not in Québec.

Québec could eliminate this flaw by allowing defined contribution pension plans to pay variable pension benefits in a way similar to a life income fund.

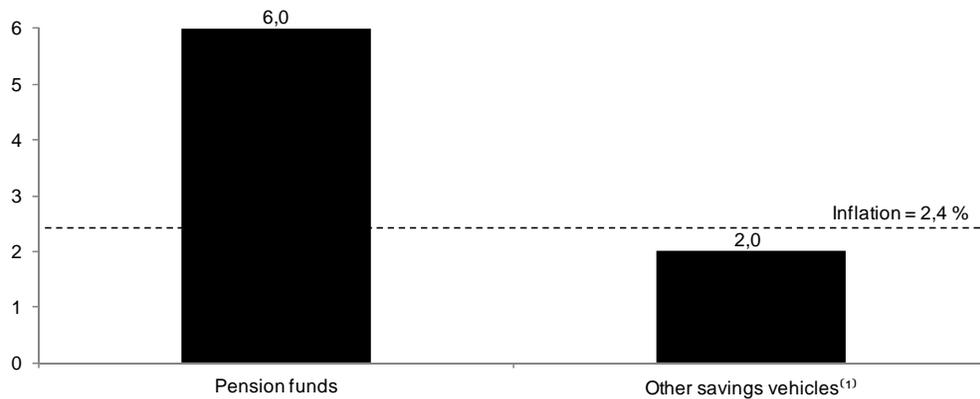
❑ Returns too low and management fees too high for personal savings plans

Personal savings plans have low rates of return. In such plans, the holder often has to make his or her own investment decisions. Generally, plan members are not investment experts. Thus, they are not always able to make the best decisions.

According to an analysis by the Régie des rentes du Québec, from 1999 to 2005, the average net rate of return on personal savings plans was about 2%, which was 0.4% below inflation, whereas during the same period, pension funds had a 6.0% median net rate of return.

CHART 10

Net rate of return for pension funds and other savings vehicles—1999 to 2005 (as a percentage)



(1) Includes registered retirement savings plans (RRSPs), registered retirement income funds (RRIFs), locked-in retirement accounts (LIRAs) and life income funds (LIFs).

Source: Régie des rentes du Québec, *Constats et enjeux concernant le système de retraite québécois* (Facts and Issues Concerning the Québec Retirement System), 2010.

The management fees for those plans are too high. As mentioned earlier,⁵⁴ median management fees for the assets in a fixed-income mutual investment fund in Canada are 1.31% and in an equity fund are 2.31%.

Furthermore, today there are financial vehicles (particularly funds traded on the stock markets) that make it possible for a person to self-manage his or her portfolio, with management fees approaching those of a pension fund.

⁵⁴ See page 34.

2. PRESSURES ON THE SYSTEM

With their flaws and structural defects, pension plans are under two types of pressures:

- The first is **demographic in nature** and affects plans in different ways, depending on their funding method;
- The series is **financial in nature**. In recent years, all pension plans have been affected by financial market performance and low interest rates.

2.1 Demographic pressures

Demographic pressures do not affect all pension plans in the same way.

- The basic federal plan and the compulsory plan administered by Québec are essentially or mainly funded on a pay-as-you-go basis.⁵⁵ They are directly affected by changes in the number of taxpayers or workers who fund the benefits or pensions paid annually to the beneficiaries of those plans.

Those changes depend on life expectancy, birth rates, immigration, age of entry in the labour market and age of retirement.

Those different demographic realities act on two ratios that are fundamental for the basic federal plan and the Québec compulsory plan, that is, the ratio of the working-age population to the total population and the ratio of length of life at retirement to length of working life.

- Defined benefit plans are funded. Thus, pension benefits are being funded when vested.

For those plans, all that matters is age at retirement and changes in life expectancy after retirement. An unexpected increase in life expectancy or retirement occurring earlier than expected results in costs over and above those determined in the plan's actuarial valuation.
- However, in the public plans, as in defined benefit plans, demographic changes lead to an increase in the relative number of retirees.
- For defined contribution plans and personal savings, demographic changes act directly on plan members: the member by himself must assume the risk of not having enough savings to cover his or her needs until life ends.

⁵⁵ See pages 19 and 21.

2.1.1 Life expectancy

Increased life expectancy means that pensions are in payment for a longer time. That affects the federal basic plan and the Québec compulsory plan, situated on the first and second floors of the Québec retirement system, as well as defined benefit plans. For defined contribution pension plans and personal savings plans, increases in life expectancy increase the risk assumed by the plan member.

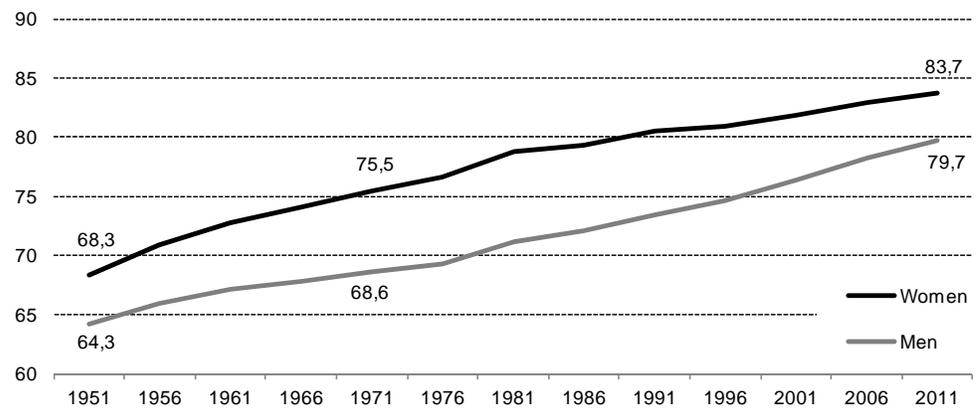
Life expectancy can be calculated at any given age. It is often presented at birth and at age 65 (the normal retirement age).

☐ Life expectancy at birth

From 1971 to 2011, life expectancy for women increased by just over 8 years, while that for men increased by just over 11 years.

CHART 11

Life expectancy at birth in Québec (in years)



Sources: Database on Canadian longevity and Institut de la statistique du Québec.

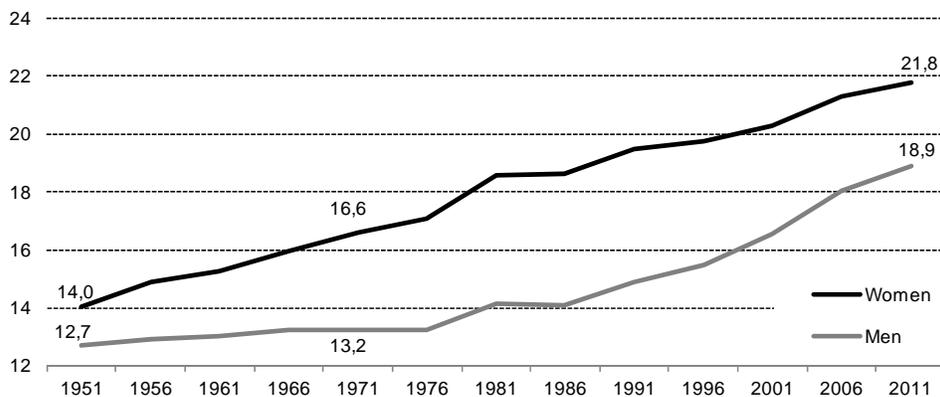
☐ Life expectancy at age 65

For pension plans, it is important to calculate life expectancy at age 65 in order to predict the period during which a pension will have to be paid.

- In 2011, life expectancy at age 65 was almost 19 years for men and 22 years for women.
- From 1971 to 2011, life expectancy at age 65 in Québec increased by just over 5 years for women and almost 6 years for men.

CHART 12

Life expectancy at age 65 in Québec (in years)



Sources: Database on Canadian longevity and Institut de la statistique du Québec.

☐ Increase in life expectancy increases the cost of promised pensions

A 4-year increase in life expectancy represents an increase of about 15% in the cost for funding pension plans.

In plans where the plan member assumes risk (e.g., defined contribution plans), an increase in life expectancy may result in:

- Delayed retirement;
- Reduced retirement income;
- Or—what is worse—an increased probability of living longer than the period covered by one's retirement savings, which experts call "longevity risk".

Defined benefit pension plans were developed at a time when the labour market was mainly composed of men, and there was an expectation of paying pensions for a maximum period of 13 years. Today, taking into account early retirement, it is not unusual for some plan members to be retired for 30 years.

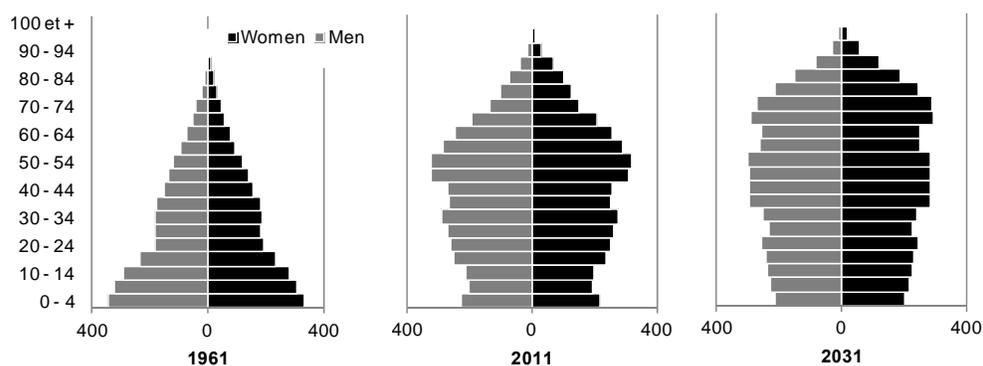
2.1.2 Birth rates and immigration—the age pyramid

Birth, immigration and mortality are the factors that determine population growth. In Québec, net population growth has decreased over the last 50 years because of lower birth rates (partially offset by increased immigration) and changes in death rates, resulting from increased life expectancy.

Changes in the age pyramid illustrate past and projected trends affecting the population as a whole, divided into age groups. Changes in the Québec age pyramid since 1961 and the projection for 2031 show aging of the population and increases in life expectancy.

CHART 13

Changes in the Québec age pyramid (in thousands of people, by age group)



Source: Institut de la statistique du Québec.

The 1961 pyramid represents a young population. It has a very broad base. Conversely, the 2031 pyramid is unbalanced: the base is narrow, and we observe a bulge as of age 40. The 2031 pyramid is characterized by an increase in very old people (age 90 and over).

- In 2011, in Québec, 1.3 million people were aged 65 and over. They represented 15.7% of the total population.
- In 2031, which is less than 20 years from now, the Institut de la statistique du Québec projects that the number of people aged 65 and over will have almost doubled, reaching 2.3 million. At that time, the elderly will represent 25.6% of the total population.

2.1.3 Ages of entering and leaving the labour market

The ages of entering and leaving the labour market determine the length of the working life. We observe two simultaneous phenomena:

- In Québec, as in the main developed countries, young people are entering the labour market at an increasingly older age.
- Québec workers retire earlier than workers elsewhere.

As Table 4, below, shows, on average, workers leave the labour market at age 60 in Québec, compared with nearly age 63 in Canada as a whole and just over age 64 in Ontario. This phenomenon is encouraged by the provisions of some pension plans, which encourage workers to retire earlier.

This phenomenon, together with increased life expectancy, significantly increases the length of the payment period for retirement pensions.

- In 1971, men retired at age 65 and had a life expectancy of 13 years.
- In 2009, men retired at age 60 and had a life expectancy of around 23 years, whereas women had a life expectancy of 26 years at retirement.

Age at retirement: the “normal” age and the “effective” age

Normal age

The normal retirement age is the age used as a reference and at which no pension reduction is applied. Under the Québec Pension Plan the normal age is 65. That age varies among supplemental pension plans. The Act prohibits it from being later than age 65.

Effective age

The effective retirement age is the age at which workers actually take their retirement. In 2012, the median effective retirement age was just over age 60 in Québec, just over 64 in Ontario and almost age 63 in Canada as a whole.

TABLE 4

Median retirement age—2012 (in years)

	Public sector	Private sector	Self-employed workers	Total
Québec	58.0	60.6	66.3	60.3
Ontario	62.0	64.6	67.4	64.1
Canada	60.6	63.4	65.6	62.6

Source: Statistics Canada.

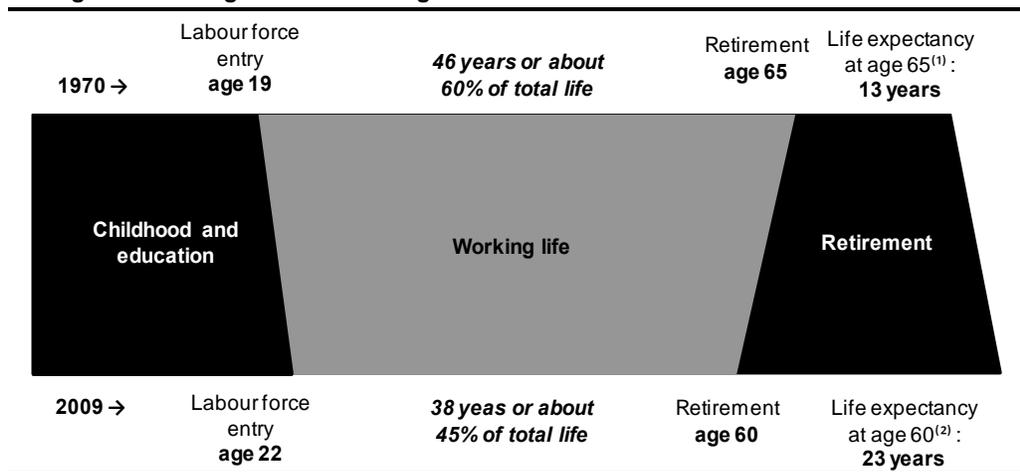
2.1.4 Ratio of length of retirement to length of working life

If people live longer and longer and continue to retire from the labour market at the same age as they now do—after entering the labour market later and later—the ratio of length of retirement to length of working life will continue to increase

Since 1970, length of working life for men has decreased by 8 years. Workers are working fewer years to fund a longer retirement. In Québec, from 1970 to 2009, the working life as a proportion of total life decreased from around 60% to 45%.

CHART 14

Changes in the length of the working life from 1970 to 2009



(1) Life expectancy for men is used here to better reflect the composition of the labour force. For women, life expectancy at age 65 in 1970 was 17 years.

(2) Life expectancy for men is used for comparison with life expectancy in 1970. For women, life expectancy at age 60 in 2009 was almost 26 years.

Sources: Québec Ministère des Finances et de l'Économie, Institut de la statistique du Québec, Régie des rentes du Québec and Statistics Canada.

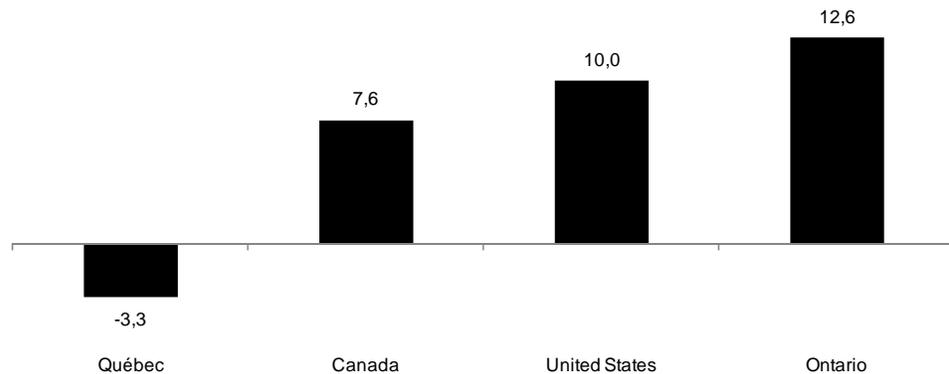
2.1.5 The population aged 15 to 64

As pointed out in its report, the Commission nationale sur la participation au marché du travail des travailleuses et travailleurs expérimentés de 55 ans et plus⁵⁶ found that the Québec population aged 15 to 64 years—what is called the working-age population—will decline by 3.3% between 2010 and 2030. During the same period, that population will increase by 7.6% in Canada as a whole, by 12.6% in Ontario and by 10.0% in the United States.

If Québec wants to maintain its economic growth, it will have to offset the decline in the working-age population by increasing productivity, work intensity, labour force participation rates, birth rates or immigration.

CHART 15

Changes in the population aged 15 to 54—2010 to 2030 (as a percentage)



Source: Commission nationale sur la participation au marché du travail des travailleuses et travailleurs expérimentés de 55 ans et plus, *Le vieillissement de la main-d'œuvre et l'avenir de la retraite : des enjeux pour tous, un effort de chacun*, (An Aging Work Force and the Future of Retirement: Issues for All, an Effort From Each of Us), 2011.

⁵⁶ Commission nationale sur la participation au marché du travail des travailleuses et travailleurs expérimentés de 55 ans et plus, *Le vieillissement de la main-d'œuvre et l'avenir de la retraite : des enjeux pour tous, un effort de chacun*, (An Aging Work Force and the Future of Retirement: Issues for All, an Effort From Each of Us), September 2011.

Issues related to population aging

The report made by the Commission nationale sur la participation au marché du travail des travailleuses et travailleurs expérimentés de 55 ans et plus, which was submitted to the government on September 11, 2011, paints an interesting portrait of the issues related to the aging of Québec's population.⁵⁷

The Commission points out, for example, that an increase in labour market participation by people aged 55 to 69 is essential to economic growth. The tendency of Quebecers to take early retirement has already had and will continue to have major repercussions on the economy, the standard of living, the workforce and intergenerational factors.

For those reasons, it is vitally important to remove the incentives for early retirement.

⁵⁷ *Le vieillissement de la main-d'œuvre et l'avenir de la retraite : des enjeux pour tous, un effort de chacun*, (An Aging Work Force and the Future of Retirement: Issues for All, an Effort From Each of Us), 2011.

2.1.6 Increase in the relative number of retirees

For public plans and defined benefit plans, demographic changes have spurred an increase in the relative number of retirees. In plans with a specific benefit commitment, this increase has had an effect on overall plan balance by affecting the degree of plan maturity and plan weight.

Increase in the number of retirees under defined benefit plans: degree of maturity and plan weight

An aging population, increased longevity and early retirement have led to an increase in the relative number of retirees for a given plan. This phenomenon can be measured in two ways: plan maturity and plan weight.

- Plan maturity corresponds to the proportion of retiree commitments in relation to the total value of plan commitments.
- Plan weight corresponds to the value of plan commitments in relation to the total payroll for active members.

Where a pension plan provides for generous benefits, this can, over time, considerably increase its weight in relation to the business's overall activities. For the same solvency deficiency, a greater degree of maturity requires greater contributions by both employers and employees in order to maintain or restore the plan's financial balance.

In the 1970s, the commitments of a typical pension plan were equal to one times payroll. Today less than 4% of plans have a weight less than one. Plan weight is an indicator of how a plan deficiency can influence contributions. In the event of a deficiency, the greater the plan weight, the more the total contributions required as a proportion of payroll increase quickly. Plans in the municipal and university sectors have a greater average weight than other plans because of the generous benefits offered and the fact that those plans were created many years ago.

As at December 31, 2011, 45% of the active members of defined benefit plans belonged to a plan with a weight over three. This means the value of plan commitments was three times greater than the payroll for the active members. In effect, the contributions required to ensure plan solvency were proportionally three times greater than those for a plan with a weight of one.

TABLE 5

Breakdown of plans and active members according to the value of commitments, on a solvency basis, in relation to total payroll (weight) – as at December 31, 2011
(as a percentage of total payroll)

Weight	Plans	Active members
Less than 1	4	14
1 to 1.99	14	8
2 to 2.99	15	33
3 to 3.99	16	7
4 to 4.99	13	14
5 to 5.99	8	2
6 and over	30	22
Total	100	100

Source: Régie des rentes du Québec.

2.2 Market performance and interest rates

All pension plans have been affected by low interest rates and the financial crises of the 2000s. These have had a rebound effect on pension plan investments, whose value has not increased as expected. This situation has apparently hit defined benefit plans hardest since their commitments are defined.

For other plans—defined contribution plans and personal savings plans—market pressures and low interest rates have affected all participants, whose retirement income will inevitably be decreased.

2.2.1 Value of assets

The financial markets have a direct impact on the value of pension plan assets.

- In 2000, buoyed by the strong returns of the 1990s, actuaries expected pension plan returns of around 7%.⁵⁸
- In reality, for 2001-2011, the median return for pension funds was only 4.8%.⁵⁹

2.2.2 Plan liabilities

Defined benefit plans have apparently been hit hardest by low interest rates, which have affected plan liabilities.

- Low interest rates have an impact on expected returns and the discount rate used to calculate the value of plan liabilities.
- Low interest rates reduce future returns and therefore the capacity to cover plan commitments.

The changes to Government of Canada bond yields provide a good illustration of this phenomenon.

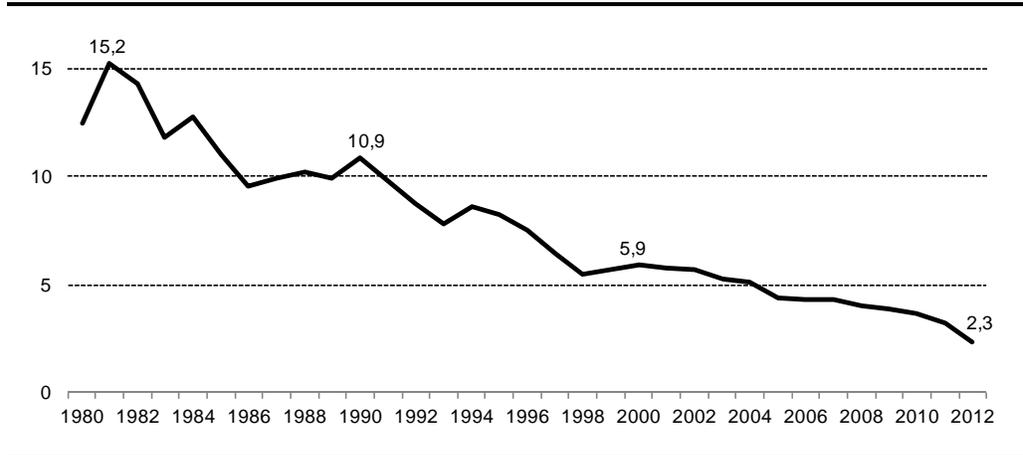
- The yield for maturities greater than 10 years was 10.9% in 1990.
- The yield dropped to 5.9% in 2000 and then to 2.3% in 2012.

⁵⁸ Régie des rentes du Québec, *Toward Better Funding of Defined Benefit Pension Plans*, 2005, Table 3.1, page 44.

⁵⁹ Canadian Institute of Actuaries and RBC Dexia Investor Services, *Report on Canadian Economic Statistics 1924-2011*, 2012.

CHART 16

Federal bonds with maturities greater than 10 years
(as a percentage)



Source: Statistics Canada.

2.2.3 Effects that vary by plan

Market performance and interest rates have very different effects depending on the type of plan.

The Old Age Security program and the Québec Pension Plan are funded solely or mainly on a pay-as-you-go basis. They are mainly affected by economic conditions.

Under defined benefit plans, return risk is assumed by the employer and sometimes by employees. Plan deficiencies caused by financial crises must be addressed by increasing employer contributions (and eventually employee contributions) or by revising plan commitments.

Under defined contribution plans, return risk is assumed by members. The amount of retirement income a member will receive is directly affected by the performance of the financial markets.

3. IMPACT ON PENSION PLANS

The flaws and pressures we have identified have a major impact on the Québec retirement system.

- These flaws have weakened the Québec retirement system, particularly the defined benefit plans on the third floor of the system.
- The demographic and financial pressures on these plans and the entire system have put these flaws in the spotlight.

The Committee analyzed the current impact of these flaws and pressures by examining each floor of the Québec retirement system.

3.1 Basic plan and the compulsory plan

The phenomena we have identified have an impact on the federal Old Age Security program and the Québec Pension Plan.

Impact of demographic changes on the basic plan administered by the federal government

The aging population has a direct impact on the cost of the basic plan administered by the federal government (Old Age Security program, Guaranteed Income Supplement, Allowance). These programs are funded from federal revenue on a pay-as-you-go basis.

In the budget presented on March 29, 2012, the federal government announced it would gradually raise the age of eligibility for the Old Age Security pension and the Guaranteed Income Supplement from age 65 to 67 between 2023 and 2029.

- Persons born before April 1, 1958 are not affected by this measure.
- Persons born in 1963 or later will be entitled to benefits only as of age 67.

Changes to the Québec Pension Plan

Demographic changes have had an impact on Québec Pension Plan funding. Compounding this are the effects of the financial crisis and low interest rates. According to the *Actuarial Report of the Québec Pension Plan as at 31 December 2009*, the steady-state contribution rate⁶⁰ increased from 10.54% as at December 31, 2006 to 11.02% as at December 31, 2009.

On June 8, 2011, the Gouvernement du Québec passed measures to improve the long-term funding of the Québec Pension Plan.⁶¹ For the first time since 2003, the contribution rate was modified. It was decided to gradually increase the contribution rate by 0.15% per year from January 1, 2012 to January 1, 2017, raising the rate from 9.9% to 10.8%.

Adjustments to the Plan were also made to encourage workers to work longer.

- The early retirement reduction will gradually increase between January 1, 2014 and January 1, 2016. Depending on the amount of the pension, the annual reduction will increase from 6.0% to a maximum of 7.2%.
- As of January 1, 2013, the amount of a pension will increase by 8.4% for each year a person delays retirement after age 65.
- The changes to the Plan have lowered the steady-state contribution rate from 11.02% to 10.81%.

⁶⁰ See page 21 for the definition of “steady-state contribution rate.”

⁶¹ *An Act respecting mainly the implementation of certain provisions of the Budget Speech of 17 March 2011 and the enactment of the Act to establish the Northern Plan Fund.*

The Committee supports the government's decision to modify the adjustment factor to encourage workers to postpone retirement.

**Change to the adjustment factors under the Québec Pension Plan
to encourage workers to postpone retirement**

In the 2011-2012 Budget, the Gouvernement du Québec announced a change to the adjustment factors to encourage workers to postpone retirement. The reasons for this change were set out in a budget paper.⁶²

The budget paper states as follows:

- The adjustments to the Québec Pension Plan have the same objectives as the adjustments to the Canada Pension Plan, which are aimed at encouraging experienced workers to work longer. The ultimate goal is to extend working life.
- With life expectancy increasing, the period during which benefits are paid under the Québec Pension Plan is lengthening and exerting pressure on the contribution rate. The earlier a pension is applied for (i.e., at age 60), the longer benefits are paid and the greater the pressure on the Plan.

⁶² Gouvernement du Québec, *A Stronger Retirement Income System: Meeting the Expectations of Quebecers of Every Generation, Budget 2011-2012*, pages 20 and 23.

3.2 Defined benefit plans

The flaws and pressures we have identified (demographic changes, financial crises, falling interest rates, legislative rules, risk management) have a direct impact on defined benefit plans.

- The impact can be measured by analyzing changes in the degree of solvency.
- These pressures have lowered the number of existing plans and the number of covered members.

3.2.1 Solvency of defined benefit plans

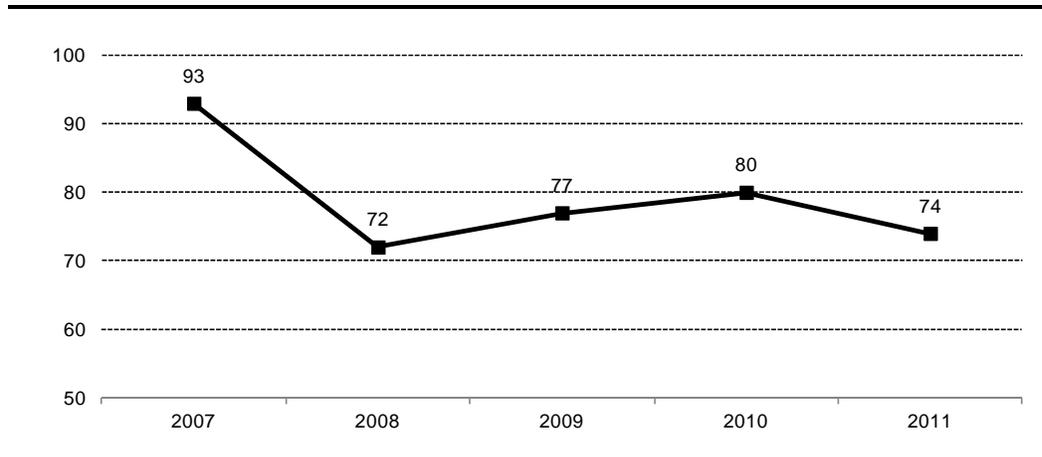
In recent years in Québec, there has been a sharp decline in the solvency of defined benefit plans.

☐ Median solvency ratio

Between 2007 and 2011, the median solvency ratio for all defined benefit plans supervised by the Régie des rentes du Québec dropped from 93% to 74%.

CHART 17

Change in median solvency ratio – all defined benefit plans (as a percentage)



Source: Régie des rentes du Québec.

❑ Plans whose solvency is less than 80%

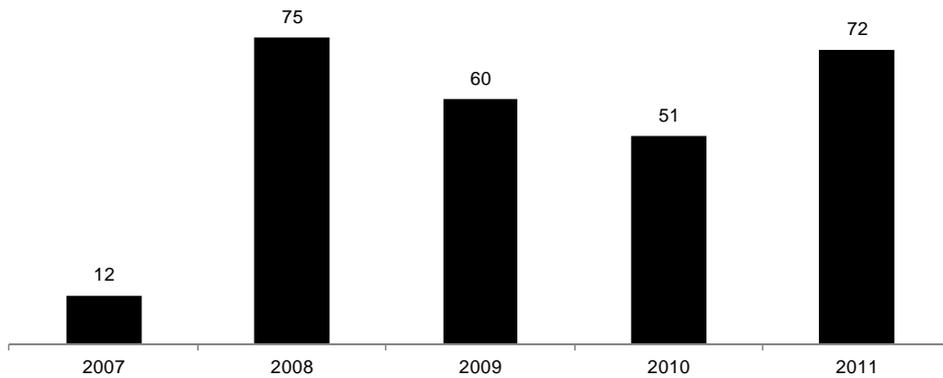
In 2007, 12% of defined benefit plans had a solvency ratio of less than 80%, meaning their assets were valued at less than 80% of their commitments if the plans had been terminated as at the valuation date.

This proportion jumped to 75% in 2008 because of the financial crisis and its impact on the value of plan investments.

After decreasing in 2009 and 2010, this proportion increased again in 2011. According to the projections made at the time, 72% of defined benefit plans had a degree of solvency of less than 80%.

CHART 18

Proportion of defined benefit plans whose solvency is less than 80%
(as a percentage)



Source: Régie des rentes du Québec.

□ Number of members and beneficiaries involved

If we consider not the number of plans but the number of members and beneficiaries, the situation is even more worrisome, as Table 6 shows.

- As at December 31, 2011, according to the Régie des rentes du Québec's projections, nearly 88% of members and beneficiaries belonged to defined benefit plans whose solvency ratio was less than 80%.
- The proportion was 86% for plans subject to solvency requirements.⁶³
- The proportion was just over 92% for plans exempted from solvency requirements, essentially plans in the municipal and university sectors,⁶⁴ as well as plans for early childhood centres (CPEs) and ambulance technicians.

The information in the table means that if all plans had been terminated as at December 31, 2011, fewer than 20,000 members would have been paid 100% of their benefits on a solvency basis. Moreover, over one million members would have been paid less than 80% of their benefits on a solvency basis. Those benefits would therefore have been at risk in the event of the employer's bankruptcy or insolvency.

⁶³ See page 63 for the distinction between plans subject to solvency requirements and plans not subject to solvency requirements.

⁶⁴ These plans have been exempted from solvency requirements since December 31, 2006. See page 63.

TABLE 6

Breakdown of defined benefit plans under the supervision of the Régie des rentes du Québec⁽¹⁾ and of members and beneficiaries, according to their degree of solvency
(as a percentage of the total)

Degree of solvency (%)	Subject to solvency requirements		Exempted from solvency requirements		All plans	
	Plans	Members and beneficiaries	Plans	Members and beneficiaries	Plans	Members and beneficiaries
Less than 60	3.5	1.4	12.4	7.0	5.6	2.6
60 to 70	20.0	64.2	48.6	66.5	26.7	64.7
70 to 80	45.2	20.8	23.2	18.6	40.0	20.4
<i>Subtotal</i>	<i>68.7</i>	<i>86.3</i>	<i>84.2</i>	<i>92.1</i>	<i>72.3</i>	<i>87.6</i>
80 to 90	19.8	7.6	10.2	7.4	17.5	7.5
90 to 100	4.7	4.2	3.4	0.3	4.4	3.4
100 and over	6.8	1.9	2.3	0.2	5.7	1.5
<i>Subtotal</i>	<i>31.3</i>	<i>13.7</i>	<i>15.8</i>	<i>7.9</i>	<i>27.7</i>	<i>12.4</i>
Total	571	962,779	177	263,646	748	1,226,425

Sums of percentages may not correspond to the totals indicated due to rounding.

(1) At the end of 2011, 866 defined benefit plans were under the Régie des rentes du Québec's supervision. This solvency projection covers only 748 of them, with the remainder having been excluded either because data was unavailable or the plan had changed (termination, merger or transfer to another supervisory body).

Source: Régie des rentes du Québec.

❑ **Worsening of the situation between 2006 and 2011**

Table 7 shows the solvency of defined benefit plans that filed an actuarial valuation as at December 31, 2006, along with their estimated financial situation as at December 31, 2011.

The table also provides a solvency projection for defined benefit plans, regardless of whether they filed an actuarial valuation as at December 31, 2006.

The situation has clearly worsened for the plans exempted from solvency requirements.

- In 2006, their median solvency ratio was 93%. Though the situation was already cause for concern, such plans were in a better position than plans subject to solvency requirements (median degree of solvency of 90%).
- The situation had deteriorated by 2011. The estimated median degree of solvency was 67%, while the median degree of solvency for plans subject to solvency requirements was 75%.

TABLE 7

Changes to the solvency of defined benefit plans under the supervision of the Régie des rentes du Québec⁽¹⁾
(plans as a number and degree of solvency as a percentage)

	Actuarial valuation as at December 31, 2006	Projection as at December 31, 2011 (plans for which an actuarial valuation was carried out in 2006)	Projection as at December 31, 2011 (all plans)
Plans subject to solvency requirements			
Number of plans	230	230	571
Median degree of solvency (%)	90	75	75
Plans exempted from solvency requirements			
Number of plans	76	76	177
Median degree of solvency (%)	93	67	68
All plans			
Number of plans	306	306	748
Median degree of solvency (%)	91	73	74

(1) At the end of 2011, 866 defined benefit plans were under the Régie des rentes du Québec's supervision. This solvency projection covers only 748 of them, with the remainder having been excluded either because data was unavailable or the plan had changed (termination, merger or transfer to another supervisory body).

Source : Régie des rentes du Québec

❑ An overall deficiency of \$41 billion

Table 8 shows the deficiency of defined benefit pension plans under the supervision of the Régie des rentes du Québec.

- According to the data as at December 31, 2011, the median solvency ratio of 74% corresponds to an overall deficiency of \$37 billion. As at December 31, 2012, the Régie projected a total deficiency of \$40.6 billion for all pension plans with deficiencies.
- The deficiency is almost equally shared between private sector plans (\$18.8 billion) and public and parapublic sector plans (\$18.2 billion).
- However, private sector plans account for 75% of the members and beneficiaries of defined benefit plans under the Régie's supervision. Public and parapublic plans account for only 25% of the members and beneficiaries.

TABLE 8

Deficiency of defined benefit plans under the supervision of the Régie des rentes du Québec⁽¹⁾ – as at December 31, 2011

	Private sector		Public and parapublic sectors		All plans
	Value	% of all plans	Value	% of all plans	
Number of plans	559	75%	189	25%	748
Members and beneficiaries (000)	914	75%	312	25%	1,226
Market value of assets (\$ billion)	55.7	54%	47.1	46%	102.8
Median degree of solvency (%)	75		68		74
Deficiency (\$ billion)	18.8	51%	18.2	49%	37.0

(1) At the end of 2011, 866 defined benefit plans were under the Régie des rentes du Québec's supervision. This solvency projection covers only 748 of them, with the remainder having been excluded either because data was unavailable or the plan had changed (termination, merger or transfer to another supervisory body).

Source: Régie des rentes du Québec.

❑ Intergenerational problems

If nothing is done to reduce pension plan costs, particularly with regard to past service, intergenerational problems will afflict Québec society in the coming years.

We should not be surprised if future workers decide they no longer want to participate in defined benefit plans for which their contributions will partially fund the deficiencies related to past benefits.

New pension plan models will not solve the funding problems with regard to deficiencies for past service unless we tackle those deficiencies head-on. To a certain degree, these models will protect new workers. However, unless past problems are resolved, the deficiencies will have to be made up by increasing contributions.

❑ A phenomenon that is not unique to Québec

The declining solvency of defined benefit plans is not unique to Québec. This phenomenon is also occurring in Canada and the rest of the world.

- The median degree of of plans under the supervision of the Financial Services Commission of Ontario (FSCO) was 72% as at December 31, 2011.
- The weighted average degree of solvency⁶⁵ of defined benefit plans supervised by the Office of the Superintendent of Financial Institutions Canada (OSFI) was estimated at 81% as at December 31, 2011.
- Considering that, on that date, 68% of the plans supervised by the OSFI had a degree of solvency of less than 80%, the median degree of solvency would be below 80%.

⁶⁵ The weighted average solvency ratio is the total assets of all plans supervised by the OSFI, divided by the total liabilities of all plans.

❑ Plans in the municipal sector

The situation is particularly worrisome for defined benefit plans in the municipal sector.

The municipal sector manages 170 defined benefit plans with 122,000 members. Those plans alone account for over 20% of pension plans supervised by the Régie des rentes du Québec and have nearly 10% of the members and beneficiaries of such plans.

As at December 31, 2011, the total funding deficiency for Québec municipalities was estimated at just over \$4 billion and the solvency deficiency at nearly \$9 billion.⁶⁶

■ A heavy burden for municipalities

Pension plans entail costs, which place a heavy burden on Québec municipalities as employers.

Pension plans make up a significant part of municipal budgets.

— For example, according to the 2013 operating budget for Ville de Montréal, pension plan commitments for 2013 will total \$584 million, or 12% of the total operating budget of \$4.9 billion.

— In fact, the amount of \$584 million includes a reduction of \$80 million further to the city's use of the relief measures.

Cities—and therefore taxpayers—cover pension plan deficiencies through tax increases. Under some municipal plans, workers are asked to fund deficiencies through increased contributions.

The relief measures and the measures exempting certain plans from the usual solvency requirements, which were specifically created for municipalities, have only increased the underfunding of pension plans.

The Committee understands that employers cannot eliminate plan deficiencies in a short period of time without unduly raising taxes and member contributions. However, steps should be taken to restore the financial situation of plans over a reasonable period of time.

⁶⁶ Régie des rentes du Québec.

□ University plans

The deficiencies in the university sector are as worrisome as those in the municipal sector.

As at December 31, 2011, the total funding deficiency for Québec universities was estimated at just over \$1 billion. The total solvency deficiency was evaluated at just over \$4 billion as at the same date.⁶⁷

A multipronged approach must be taken to ensure the sustainability of plans and greater intergenerational equity.

3.2.2 Abandonment of defined benefit plans

For a number of years, the trend has been to offer newly hired workers pension plans where they alone assume the risks. Many defined benefit plans have been converted into defined contribution plans, or a defined contribution component has been added for future service.

This trend is regrettable from an intergenerational standpoint.

- Newly hired workers do not receive the same level of financial security as co-workers who have been with the business longer.
- New workers are barred from membership in a quality pension plan offering the same level of financial security guaranteed to previous generations.

□ Reducing costs and transferring risks

The addition of a defined contribution component enables employers to reduce plan costs for future service and transfer risks to members. This is probably one of the only methods employers can use to manage costs, without having to reduce the benefits of active members or members who are not yet receiving benefits.

- In 2000, the Régie des rentes du Québec was supervising 1,160 active⁶⁸ defined benefit plans. Seventy-four of those plans (6.4%) had a defined contribution component.
- As at December 31, 2011, the Régie des rentes du Québec was supervising 787 active defined benefit plans, of which 190 (24.1%) had a defined contribution component.

⁶⁷ Régie des rentes du Québec.

⁶⁸ Active plans are plans supervised by the Régie des rentes du Québec that are not in the process of being terminated.

❑ **Concern for the future**

The risk inherent to abandoning defined benefit plans in favour of defined contribution plans is that expected future retirement income will be reduced.

Against a backdrop where newly hired workers are offered pension plans where they alone assume all risks, many members will have to assume retirement-related risks themselves and, in all likelihood, will find it very hard to accumulate enough capital.

❑ **“Target benefit” plans**

For many, the future of defined benefit plans hinges on new plan models where risks are shared. Such plans can take the form of “target benefit” plans.

Grouped with target benefit plans are a family of plans midway between defined benefit plans and defined contributions plans.

Target benefit plans are interesting in that they define a specific, funded benefit (as in defined benefit plans) but provide flexibility with regard to the amount of contributions and the nature of the benefits.

■ **Meeting certain needs**

For the Committee, new plan models, including target benefit plans, can meet the needs of employers and workers in a context where both parties share the risks.

In recent years, legal developments in Québec have made a new kind of plan possible: a member-funded pension plan (MFPP). This plan gives a greater number of unionized workers access to a defined benefit plan without unduly increasing the financial burden on businesses.

On December 6, 2012, the National Assembly of Québec passed the *Act to provide for the establishment of target-benefit pension plans in certain pulp and paper sector enterprises*. This allowed for the creation of plans where active and retired members share risks during the plan's existence.

■ **A more flexible framework**

The Committee favours providing a more flexible legislative framework.

The new approaches described above address the challenges related to pension plan funding and coverage for Québec workers. The law must ensure a smooth transition to these plans—whether from defined benefit plans or defined contribution plans—for workers who make that choice.

The transition should be transparent with regard to transferring related risks to members and any uncertainties regarding benefits.

New pension plan models

Target benefit plans

In general, target benefit plans provide a specific benefit that is funded by set employer contributions. The employer is not responsible for deficiencies.

If the employer contributions are not sufficient to provide the target benefits, member contributions can be increased and benefits can be reduced.

A target benefit plan features:

- Set contributions that are determined in advance;
- A formula for calculating the target benefits;
- Benefits and funding policies setting out the methods for varying benefits according to the cost to be assumed;
- Predetermined reserve levels;
- Provisions for adjusting benefits.

Unlike other types of plans where contributions vary according to benefits, under a target benefit plan contributions of a fixed amount are established first and benefits are then determined based on contributions, with the possibility to adjust them according to pension plan experience.

The Committee has not examined target benefit plans in depth since the Régie des rentes du Québec has put together a working committee for that purpose.

New pension plan models (continued)

The New Brunswick shared risk plan

Since July 2012, a new type of pension plan has been allowed under New Brunswick regulations.

The plan was developed to give defined benefit plan members an additional option. The government had to approve the creation of a shared-risk plan given the precarious financial situation of certain large defined benefit plans.

If members agree, the new plan modifies a defined benefit plan **in two ways**.

- The plan redefines **certain benefits** and governs changes to certain vested rights.
 - Base benefits are the pension accrued or currently payable to retirees, indexed on the date of conversion. Base benefits may also include ancillary benefits already vested on the same date.
 - Ancillary benefits correspond to the indexation of the career average benefit, if the converted plan was based on final pay, and future indexations. They also include early retirement subsidies and other benefits, as described in the plan text of the shared risk plan.
- The plan enhances **financial security** by sharing contributions.
 - Commitments are tied to the probability (97.5%) of successful payment.
 - The plan is valued yearly using a stochastic method and also based on an asset-liability model.
 - The test must be conducted annually to demonstrate that contributions are sufficient to pay base benefits (97.5% probability) and that 75% of ancillary benefits will also be paid. If the test is not passed, contributions must be increased or benefits, decreased.

With regard to the sharing of contributions, employee contributions cannot exceed 50% of total contributions.

The New Brunswick shared risk plan includes **other provisions** aimed at strengthening pension plan management.

- A funding policy is required and must be reviewed annually. The review must show that contributions are sufficient for a 15-year period, taking into account for the arrival of new members.

The funding policy sets out the risk management objectives, describes cost sharing, establishes a deficit recovery plan and outlines the funding surplus utilization plan.

Member-funded pension plan

A member-funded pension plan (MFPP) is a defined benefit plan where employer contributions are a set amount.

Member contributions correspond to the balance of the plan's cost. Employees assume the financial risks.

An MFPP must be either a career earnings plan or a dollar-per-month plan. It cannot provide for automatic indexing. The valuation on a funding basis must assume that pensions are indexed to the Consumer Price Index, up to a maximum of 4%. This creates an implicit margin equivalent to the cost of pension indexation.

For benefits to be increased, the valuation must show that the plan will remain solvent and funded after the improvement. The margin must be used for pension indexation before any other improvements can be granted.

Pensions in payment cannot be reduced during the plan's existence to compensate for poor plan performance.

When members leave, their benefits are adjusted so that they receive their share of the surplus assets or assume their share of the deficiency.

If the plan is terminated, the employer is not responsible for the debt.

- If the plan has a shortfall of assets, member benefits, including pensions in payment, are reduced accordingly.
- If the plan has surplus assets, the surplus is first distributed to all members, pro rata to the value of their benefits.

If an employer withdraws from the plan, the benefits of members and beneficiaries must be paid in the same way as if the plan were terminated.

3.3 Other supplemental pension plans and personal savings

Along with personal savings plans, supplemental pension plans other than defined benefit plans are also suffering the effects of poor market returns and low interest rates.

Cause for concern

In all cases, return-related risk is borne entirely by plan members or savers.

- Financial pressures have reduced the growth of retirement assets, or even reduced the amount of those assets.
- The decrease in retirement assets has had a direct impact on their ability to replace a portion of the income earned during their working life.
- According to data from the Institut de la statistique du Québec, personal savings rates in Québec stayed fairly low in the past decade. As a result, workers cannot look to personal savings to draw a sufficient retirement income.

In practice, the amount of retirement income that members will receive under the plan—and therefore the income replacement rate provided for by the plan—depends largely on when members retire.

These findings confirm a distressing reality: defined contribution plans and personal savings do not currently seem able to compensate for the void left by the decline of defined benefit plans.

VRSPs: a step in the right direction

The Committee sees voluntary retirement savings plans (VRSPs) as a step in the right direction. Such plans should encourage workers to save for retirement. One of the ways these plans succeed is by controlling plan administration costs.

CONCLUSION

With their flaws and structural defects, pension plans are under heavy pressure in Québec and in all developed countries.

- Ongoing demographic changes have increased the number of retirees, reduced the relative size of the working-age population, shortened the working life and increased life expectancy after retirement.
- Poor market returns and low interest rates have directly affected pension plans, with the effects being borne by employers, members and taxpayers.

Defined benefit plans: in a vulnerable position

For defined benefit plans, the contribution increases needed to ensure plan solvency are in many cases impossible to implement in the short term. Most often, the solvency of these plans therefore declines. The rigid regulatory environment in Québec and the unintentional effects of certain legislative provisions have compounded current problems.

The threats to defined benefit plans are hampering their popularity. A growing number of defined benefit plans are slowly transitioning into defined contribution plans, particularly for new employees. Within the broader retirement system, defined benefit plans are therefore in a vulnerable position and are a major cause for concern.

This is even more worrisome given the fact that defined benefit plans are one of the cornerstones of the retirement system. As a result, the problems they are experiencing have an impact on the system as a whole.

PART III: AGREEING ON OBJECTIVES, VALUES AND PRINCIPLES

The flaws of the Québec retirement system, the pressures acting on it and their impact on current plans are challenges that we must collectively address.

To do so, we must first agree on three fundamentals, which the Committee presents in Part III of its report:

— **Objectives;**

— **Values;**

— **Principles.**

This exercise is crucial if we are to provide a solid foundation for the proposed solutions.

1. OBJECTIVES

For the Committee, it is important to clearly delineate the objectives of a retirement system. All social partners seem to agree on two main objectives.

- A retirement system must emphasize financial security in retirement in the strictest sense, that is, by guaranteeing a **sufficient** and **realistic** retirement income for the greatest number of people.
- A retirement system must be designed and funded to ensure it is **lasting**. A sufficient and realistic income must be guaranteed under plans whose sustainability is itself protected. This sustainability is inseparable from the security that the system is supposed to provide.

1.1 Financial security

The first objective identified by the Committee is simple: the retirement system must ensure financial security in retirement.

Financial security is a guarantee of:

- A **sufficient** income to maintain a decent standard of living in retirement;
- A **realistic** retirement income in tune with our ability to fund it through sound and prudent management.

All social partners that the Committee consulted agree on this first objective.

Employers, active members, retirees, plan administrators, union bodies and professional associations also agree that financial security must include as many people as possible.

Debate on the appropriate replacement rate

When it comes to ensuring financial security, there is a debate on what the replacement rate for retirement income should be in relation to end-of-career earnings.⁶⁹ There is no ideal or generally accepted replacement rate. The rate for basic programs in OECD countries varies considerably from one country to the next. As explained above,⁷⁰ the gross replacement rate for OECD countries in 2008 was 57% for workers remunerated at half the average salary, 42% for workers remunerated at the average salary and 37% for workers remunerated at one and a half times the average salary.

In Québec, 70% is often presented as the objective. There are no scientific grounds for such a rate.⁷¹ As an estimate, it takes into account the fact that a retiree's expenses are less than when he or she was working (no Québec Pension Plan contributions, lower transportation and clothing costs, a greater than proportional reduction of taxes in relation to the reduction of income).

⁶⁹ Claude Castonguay, *Le point sur les pensions*, Cirano, 2010, page 8.

⁷⁰ See page 25.

⁷¹ Claude Castonguay, *Le point sur les pensions*, Cirano, 2010, page 8.

A lower replacement rate could be justified in view of the fact that retirees generally have no dependent children in school or own their residence outright.

A rate between 50% and 70%

For most people, a replacement rate between 50% and 70% seems reasonable.

The choice of a replacement rate should be tied to a standard retirement age (the “normal age” of retirement). The Committee insists that people should be free to choose when they retire, provided they accept the consequences of their choice.

No single answer

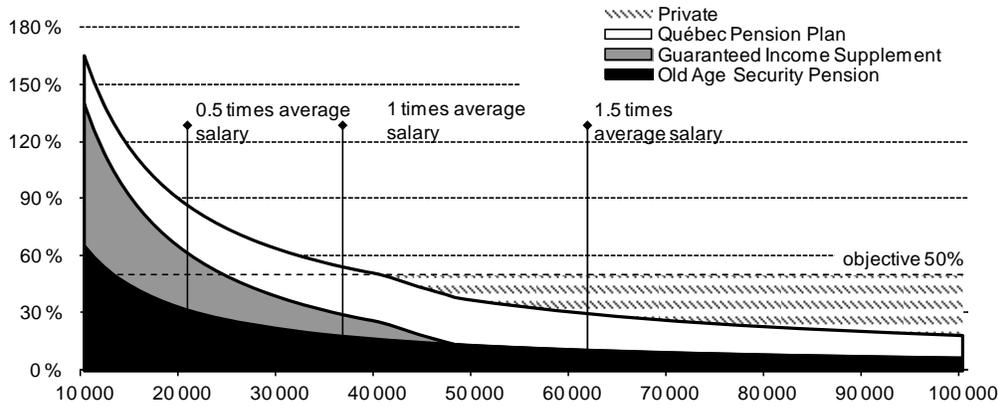
For the Committee, there is no single answer regarding the choice of a replacement rate. A plan should replace a minimum level of income in retirement and not provide an income for members to achieve all their life goals.

Charts 19 and 20 illustrate the level of financial security that can be achieved, depending on income, with a replacement rate objective of 50% or 70% of pre-retirement income.

CHART 19

Composition of retirement income needed to replace 50% of pre-retirement income – single person who applies for benefits at age 65 in 2012

(income replacement rate as a percentage of pre-retirement income in dollars)



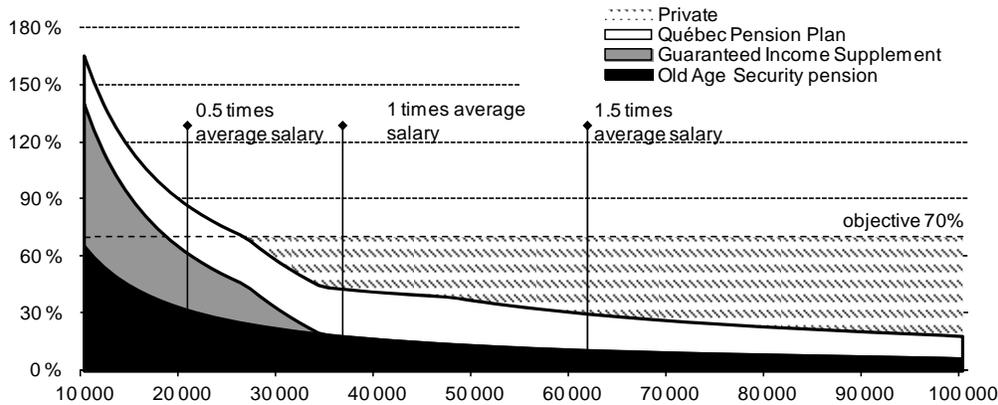
Note: Based on a an average salary of \$41,040.

Source: Régie des rentes du Québec.

CHART 20

Composition of retirement income needed to replace 70% of pre-retirement income – single person who applies for benefits at age 65 in 2012

(income replacement rate as a percentage of pre-retirement income in dollars)



Note: Based on a an average salary of \$41,040.

Source: Régie des rentes du Québec.

1.2 Sustainability

The social partners consulted by the Committee also agree on a second objective: the retirement system must be lasting, since sustainability is inseparable from financial security. It is hard to see how financial security can be ensured if the retirement system itself is not permanent.

Sustainability requires that we:

- Consider the current system in its entirety;
- Take a long-term view and rigorously evaluate the consequences, over a number of decades, of the measures taken to ensure financial security, so that a solid future can be built;
- Delve deeper into the issues and determine means for responding to any events that threaten to weaken the retirement system by providing for the necessary financial margins;
- Remedy past mistakes in order to strengthen the system.

In this regard, the impact of the 2008 financial crisis—which no pension fund manager had foreseen—and the problems that must be overcome to address it should serve as a lesson for the future.

As a goal, sustainability requires benefit commitments that are appropriate and that reflect their true cost. These commitments must be accompanied by a security cushion.

2. VALUES

2.1 Intergenerational equity

Intergenerational equity is the primary value identified by the Committee. Respect for this value has an impact on the very structure of the retirement system.

- Deficiencies cannot be systematically passed on to future generations. Most often, young workers do not have a pension plan that makes a defined benefit commitment. For equivalent commitments, they must make higher contributions.
- Funded plans are preferable to pay-as-you-go plans with regard to intergenerational equity.

Intergenerational equity must also be reflected in the general tenor of pension plans. The Committee believes that the pension committee must be representative of the generational mix.

2.2 Transparency

Transparency is a crucial value if we are to better manage and identify risks. This applies in particular to defined benefit plans.

- Plan administrators, employers, union, members and beneficiaries must know the extent to which risks can affect benefits and their funding.
- The measures to manage and identify risks must be transparent.

2.3 Accountability

Under the Québec retirement system, retirement is a responsibility shared between the government, workers and employers.

This principle must continue to apply. The Committee believes in holding workers and employers accountable for retirement, which means that supplemental pension plans and personal savings have an important role to play.

The Old Age Security program and the Québec Pension Plan (the first and second floors of the Québec system) already provide workers with a basic income.

Supplemental pension plans and personal savings (found on the third floor of the system) must keep their place in the system. Among supplemental pension plans, defined benefit plans are one of the cornerstones of the system because they make a specific benefit commitment.

- Increased life expectancy is exerting significant pressure on supplemental pension plans and personal savings. The retirement system must be adjusted to take this new reality into account.
- For such plans, accountability means that members must adapt to new demographic and economic realities, and change certain behaviours and habits regarding retirement. In particular, they must consider the possibility of postponing their retirement or saving more—or doing both.
- Accountability also applies to employers, who have an important role to play in making retirement savings a group initiative.

3. PRINCIPLES

The social partners we consulted vary widely in their views on how to provide a lasting way to ensure the financial security of workers in retirement.

- Some partners support compulsory government involvement, stressing the state's role. A number of partners have therefore called for increasing the retirement pension paid by the Régie des rentes du Québec.
- Other partners believe the focus should be on private initiatives such as voluntary retirement savings plans (VRSPs) or target benefit plans. Workers would be steered in this direction through the implementation of plans that offer more flexibility but also make benefit commitments that are less firm than those made under defined benefit plans.

Most partners are in agreement, however, regarding the nature of these principles and their underlying philosophy. The Committee has identified these areas of consensus—which in fact correspond to the Committee's own views.

3.1 Ensure retirement income funding reflects actual costs

Pension plan costs must be carefully examined along with the commitments made to members. These commitments must take into account the financial commitments that the employer and the members are ready to assume. It accomplishes nothing to promise benefits that cannot be funded.

Actual costs are only known when a transaction allows them to be determined. However, determining these actual costs is a core principle of retirement income funding since doing so indicates where efforts should be focused. The Committee believes that we should adhere to this principle as closely as possible.

If this is not done, there will be an illusion of financial security.

The “financial economics” approach

The rationale

With the financial economics approach, the pensions payable to pension plan members represent a form of debt for the company or its shareholders. Based on this approach, in cases where the pension plan has a deficiency, members are considered to be the company's lenders.

Key focus

In applying the principles of financial economics, the key focus is to ensure that assets suffice to pay all benefits promised.

Actuaries must value the following on an ongoing basis:

- The current value of a pension plan's expected future cash flows;
- The fair value of actuarial liabilities.

Financial economics dictates that two cash flows having similar characteristics should have the same present value. Accordingly, the anticipated cash flows to determine the value of an asset corresponds to the value of the cash flows required to pay a debt.

Even taking into account the fact that pension plan benefits payments are subject to greater uncertainty than bond coupon payments, the bond market should be the starting point for valuating a pension plan's liabilities, according to the tenets of financial economics.

A criticism of conventional actuarial practices

Financial economists criticize conventional actuarial practices for anticipating the equity risk premium used to determine the cost of future benefits accrued in the year. Financial economists also consider that actuarial practices underestimate the value of commitments and influence pension plan investment decisions.

Currently, it seems impossible to determine in advance the extent of the risk premium for pension plan assets. For purposes of transparency and disclosure, a plan's financial situation (while focusing on plan continuity) should take into account the market value of assets and the fair value of actuarial liabilities established using a minimal risk discount rate.

3.2 Protecting the diversity of retirement income sources

A retirement system must share risks in a fair and balanced way between social partners, and between social partners and society. This depends on the diversity of the various plans that make up the system.

The Québec retirement system is diverse, and this diversity must be protected.

The basic plan managed by the federal government (Old Age Security), the compulsory plan managed by the Gouvernement du Québec (Québec Pension Plan), the plans established on a contractual basis (supplemental pension plans) and the individual initiatives fiscally supported by the government (personal savings) provide all workers with financial security in retirement. This is achieved by promoting retirement schemes whose approaches are very different.

Optimize risk sharing and reduce the system's overall vulnerability

Each plan makes different commitments, and each plan is funded in different ways as well. The result is that changing economic and demographic conditions do not have the same effect on the plans that comprise the system.

This diversity contributes to better risk sharing and to reducing the system's overall vulnerability.

3.3 Applying a flexible legal framework

A flexible legal framework is essential for ensuring the retirement system's sustainability. It is particularly necessary for defined benefit plans where commitments are set out and therefore binding.

- Flexibility means being open to establishing new pension plan models where risks are shared differently.
- Flexibility also raises the question of vested rights.

Flexible legal framework and protecting vested rights

Vested rights are protected because an undue emphasis is placed on individual consent. Such a vision focuses on protecting the individual and not on safeguarding a group plan. Individual rights are over-protected to the detriment of the whole.

For the Committee, greater flexibility must instead be shown.

- Certain long-term events—such as demographic changes or new economic realities—provide grounds for adjusting accrued benefits.
- Such an adjustment can already be made under the current system, as part of turnaround efforts. However, the individual consent of the persons concerned is required.

Rules should therefore be less stringent to stabilize pension plan funding and enable all members to find the solutions best suited to their values, needs and new realities. The challenge is identifying new ways to act in the short term.

Harmonious and uniform rules must strike a balance between protecting benefits and ensuring they are funded.

An example to follow: the Netherlands retirement system

The Netherlands retirement system is one of the top performers among OECD countries. The system is based on benefit security and exemplary funding. The methods used to define the system and ensure its sustainability can be a source of inspiration for Québec.

Appendix 2 describes the main characteristics of the Netherlands retirement system.⁷²

Key features

The Netherlands retirement system has the following key features:

- Supplemental pension plans are compulsory. These group plans emphasize risk sharing and effective funding.
- Retirement benefits are calculated using average career earnings. Most pensions are indexed.
- However, indexation is conditional to the plan's financial soundness. Indexation is automatically reduced if plan funding falls below a certain threshold.
- A plan can modify the vested rights of retirees and reduce the amount of pensions in payment when necessary.
- If a plan's funding ratio is below 105%, a three-year period is provided to return the plan's ratio to 105%. Following the 2008 financial crisis, the three-year period was extended to five years.
- A second level of funding is required and varies according to several criteria, including demographics and plan investments. The funding ratio is generally between 120% and 130% of liabilities. A 15-year period is provided to attain that level.
- The steps to restore a plan's financial situation must be taken in a certain order. First, indexation of the benefits of active members and retirees is reduced. Second, contributions can be increased. Third, basic pensions are adjusted.
- In the past, pension indexation has been suspended.
- On April 1, 2013 (the date corresponding to the end of the five-year period mentioned above), the pensions of certain plans were decreased in order to meet the required funding ratio of 105%.

⁷² See page 197.

3.4 Encouraging pooling

The Committee believes the Québec retirement system should include more pooled plans.

- Collective management of savings would generate economies of scale and thereby lower costs, which generally results in higher retirement income.
- Collective management of savings would also give individuals access to professional savings management services, which also generally result in higher retirement income.

The legal framework should foster the establishment of plans in which risks are pooled. As explained above, the pooling of risks also allows the longevity risk⁷³ to be managed.

No further tax measures are required

The Committee believes the current tax measures concerning retirement should not be enhanced.

In general, the tax system already has sufficient measures to encourage individuals to save for retirement. The Committee does not believe that new tax incentives are necessary to boost retirement coverage.

⁷³ See page 34.

PART IV: BUILD A LASTING RETIREMENT SYSTEM TO STRENGTHEN THE FINANCIAL SECURITY OF ALL QUÉBEC WORKERS

Part IV of the Committee's report presents its recommendations on building a lasting retirement system to strengthen the financial security of all Québec workers.

After describing its main ideas for the **renewal** of the retirement system, the Committee takes up each of the three components of its recommendations, which are intended to:

- **Address longevity with a longevity pension for all workers;**
- **Ensure the sustainability of defined benefit plans through viable plans in tune with new realities;**
- **Help workers save more for retirement and make the system more effective.**

A renewed retirement system

The challenges are sizable with regard to financial security in retirement. Quebecers' pension plans are under heavy pressure, which has made them vulnerable. Flaws stemming from structural defects have weakened the system. Major cracks are appearing in the edifice that ensures the financial security of Québec workers.

The Committee believes the current situation is no reason to give up.

- Defined benefit plans provide the type of financial security that should be emphasized, since they are the only ones that make a definite commitment, along with the Old Age Security program and the Québec Pension Plan. Far from abandoning these plans, we should act counter to prevailing trends and work to ensure their sustainability and viability.
- We should simultaneously ensure that as many workers as possible are covered by a defined benefit plan, and innovate to that end.
- Other retirement savings plans have to be improved since their contribution to the system as a whole is also essential.

□ A major renewal

Further to its review, the Committee recommends that the government undertake a veritable renewal of the Québec retirement system by:

- Instituting a **longevity pension** for all Québec workers that is fully funded and for which funding reflects actual costs (benefits would be paid as of age 75), and recommending certain changes to the Québec Pension Plan;
- Taking appropriate steps to ensure the **viability of defined benefit plans**;
- Making recommendations to help workers in their efforts to **save more for retirement**, while **making the system more effective**.

□ A new cornerstone: the longevity pension

The longevity pension would add a new component to the second floor of the system, beside the Québec Pension Plan.

- As of age 75, all workers would receive a defined benefit pension based on a realistic commitment.
- Such a pension would enable workers to better manage longevity risk by emphasizing the need for personal savings from retirement to age 75.

- Age 75 was chosen as the starting date for benefit payments so that the implementation of the longevity pension would not encourage early retirement and would therefore have no impact on the labour market.

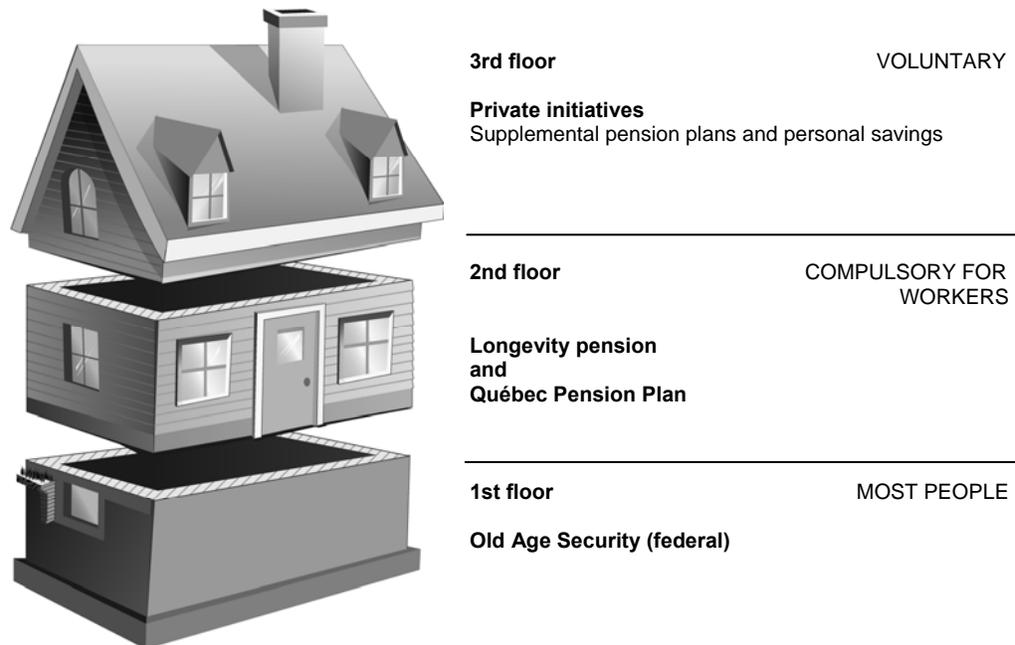
The longevity pension has two main objectives:

- **Pool the longevity risk** for the benefit of all Québec workers;
- **Make it easier for all Québec workers to plan personal savings in preparation for retirement**, knowing that the longevity risk would be at least partially assumed as of age 75.

The longevity pension would be accrued over a long period of time. Based on what we have learned from the implementation of the Québec Pension Plan, it behooves us to take a cautious approach. The issues surrounding the creation of the longevity pension will continue to evolve, and we must be able to adjust to them gradually.

CHART 21

Components of the Québec retirement system – with the longevity pension



Note: In addition to supplemental pension plans and personal savings, private initiatives include several types of retirement pension vehicles, such as group RRSPs and deferred profit sharing plans (DPSPs).

Source: Régie des rentes du Québec

□ Objectives to achieve, values and principles to uphold

The new retirement system proposed by the Committee is designed to achieve **two overall objectives**:

- Ensure the financial security of workers in retirement;
- Forge a lasting system by defining specific commitments and funding methods to guarantee the system's sustainability.

This system respects the **values** identified by the Committee.

- The longevity pension promotes **intergenerational equity**. It would be fully funded, with funding entirely assumed by members and employers. The longevity pension would not apply to the past. Instead, it would be forward-looking and not create any new debts to be transferred to younger workers.
- The new retirement system is **transparent** with regard to commitments and costs. Under this system, the commitments of defined benefit plans would take into account the financial commitments that the employer and the members are willing to make.
- The new system holds workers **accountable** for their financial security in retirement. This requires a focus on savings and plans funded in part by members, in addition to the basic plans that serve a social purpose.

This accountability also requires behavioural changes. The Committee sees workers as part of the solution to the problems being experienced by the plans that provide them coverage.

- Under the system proposed by the Committee, workers would adapt to new demographic and economic realities by not leaving the labour force as early.
- Workers would also save more and agree to defer their discretionary spending to ensure a sufficient retirement income.

The proposed system upholds the **principles** preferred by the Committee.

- The system would bring plans more in line with their **true funding costs** for retirement income. The new longevity pension proposed by the Committee would be fully funded, and contributions would correspond to set commitments. The proposals for defined benefit plans aim to come back to the financial reality of such plans.
- The **diversification** of retirement income sources would be respected. The retirement system proposed by the Committee hinges more than ever on diversity. For the Committee, retirement should remain a responsibility shared by the government, workers and employers.

With the longevity pension, the government would not be replacing private pension plans.

- The pension would be funded entirely by workers and employers, and not by taxpayers.
 - The coordination of private plans with the longevity pension would reduce the cost of private plans already covering the longevity risk.
- The retirement system would have a **flexible** legal framework. The Committee proposes taking swift action to loosen legal constraints in order to stabilize plan funding by allowing the parties to find solutions suited to their needs and to the new realities. This flexibility would apply mainly to vested rights, which should not be protected to the detriment of collective interests.
- The system would benefit more from **pooling** of risks. The longevity pension would provide a way to collectively manage the risk of outliving one's savings (known as longevity risk), to the benefit of all workers.

1. ADDRESS LONGEVITY WITH A LONGEVITY PENSION FOR ALL QUÉBEC WORKERS

1.1 Creating a longevity pension

The Committee recommends adding a new component to the Québec retirement system by creating a longevity pension for all Québec workers that is fully funded and close to actual costs.

Recommendation number 1
<p>The Committee recommends establishing a longevity pension for all Québec workers that is fully funded and close to actual costs.</p> <ul style="list-style-type: none">— As of age 75, all workers would receive a defined benefit pension. The benefit commitment would be realistic.— Like the Québec Pension Plan, the longevity pension would be administered by the Régie des rentes du Québec using a governance model inspired by the Régie's model (the Régie's board of directors), and assets would be managed by the Caisse de dépôt et placement du Québec.<ul style="list-style-type: none">– Longevity pension governance would include a risk management policy including a funding policy, an investment policy and a benefits policy.– The board of directors would henceforth have the power to define contributions, benefits indexation and pension amounts and thereby take action to restore plan funding, if necessary, using the mechanisms provided for by law. However, the board could not change the age at which payment of benefits begins (age 75).— The pension would be funded through contributions made by employers and employees. Unlike the Québec Pension Plan, the longevity pension would be fully funded so as to ensure intergenerational equity. Once the longevity pension is implemented, benefits would accrue gradually, in pace with the contributions financing them.— Contributions would allow for the creation of a security cushion to ensure financial sustainability. Implementation could be phased in over a five-year period to minimize the impact of funding the longevity pension on companies and workers. <p>Defined benefit plans could be coordinated⁷⁴ with the longevity pension starting from age 75, up to the maximum pensionable earnings. The Committee recommends this coordination be optional for plans in the private sector but mandatory for plans in the public sector.</p> <p>With regard to the tax treatment of the longevity pension, the Committee recommends that it be identical to the tax treatment of benefits payable under the Québec Pension Plan, with the exception of the Québec tax credit, which should be made explicit. As with the Québec Pension Plan, the longevity pension benefits accrued should not be taken into account in the calculation of the pension adjustment.</p>

⁷⁴ Appendix 3 on page 201 provides examples of the impact of coordinating the longevity pension with a supplemental pension plan.

□ Characteristics of the longevity pension

More specifically, the longevity pension proposed by the Committee would have the following characteristics.

■ Benefit paid

All Québec workers aged 18 to 74 would be covered.

The longevity pension would cover the entire workforce, regardless of income levels. Workers with the lowest incomes would not be excluded from the longevity pension even though they already have a good protection under the public plans. Excluding them would suppose that they would always remain in the same income category.

The pension would be payable as of the first month following the 75th birthday.

The pension credit would be equal to 0.5% of the earnings subject to contributions (up to the maximum pensionable earnings under the Québec Pension Plan, that is, \$51,100 in 2013).

- Each year of contribution would give entitlement to a pension credit. If the person does not work, no contributions are made and no pension credits accrue.
- There would be no limit on the number of years for which a person can contribute and therefore be credited. For example:
 - A worker who contributes for 40 years (i.e., age 25 to 64) would be entitled as of age 75 to a benefit representing 20% of his or her earnings, up to the maximum for pensionable earnings;
 - A worker who contributes for his or her entire working life (i.e., age 18 to 74) would be entitled to a benefit representing 28.5% of his or her earnings, up to the maximum for pensionable earnings.
- The longevity pension recommended by the Committee is defined for future years and would benefit those who contribute for longer (i.e., younger workers).
- The income used to determine the pension would be indexed until age 75 based on the average maximum pensionable earnings for the last five years (that is, the year in which payment of the longevity pension begins and the four previous years) in relation to the maximum pensionable earnings for the year of contribution.
- The pension would be guaranteed for five years. In the event a worker dies before retirement, a death benefit equal to five years of guaranteed longevity pension payments would be payable. In the event a retiree dies before age 80, the commuted value of the payments up to age 80 would be paid to the designated beneficiaries.

■ **The age at which payment of benefits begin (age 75) could not be changed**

The pension could not be drawn early or postponed. The age at which payment of benefits begins (age 75) would not be changed.

Poor returns or improvements in life expectancy beyond the assumptions used in the generational tables when implementing the plan would therefore have no impact on the age at which payment of benefits begins.

The board of directors would take these factors into account in the various measures it can take by law to maintain the financial situation of the longevity pension, that is, by modifying contributions, reviewing the indexation of benefits and adjusting the amount of the pension.

■ **Employer and worker contributions**

The longevity pension would be funded by compulsory employer and worker contributions. Self-employed workers would pay both the employer and the worker contribution.

The contribution rate would be split equally between employers and workers. The rate would not vary according to sex or age.

The pension would be indexed after retirement according to the increase in the Consumer Price Index, as is currently the case for the Québec Pension Plan. However, indexation would be contingent on the plan's financial situation.

Concrete examples

Below is a simple illustration of the amount of the longevity pension accrued by a worker, depending on the number of years of contribution.

Table 9 shows the amount of the longevity pension a worker earning \$25,550 a year (half of the maximum pensionable earnings) or \$51,100 a year (the maximum pensionable earnings) would receive as of age 75.

- An end-of-career worker who contributed for only five years would receive, as of age 75, a longevity pension representing 2.5% of his or her income.
- This income replacement percentage increases to 10% if the worker make longevity pension contributions for 20 years.
- For a young worker who makes longevity pension contributions for his or her entire career—a period of 40 years for the purposes of the example—the income replacement percentage would be 20%.
- For a worker who works from age 18 to 74 (that is, for 57 years), the percentage would be 28.5%.

TABLE 9

Longevity pension contributions and benefits for various types of workers

(in constant dollars, according to maximum pensionable earnings for 2013)

Annual income	Employee contributions from age 25 to 64		Benefits as of age 75	
	Per year	Per year	% of average earnings ⁽¹⁾	
Young worker who contributes for his or her entire career (40 years)				
\$25,550	\$421.58	\$5,110	20%	
\$51,100 and over	\$843.15	\$10,220	20%	
Mid-career worker who contributes for 20 years				
\$25,550	\$421.58	\$2,555	10%	
\$51,100 and over	\$843.15	\$5,110	10%	
End-of-career worker who contributes for 5 years				
\$25,550	\$421.58	\$639	2.5%	
\$51,100 and over	\$843.15	\$1,278	2.5%	
Annual income	Employee contributions from age 18 to 74		Benefits as of age 75	
	Per year	Per year	% of average earnings ⁽¹⁾	
Young worker who contributes for his or her entire career (57 years)				
\$25,550	\$421.58	\$7,282	28.5%	
\$51,100 and over	\$843.15	\$14,564	28.5%	

(1) Up to the maximum pensionable earnings (\$51,100).

Note: For purposes of simplification, the examples do not take into account indexation and assume the same salary for the entire career.

A concrete example of the longevity pension

Charles is 36 years old in 2017. He will be 75 in 2056. In 2017, his salary is \$37,000. Charles wants to know the amount of his longevity pension credit for the 2017 contribution year.

The longevity pension is calculated based on the salary for each year, up to the maximum pensionable earnings (MPE). The pension credit is 0.5% of salary. The credit is indexed until payment of the pension begins at age 75. The indexation factor is as follows:

$$\frac{\text{Average MPE for the years in which the contributor is 71, 72, 73, 74 and 75}}{\text{MPE for the salary year}}$$

In this example, the calculation is as follows:

$$\frac{\text{Average MPE for 2052, 2053, 2054, 2055 and 2056}}{\text{MPE for 2017}}$$

The MPE for 2017 is \$58,000.

- The MPE for 2052, 2053, 2054, 2055 and 2056 will respectively be \$174,600, \$180,100, \$185,900, \$191,900 and \$198,000.
- The average MPE for 2052, 2053, 2054, 2055 and 2056 = \$186,100.
- The indexation factor is therefore $\$186,100 / \$58,000 = 3.21$.
- Charles's pension credit for 2017 is therefore $0.5\% \times \$37,000 \times 3.21 = \593.85 .

For 2017, Charles will be entitled to a pension credit of \$593.85. His total pension will be determined by adding up all the pension credits he accrues for each year of work.

New responsibilities for the board of directors of the Régie des rentes du Québec

With regard to the longevity pension, the board of directors of the Régie des rentes du Québec would have responsibilities and powers it currently does not have with regard to the Québec Pension Plan. The creation of the longevity pension would introduce a new dynamic to board governance.

☐ Numerous advantages

The new longevity pension would have numerous advantages.

It would pool longevity risk for the benefit of all workers.⁷⁵ On an individual basis, the longevity risk is the risk that a person could outlive his or her retirement savings.

The longevity pension would provide a very effective way to build savings against this risk and thereby fund the consequences of outliving one's savings. The longevity pension would increase savings for retirement, making acceptable the postponement of discretionary spending that would be required.

The addition of this new component to the current system would, ultimately, provide a larger number of Québec workers with greater financial security. For workers not covered by a defined benefit plan, the longevity pension would provide a benefit commitment they do not currently enjoy.

The longevity pension would also bolster defined benefit plans.

- It would significantly alleviate pressures on defined benefit plans by reducing the longevity risk these plans currently assume.
- It would be more secure than a defined benefit plan from a single employer or a sectoral plan.

What the longevity pension would not be

The longevity pension can also be defined by what it is not.

- It would not force people to postpone their retirement to age 75.
- It would not apply to everyone, only workers.
- It would not be a social plan but rather a retirement plan funded by employers and workers (i.e., those who benefit from it). The plan would not be designed to cover death or disability.
- It would not apply to past service. It would be apply to future service for the purposes of intergenerational equity, one of the values identified by the Committee.

⁷⁵ See page 34.

1.2 Funding the longevity pension

Longevity pension funding would more closely reflect actual costs. The pension would be fully funded using actuarial assumptions that are more conservative than those used for the Québec Pension Plan.

A cautious approach

In using a real rate of return of 3%, the Committee recommends taking a cautious approach so that the longevity pension endures, is viable and provides greater certainty that commitments can be met.

According to the Régie des rentes du Québec's calculations, the cost of the plan would be 3.3% of salary, up to the maximum pensionable earnings, and be shared equally between employers and workers, that is, 1.65% for employers and 1.65% for workers. This takes into account the projected improvements to life expectancy after the longevity pension is implemented.

The rate of 3.3% was calculated using the actuarial assumptions of the last Québec Pension Plan actuarial valuation, with the exception of the real rate of return. We used a rate of 3% instead of 4.5% because the plan is fully funded.

A culture change

The longevity pension would institute a culture change within the retirement system.

- It would fully benefit the generations of workers who are currently entering the workforce.
- It would enable sufficient capital to be accumulated so that commitments can be met. The amounts accrued as part of the longevity pension measure would quickly reach a significant amount. According to the Régie's estimates, over \$50 billion (in constant dollars) could be accumulated by the end of the tenth year following the implementation of the longevity pension, at which time cash outflows would still be limited.

TABLE 10

Projected assets of the longevity pension
(in millions of constant dollars)

Year	Cash inflows			Cash outflows		Assets
	Contributions	Investment income	Total	Total		
1	4,439	120	4,559	4	4,555	
2	4,502	367	4,869	9	9,312	
3	4,560	623	5,184	15	14,262	
4	4,609	890	5,498	22	19,390	
5	4,663	1,166	5,829	31	24,716	
6	4,708	1,453	6,161	41	30,233	
7	4,759	1,750	6,509	52	35,952	
8	4,805	2,058	6,863	66	41,873	
9	4,850	2,376	7,226	81	47,996	
10	4,899	2,706	7,605	100	54,329	
15	5,136	4,518	9,655	278	89,133	
20	5,453	6,604	12,057	741	129,068	

Note: The table was created using current dollars and then converted to constant dollars according to the expected inflation rate.

Source: Régie des rentes du Québec.

As mentioned above,⁷⁶ in the event that the financial situation of the longevity pension deteriorates, the Régie's board of directors could take the necessary steps allowed by law to restore it, without changing the age at which payment of benefits begins (age 75).

Phasing in longevity pension contributions

Longevity pension contributions could be phased in over a five-year period to minimize the impact of longevity pension funding on businesses and workers.⁷⁷ In such a case, the contribution rate of 3.3% would have to be adjusted to ensure the pension can be funded.

For example, if the contribution rate was phased in over five years without being adjusted, the lower contributions for the first four years would significantly reduce the amount of assets accumulated. After ten years, the accumulated capital would be around \$43 billion instead of \$54 billion. After 20 years, the accumulated capital would be around \$114 billion instead of \$129 billion.

⁷⁶ See page 123.

⁷⁷ See the evaluation of the economic impact of the longevity pension in Appendix 4 on page 203.

□ Real additional costs for employers and workers

Compared with current contributions, the real additional cost would depend on the plans in which employers and workers participate.

- In the case of defined benefit plans, where longevity risk is already covered, and if such plans are coordinated with the longevity pension, we would see a transfer of a portion of the share of the contribution earmarked for funding the risk.
- For defined contribution plans and personal savings, the cost could be partially or totally covered if employers and workers agreed to redirect to the longevity pension a portion of the contributions currently earmarked for defined contribution plans and personal savings. The additional cost would be largely offset by the advantages of the longevity pension, namely management of the longevity risk to the benefit of members, guaranteed savings that the workers concerned can use later, the contribution of employers, and the locking-in of funds for use only in retirement.

Overall, the costs of the longevity pension would be low because of the savings realized on administrative and investment management costs.

- The longevity pension would be administered by the Régie des rentes du Québec in accordance with the new policies it would have to develop, and assets would be managed by the Caisse de dépôt et placement du Québec.
- Since the beneficiaries are the same persons—Québec workers—very significant economies of scale could be achieved. The Régie already has the necessary information for future beneficiaries of the longevity pension. The contributors to the longevity pension and the contributors to the Québec Pension Plan would be one and the same.

Tax consequences of the longevity pension

The implementation of the longevity pension would have certain tax consequences.

Tax credit

Retirement benefits would be taxable.

Employer contributions to fund the longevity pension would be tax deductible.

Worker contributions for purposes of the longevity pension would give entitlement to a tax credit when the worker files the federal and Québec income tax returns for the year.

Pension adjustment factor

Under the Canadian tax system (federal and provincial, including Québec), the retirement savings that receive preferential tax treatment are subject to a limit equal to 18% of an individual's income, up to a yearly maximum.

Within the framework of this limit, individuals can receive tax benefits by contributing to a registered retirement savings plan (RRSP), a registered pension plan (defined benefit plan or defined contribution plan) or a deferred profit-sharing plan (DPSP).

To ensure consistency between the various plans, a pension adjustment is used to assign a value to the benefits accrued under a supplemental pension plan in order to calculate the retirement savings limit giving entitlement to tax benefits.

- The pension adjustment is an individual's or employer's total pension credits for the year under a supplemental pension plan.
- The pension adjustment helps standardize the tax treatment of various types of pension plans.

The benefits accrued under the Québec Pension Plan (or the Canada Pension Plan) are not taken into account in the calculation of the pension adjustment.

Accrued longevity pension benefits should be treated the same as benefits under the Québec Pension Plan or the Canada Pension Plan.

□ Possible strategies for workers

Charts 22 to 26 illustrate the possible strategies workers can use to achieve a certain income replacement goal in retirement, under the current system and under a system where the longevity pension has been implemented.

- In the illustrations given, a worker retires at age 65 or 60.
- In all cases, the worker will have earned the equivalent of the maximum pensionable earnings (around \$50,000)⁷⁸ for his or her entire working life and wishes to replace 60% of his or her income at retirement in order to achieve a retirement income of \$30,000.
- We also assume that the individual dies at age 90 in all cases.
- The charts quantify the value of the private initiatives needed to attain the desired retirement income.⁷⁹ The hachured area represents the income that private pension plans or personal savings must provide for that income objective to be achieved.

■ Because of the longevity pension, workers can plan savings for retirement

The longevity pension is shown to help workers plan their savings for retirement.

- With the longevity pension, a worker can count on income from the pension as of age 75, in addition to income from the Old Age Security program, the Québec Pension Plan and the private plans to which the worker belonged during his or her career.
- Between the effective date of retirement and age 75, a worker's income would be composed of the retirement pension under the Québec Pension Plan (beginning at age 60 or 65), the Old Age Security pension (beginning at age 67) and income from defined benefit and defined contribution plans, along with personal savings.

⁷⁸ The maximum pensionable earnings for 2013 are \$51,100. The approximate value of \$50,000 was chosen to facilitate understanding.

⁷⁹ The commuted values take into account the assumptions described, use a real discount rate of 2% and assume annual indexation of private initiatives, as is done under the Québec Pension Plan and the Old Age Security program.

■ **First two scenarios: retirement at age 65**

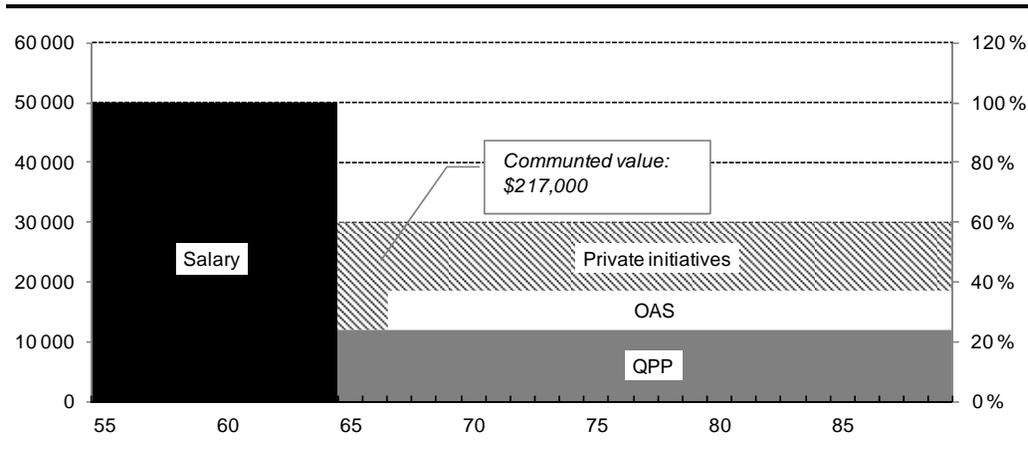
The **first two scenarios** correspond to the situation of an individual who retires at the normal retirement age (65) and applies at that time for a pension under the Québec Pension Plan

The **first scenario**, illustrated in Chart 22, corresponds to the current situation where there is no longevity pension. No changes have been made to the retirement system, with the exception of the announced postponement of Old Age Security eligibility to age 67.

- The individual retires at the normal retirement age (65) and applies at that time for a pension under the Québec Pension Plan.
- At age 67, the individual begins receiving the Old Age Security pension.
- For workers not covered by a defined benefit plan, this scenario is fraught with risk since they must manage financial and longevity risks themselves.
- In this scenario, the commuted value of private initiatives needed to fund retirement is roughly **\$217,000**.

CHART 22

Sources of retirement income by age – retirement at age 65 under the current system
(in constant dollars at left and as a percentage of salary at right)



Source: Régie des rentes du Québec.

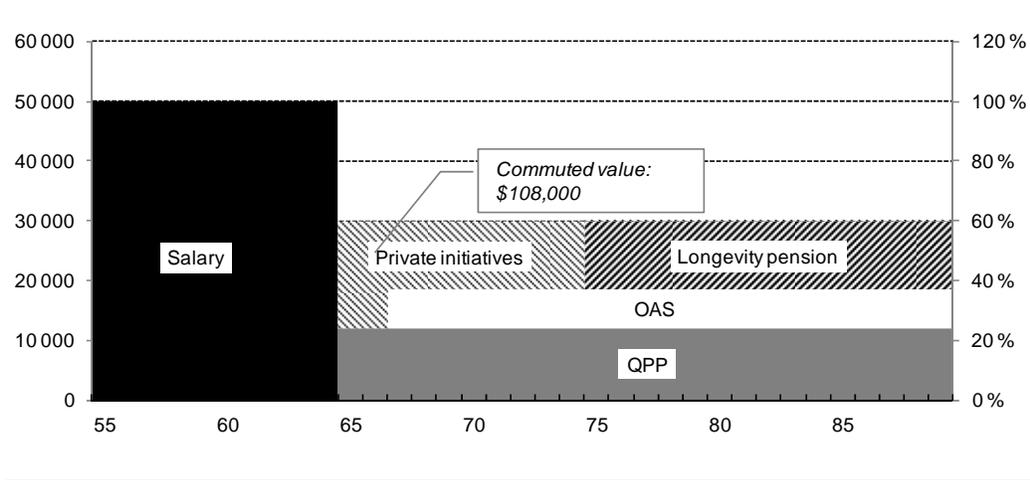
In the **second scenario**, illustrated in Chart 23, individuals can include the longevity pension in their retirement planning. Note the benefit it provides.

- The individual begins receiving an Old Age Security pension at age 67.
- The addition of the longevity pension changes the retirement outlook.
 - From age 65 to 75, individuals face the same challenges as in the first scenario, in that they have to draw on their private pension plan or personal savings to replace income.
 - As of age 75, the longevity pension replaces a large part of the individual's income. As a result, how the individual's private pension plan or personal savings will be used is significantly changed: the most financially difficult period is reduced to ten years and the longevity risk is virtually eliminated.
- In this scenario, the commuted value of private initiatives needed to fund retirement is almost **\$108,000**. The longevity pension therefore provides workers with meaningful assistance by enabling them to concentrate the use of their personal savings from the year of retirement up to age 75.

CHART 23

Sources of retirement income by age – retirement at age 65 under the system with the longevity pension

(in constant dollars at left and as a percentage of salary at right)



Source: Régie des rentes du Québec.

■ **Three following scenarios: retirement at age 60**

In the **third, fourth and fifth scenarios**, individuals choose to retire earlier, at age 60. The three scenarios show that, even with early retirement, the longevity pension would enable individuals to better plan their retirement, especially if they make strategic use of all tools available.

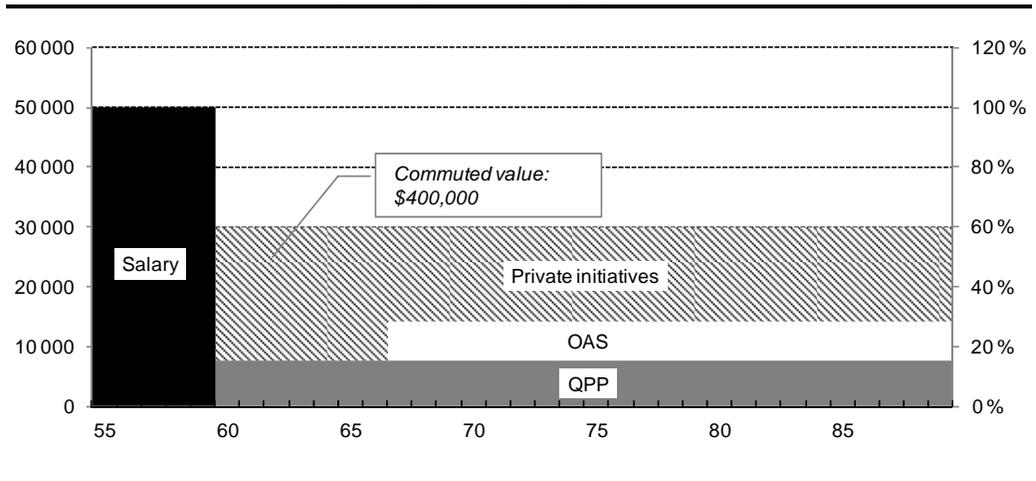
The **third scenario**, illustrated in Chart 24, is identical to the first scenario, except that the individual chooses to retire at age 60.

- The individual applies for an early pension under the Québec Pension Plan at age 60.
- At age 67, the individual begins receiving the Old Age Security pension.
- As in the first scenario, early retirement is fraught with risk for workers not covered by a defined benefit plan since they must manage financial and longevity risks themselves.
- In this scenario, the commuted value of private initiatives needed to fund retirement is around **\$400,000**.

CHART 24

Sources of retirement income by age – early retirement at age 60 under the current system

(in constant dollars at left and as a percentage of salary at right)



Source: Régie des rentes du Québec.

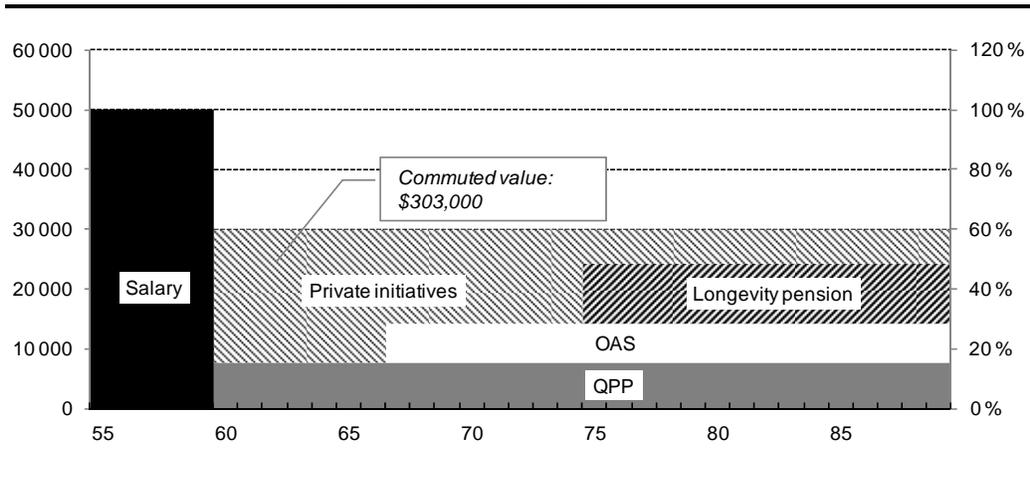
In the **fourth scenario**, illustrated in Chart 25 and similar to the third scenario, individuals choose to leave the labour force at age 60 and immediately apply for an early pension under the Québec Pension Plan.

- At age 67, the individual begins receiving the Old Age Security pension.
- Compared with the second scenario, choosing early retirement obliges the individual to fund more of his or her replacement income as of age 75 through personal savings or a supplemental pension plan since there is less coverage for longevity risk. However, the longevity pension would still mitigate a large part of that risk.
- In this scenario, the commuted value of private initiatives needed to fund retirement is around **\$303,000**.

CHART 25

Sources of retirement income by age – early retirement at age 60 under the system with the longevity pension

(in constant dollars at left and as a percentage of salary at right)



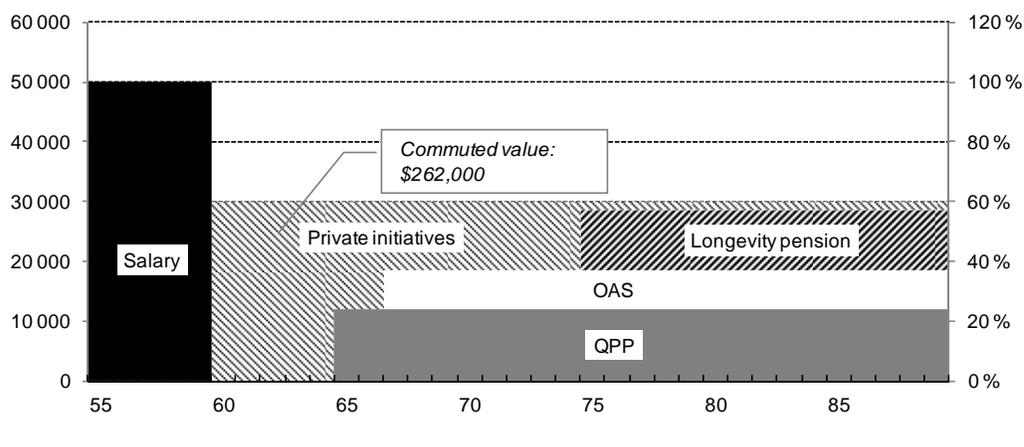
Source: Régie des rentes du Québec.

In the **fifth scenario**, illustrated in Chart 26 and similar to the fourth scenario, individuals leave the labour force at age 60 but decide to postpone from 60 to 65 the age at which they apply for a retirement pension under the Québec Pension Plan.

- From age 60 to 65, the individual uses only a private pension or personal savings to attain the desired income replacement level.
- As of age 65, compared with the fourth scenario, the individual draws a normal retirement pension under the Québec Pension Plan. To that pension is added the Old Age Security pension as of age 67.
- As of age 75, the longevity pension covers virtually the entire savings shortfall for individuals to achieve their income replacement objective.
- Thus, by adapting their behaviours, individuals can mitigate much of the longevity risk, regardless of the type of supplemental pension plan or personal savings, or whether they decide to retire early.
- In this scenario, the commuted value of private initiatives needed to fund retirement is around **\$262,000**.

CHART 26

Sources of retirement income by age – early retirement at age 60 under the system including the longevity pension, pension under the Québec Pension Plan at age 65
(in constant dollars at left and as a percentage of salary at right)



Source: Régie des rentes du Québec.

■ Two findings

Two findings come out of the five scenarios described above:

- In all cases, the longevity pension is good news, regardless of whether the individual retires at age 65 or 60.
- The scenarios show the value of separating the age of retirement from the age a pension is drawn under the Québec Pension Plan.

□ The longevity pension: taking into account increased life expectancy

One purpose of the longevity pension is to account for increased life expectancy. The Québec retirement system must address this reality in order to ensure all workers have a sufficient income throughout retirement.

- The longevity pension would secure retirement benefits for all workers by guaranteeing them a set income starting at age 75 and expanding the planning options available, while also changing retirement behaviours.
- It would provide additional income to workers who do not have an employer-sponsored pension plan.
- It would meet the needs of workers who do not have access to an employer-sponsored pension plan and those whose defined benefit pension plan is threatened.

Additional benefits of the longevity pension

The longevity pension has other benefits in addition to those described above.

The longevity pension would provide persons age 75 and over with a stable income, enabling them to pay for health care and quality lodging without relying on the youngest generations.

With the increase in life expectancy, the probability that a retiree outlives his or her previous employer is increasingly high. The longevity pension would sever this link and make retirees less vulnerable to employer bankruptcies.

The longevity pension would also protect members following a change of employer. The pension credits earned each year would be indexed according to salary, regardless of the number of jobs held by the worker.

1.3 Recommended changes to the Québec Pension Plan

The Committee recommends that certain changes be made to the Québec Pension Plan.

Two recommendations

The Committee's recommendations concerning the Québec Pension Plan aim to:

- End the unintentional effects of the rule applicable to employment earnings after age 60;
- Fully fund any future improvements, as with the longevity pension proposed by the Committee.

No recommendation regarding the age of retirement

The Committee makes **no specific recommendation regarding the age of retirement** and proposes no coercive measures to that effect. Workers must remain free to choose the age at which they retire, provided they accept the consequences of their choice.

Recommendation number 2

The Committee supports the government's decision to modify the adjustment factor to encourage individuals to postpone the age of retirement. These adjustments are ongoing.

The Committee further recommends that the Québec Pension Plan be adjusted so that all employment earnings after age 60 that are less than the average career earnings do not reduce the retirement pension amount. This would end the unintentional effects of the rule applicable to employment earnings after age 60.

The Committee recommends imposing a new rule whereby any future improvements to the plan must be 100% funded.

With the changes to the adjustment factor, the incentive to draw an early pension from the Régie des rentes du Québec will essentially be eliminated.

After age 65, there will be a strong incentive to postpone receipt of one's pension.

□ Possible strategies for the Québec Pension Plan

Charts 27 to 30 illustrate the strategies the Committee wishes to promote for the Québec Pension Plan, effective immediately, regardless of whether the longevity pension is implemented.

- The basic assumptions concerning income and retirement income replacement levels are the same as the scenarios used above to illustrate the value of the longevity pension.⁸⁰
- As in the scenarios above, the hachured area represents the income from a private pension plan or personal savings that a worker needs to achieve the desired income replacement level.
- Four scenarios based on the current rules under the Québec Pension Plan are used to illustrate the strategies. Putting recommendation number two into practice would only bolster the conclusions that these scenarios suggest.

⁸⁰ See page 132.

■ **First two scenarios: retirement at age 65**

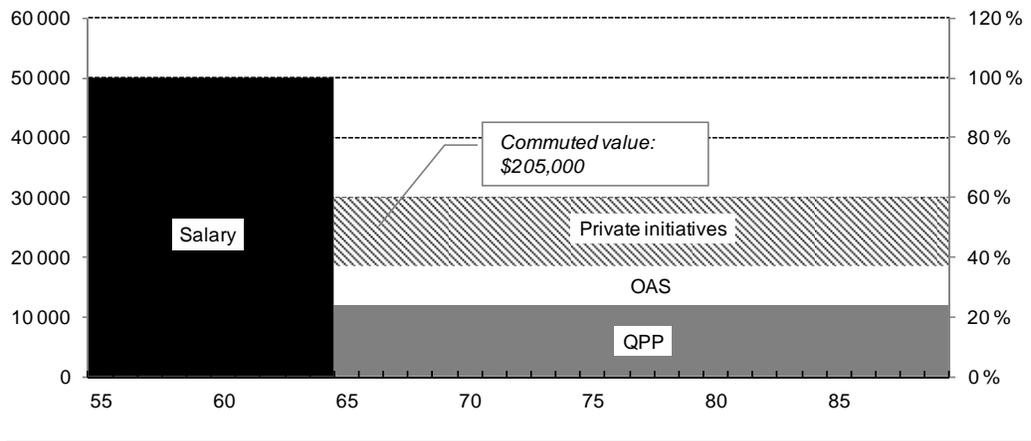
In the **first two scenarios**, individuals retire at age 65 but use different strategies with regard to the Québec Pension Plan.

In the **first scenario**, illustrated by Chart 27, the individual retires at the normal retirement age (65) and applies for the retirement pension under the Québec Pension Plan and the Old Age Security pension.

- The individual must fund a significant share of his or her replacement income until he or she dies.
- In this scenario, the commuted value of private initiatives needed to fund retirement is around **\$205,000**.

CHART 27

Sources of retirement income by age – retirement at age 65
(in constant dollars at left and as a percentage of salary at right)



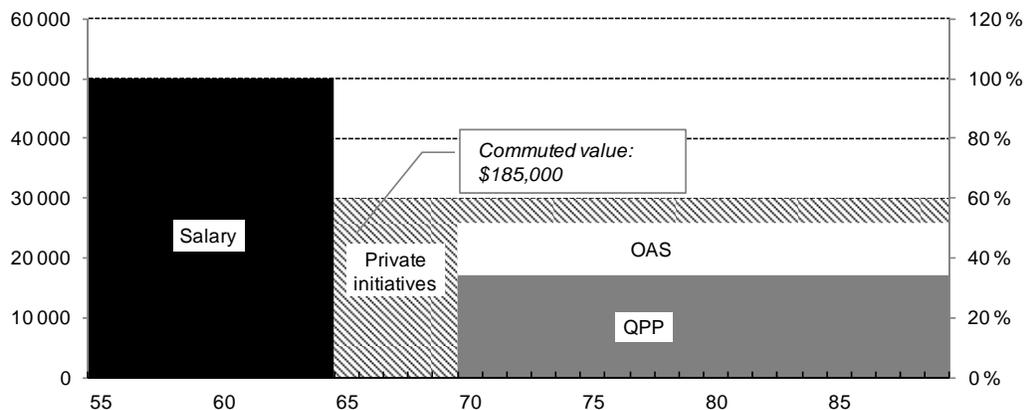
Source: Régie des rentes du Québec.

In the **second scenario**, illustrated by Chart 28, the individual retires at the normal retirement age (65) but uses the tools available to reduce the longevity risk: the individual applies for his or her retirement pension under the Québec Pension Plan and the Old Age Security pension at age 70.⁸¹

- In doing so, individuals can concentrate the use of their savings during the first five years of retirement.
- They substantially reduce the portion of the replacement income they must fund as of age 70.
- In this scenario, the commuted value of private initiatives needed to fund retirement is around **\$185,000**.

CHART 28

Sources of retirement income by age – retirement at age 65 and postponement of pension until age 70
(in constant dollars at left and as a percentage of salary at right)



Source: Régie des rentes du Québec.

⁸¹ As of July 1, 2013, payment of the Old Age Security pension can be postponed until age 70.

■ **Two following scenarios: retirement at age 60**

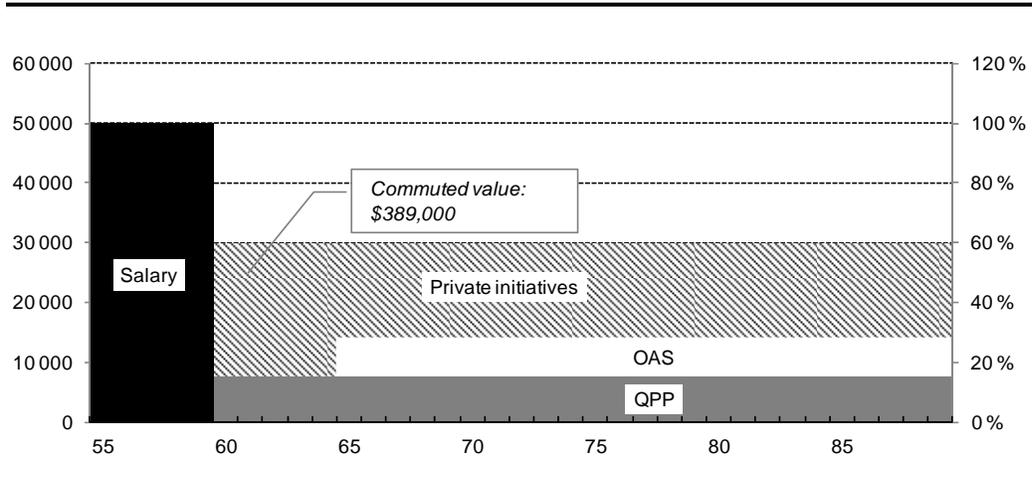
In the **two following scenarios**, individuals retire at age 60 and use different strategies in each scenario with regard to the Québec Pension Plan.

In the **third scenario**, illustrated in Chart 29, the individual retires at age 60 and applies for the retirement pension under the Québec Pension Plan. The individual begins receiving the Old Age Security pension at the normal age of 65.

- As in the first scenario, the individual must fund a significant portion of his or her replacement income until he or she dies.
- Since the individual retires earlier, he or she must rely on private initiatives to fund the savings necessary for the first five years of retirement.
- In this scenario, the commuted value of private initiatives needed to fund retirement is around **\$389,000**.

CHART 29

Sources of retirement income by age – early retirement at age 60
(in constant dollars at left and as a percentage of salary at right)



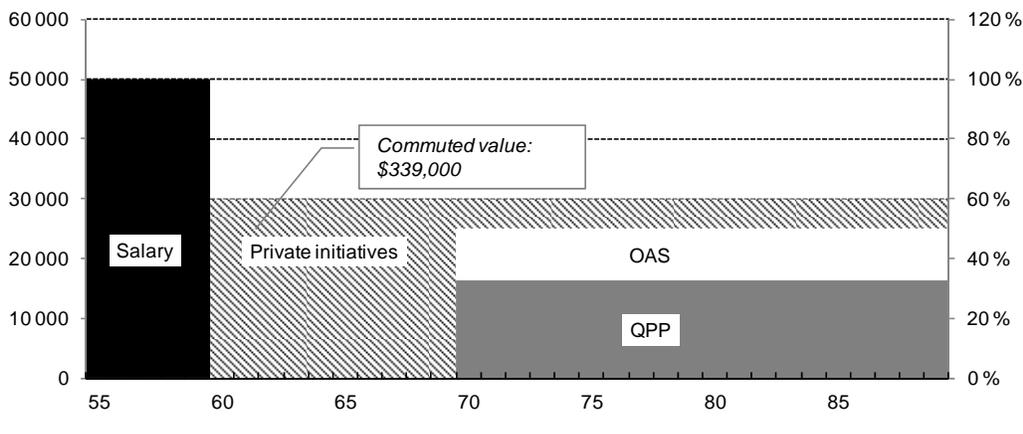
Source: Régie des rentes du Québec.

In the **fourth scenario**, illustrated in Chart 30, the individual retires at age 60, as in the third scenario. As in the second scenario, the individual uses the tools available to reduce the longevity risk: the individual applies for his or her retirement pension under the Québec Pension Plan and the Old Age Security pension at age 70.

- In doing so, individuals can concentrate the use of their savings during the first ten years of retirement.
- They substantially reduce the portion of the replacement income they must fund as of age 70.
- In this scenario, the commuted value of private initiatives needed to fund retirement is around **\$339,000**.

CHART 30

Sources of retirement income by age – early retirement at age 60 and postponement of pension until age 70
(in constant dollars at left and as a percentage of salary at right)



Source: Régie des rentes du Québec.

2. ENSURING THE SUSTAINABILITY OF DEFINED BENEFIT PENSION PLANS: VIABLE PLANS ADAPTED TO NEW REALITIES

The second component proposed by the Committee for renewing the retirement system concerns defined benefit pension plans. If we want to ensure the sustainability of those plans and apply what we have learned from current difficulties, major changes will have to be made to the legislative framework.

The purpose of the Committee's recommendations is to repair the cracks and flaws in the system, plan management and governance more flexible, while giving the stakeholders the tools and time needed for restructuring pension plans.

The recommendations are three-pronged:

- The Committee recommends **coming back to financial reality by bringing plans into line with their true costs** and changing the rules for plan valuation.
- The Committee recommends a series of measures to **enhance plan governance and management**, as requested by stakeholders.
- To **eliminate plan deficiencies**, the Committee recommends that parties to a pension plan be able to **restructure the plan** over a 5-year period.

2.1 Coming back to financial reality by bringing plans into line with their true costs

To **bring plans into line with their true costs**, the Committee recommends applying two valuation methods to all plans under the supervision of the Régie des rentes du Québec:

- The “**enhanced funding**” method would be the only basis for the financial valuation of plans and would ensure the accumulation of sufficient capital.

In contrast to the current funding method, the new method would be better because it would include rate assumptions that are closer to financial realities. Any deficiency that might arise would be amortized over a 15-year period. That period would be shortened to 10 years during the 5 years following implementation of the new rule.

- The **solvency method** would regulate the use of surplus assets.

It would strengthen risk management. It would continue to apply in the case of a plan windup. The proposed solvency method would have a new way to calculate transfer values.

- The provision **for adverse deviations** would be increased to 15% of solvency liabilities.
- Requirements for **risk management** and **risk disclosure** would be strengthened.

2.1.1 A new framework for all defined benefit pension plans

Recommendation number 3

The Committee recommends that all pension plans under the supervision of the Régie des rentes du Québec be subject to identical funding rules.

The recommendation would thus apply to plans whose sponsoring employers are in either the public or private sectors, including in the latter case, pension plans that are currently exempted from the solvency rule, mainly plans in the municipal and university sectors.

These funding rules would apply to both past and future service.

The Committee recommends that the government end the special treatment currently given to plans whose employers are in the public sector (mainly plans for municipalities, universities and workers in early childhood centres (CPEs) and subsidized daycare centres).⁸²

⁸² See page 63.

2.1.2 Following a new rule called “enhanced funding”

Recommendation number 4

The Committee recommends that all defined benefit pension plans under the supervision of the Régie des rentes du Québec be valued according to a rule called “enhanced funding” so as to bring plans into line with true costs, unlike the current funding method.

The enhanced funding rule would use of new rules for setting discount rates.

- For current retirees, a single discount rate would be determined by referring to market interest rates, as at the valuation date, of high quality corporate bonds with cash flows that match the timing and amount of expected benefit payments.
- For active members, the applicable discount rate after retirement would be the discount rate used for the group of retirees.
- During the working period or postponement period (i.e., before payment of a pension begins), the discount rate would have to take into account the expected return on the plan’s aggregate investments, including all separate-account investments, if any, referred to in recommendation number 12, in accordance with current investments and the provisions of the plan’s investment policy or policies.

The rule would apply to both past and future service.

The “enhanced funding” rule would be used to determine the contribution for current service and the funding deficiency, which would then be the only deficiency that would have to be funded.

- Any deficiency would be amortized over a 15-year period, which would be gradually shortened to 10 years during the 5 years following implementation of the rule.
- Deficiencies and their resulting amortization payments would be consolidated annually. Amortization payments could not be reduced from one year to the next as long as any deficiency balance remained.
- The market value of the assets would have to be used; smoothing over a maximum period of 3 years would be allowed.

As is currently the case, a complete actuarial valuation would have to be made each year. The valuation could be partial if the plan is fully funded (100%) and fully solvent (100%). However, all plans would have to undergo a complete valuation at least once every 3 years. Furthermore, a complete actuarial valuation on the basis of solvency and on the basis of enhanced funding would have to be carried out before any surplus assets could be used under the conditions set out in recommendation number 5.

☐ Changes with respect to current rules

The Committee proposes the following changes with respect to current rules:

- To determine a plan's funding and required contributions, only a valuation under the enhanced funding rule could be made, which would reflect the on-going nature of the plan.
- This new rule would apply to all defined benefit pension plans under the supervision of the Régie des rentes du Québec, including municipal and university pension plans.
- Any deficiency would be amortized over a 15-year period and eventually a 10-year period, compared with the 15-year period now allowed for funding deficiencies and the 5-year period now allowed for solvency deficiencies.
- The “enhanced funding” rule would, however, reduce the leeway allowed in choosing the discount rate.

☐ A better funding rule

A better funding rule would result from new requirements for setting the discount rate.

The Committee favours taking a conservative approach that would require the application of a low-risk discount rate during the retirement period, which would bring pension plans into line with their true costs.

However, the Committee proposes that some certain degree of risk be allowed during the active membership period.

Using the “enhanced funding” rule to determine the discount rate

The Committee recommends using the CIA Accounting Discount Rate Curve Method produced by Fiera Capital in collaboration with the Canadian Institute of Actuaries (CIA). The curve is updated monthly.

As an illustration, the application of the enhanced funding rule would give the following results with respect to the discount rate:

- The liabilities of a group of retirees with an average age of 69 years would have been valued, based on a 4.2% discount rate as at December 31, 2011 and a rate of 3.7%, as at February 28, 2013.
- Those rates would have been used to value the active members’ liabilities, for the period following starting date of their pensions.
- For the working period, rates similar to the rates determined using the current approach (i.e., 6% or 5.5%) would have been used.

□ An illustration of the proposed rule’s impact

Chart 31 illustrates the effect of the enhanced funding rule on the defined benefit plans under the supervision of the Régie des rentes du Québec.

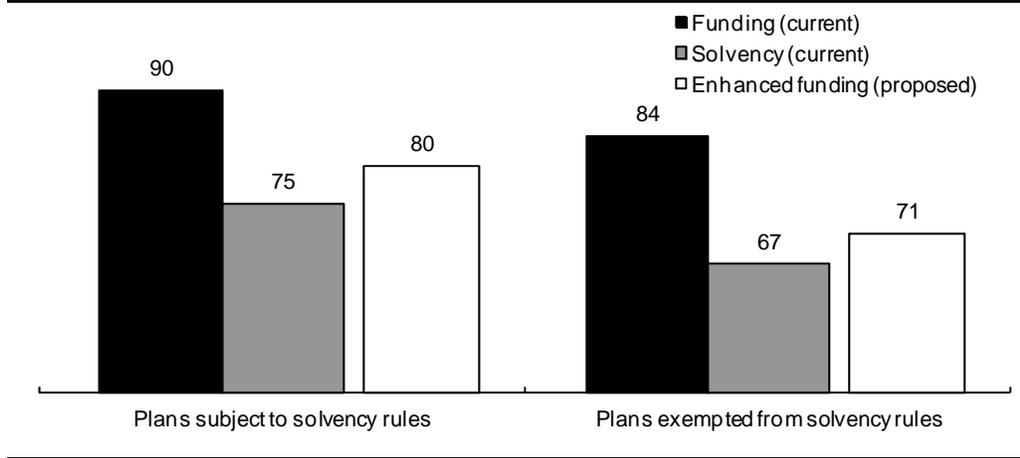
We see that the rule proposed by the Committee results in a funding ratio that falls between the ratios determined using the current funding and solvency methods.

- For plans subject to solvency rules, the ratio under enhanced funding would be 80%, whereas the current solvency and funding ratios would be 75% and 90%, respectively.
- For plans exempted from solvency rules, the enhanced funding ratio would be 71%, whereas the current solvency and funding ratios would be 67% and 84%, respectively.

Based on a representative sample of 30 plans, applying the enhanced funding rule would increase the current service cost by 15% on average for plans currently subject to solvency rules and 21% for plans exempted from those rules.

CHART 31

Estimated solvency, funding and enhanced funding ratios for all defined benefit plans under the supervision of the Régie des rentes du Québec—medians by plan type, as at December 31, 2011
(as a percentage)



Source: Régie des rentes du Québec.

2.1.3 Using the solvency rule to control the use of surplus assets

Recommendation number 5

The Committee recommends that the solvency rule be used to regulate the use of surplus assets in all defined benefit plans under the supervision of the Régie des rentes du Québec.

During a plan's existence, surplus assets could be used to take a contribution holiday, fund an improvement or give a refund to the employer,⁸³ provided the actuarial valuation shows a surplus under the solvency rule that is greater than the provision for adverse deviations and the plan is fully funded (100%) under the enhanced funding rule.

The total amount of surplus assets that could be used during a given plan fiscal year would be one fifth of the lesser of the following amounts:

- The surplus assets that exceed the provision for adverse deviations determined on the solvency basis ;
- The surplus assets determined on the basis of enhanced funding.

As is currently the case, the solvency rule would be used:

- To determine the proportion of the transfer value that can be paid to an individual terminating his or her membership. The balance would be payable within 5 years;⁸⁴
- To determine the employer's debt if the plan had been terminated as at the valuation date.

⁸³ In recommendation number 10, the Committee sets the conditions for a refund to the employer.

⁸⁴ The conditions for paying benefits are set out in sections 143 to 146 of the *Supplemental Pension Plans Act*. The Committee recommends that those conditions continue to apply.

☐ An important change from the current framework

The Committee is proposing an important change from the current framework. If adopted, the solvency rule would no longer determine a deficiency for which funding would be required.

The solvency rule would make it possible to regulate the use of surplus assets. Thus, it would strengthen risk management. Its application would prevent the use of assets in a situation where a pension plan's financial situation is not sufficiently sound.

☐ Limited use

To avoid the premature use of surplus assets, without taking into account financial market volatility, the maximum amount of surplus assets that could be used for a contribution holiday, a plan improvement or a refund to the employer would be limited, in a given fiscal year, to one fifth of the lesser of the amount exceeding the provision for adverse deviations and the surplus determined under the enhanced funding rule.

A complete actuarial valuation of the plan would have to be carried out each year to determine whether the plan has surplus assets, under the conditions provided for in recommendation number 5, and to determine the maximum amount of surplus assets that could be used in a given fiscal year of a pension plan.

2.1.4 A new way to calculate transfer values

Recommendation number 6

The Committee recommends a new method for calculating transfer values, so as to better reflect a plan's financial reality and ensure a more equitable situation with regard to employees who remain in the plan and those leaving their employment and transferring the value of their pension benefits outside the plan.

Thus, the Committee recommends that the Régie des rentes du Québec undertake discussions with the Canadian Institute of Actuaries to assess the new method and its application, particularly for pension plans that have indexed pension benefits.

The new method for calculating transfer values would be used to determine liabilities under the solvency rule.

- As a starting point for discussion, the Committee proposes that the Canadian Institute of Actuaries' formula be replaced by the new formula.
- The Canadian Institute of Actuaries has developed an Annual Effective Spot Rate curve (with terms from 6 months to 30 years) for actuarial valuations on an accounting basis. The Committee is of the opinion that the rate curve should also be used to calculate transfer values.
- Based on current data, the Committee proposes the following formula two-tiered formula for pension plans whose benefits are not indexed:
 - Discount rate applying for the first ten years = (10-year rate);
 - Discount rate applying for subsequent years = (20-year rate) + 0.5 x (20-year rate - 10-year rate);
 - Where “10-year rate” means the annual effective spot rate for 10-year term to maturity bonds and “20-year rate” means the annual effective spot rate for 20-year term to maturity bonds.

For plans with indexed pension benefits, the Committee recommends that the Régie des rentes du Québec and the Canadian Institute of Actuaries adapt the formula to determine the value of indexed benefits.

□ Better reflecting market realities and ending an unfair situation

The Committee recommends a new method for calculating the value of a pension plan member's accrued benefits where the member leaves the plan to which he or she contributed during his or her working life.⁸⁵

The use of high-quality corporate bonds rates to determine transfer values would make it possible to better reflect market realities.

The formula proposed by the Committee would increase the rate used to discount the value of pension benefits, which would reduce the transferred monetary value.⁸⁶ That would put an end to an unfair situation that is advantageous to an employee who leaves his or her employment but detrimental to the remaining employees. The overly generous current transfer values do not reflect the higher risks facing the members whose benefits must remain in the pension plan.

In the event of a plan windup, the liquidation value of the benefits of retirees and beneficiaries would still be the value of the annuity purchased for them from an insurer.

The new method for calculating transfer values will have a direct impact on the solvency valuation, as solvency is determined on the basis of the members' transfer values.

⁸⁵ See page 64.

⁸⁶ See Appendix 5, page 205.

2.1.5 Provision for adverse deviations increased to 15%

Recommendation number 7

The Committee recommends that the provision for adverse deviations be increased from 7% to 15% of liabilities on a solvency basis.

The formula currently used to determine the margin for adverse deviations would be adapted to increase the provision to 15% of solvency liabilities. The formula takes into account a plan's investment policies and its maturity.

As is currently the case, the provision for adverse deviations would build up using actuarial gains.

A recommendation to improve risk management

Increasing the provision for adverse deviations from 7% to 15% would improve risk management associated with using surplus assets.

2.1.6 Requirements for managing and disclosing risks

Recommendation number 8
<p>The Committee recommends strengthening the provisions of the <i>Supplemental Pension Plans Act</i> to ensure a better understanding of risk levels, their disclosure and their management.</p> <p>More precisely, the Committee recommends that the employer be required to adopt a funding policy that defines the objectives to be reached, taking into account various factors, including benefit security.</p> <p>In addition to such policies, the Committee would, at the end of the 5-year restructuring period and no later than every 6 years thereafter, have to prepare an assessment to quantify the various risk levels that affect or could affect the plan's situation and thus the fulfilment of the benefit commitment, in accordance with the terms and conditions to be set out in the regulations. In large plans, a <u>stochastic analysis</u> would be the best tool for this purpose.</p>

Essential tools for risk management

The new requirements would be in addition to the current obligations for plan administrators to adopt an investment policy.

They would make it possible to explicitly introduce the tools necessary for risk management, that is, a funding policy and an assessment to quantify the plan's risk levels.

The investment policy, the funding policy and the stochastic approach
<p>In defined benefit plans, risk management relies mainly on the investment policy, which integrates the risk tolerance level, and the funding policy, which ensures the management of the asset/liability risk associated with the capacity to pay the promised pension.</p> <p>The stochastic approach introduces the notion of probability for integrated risk management, including both the investment policy and the funding policy.</p> <p>The Netherlands has chosen the stochastic approach as a basis for risk management of defined benefit plans, by requiring, for example, an assurance level of 97.5% that contributions will be sufficient to meet the plan's benefit commitment.</p> <p>A plan's investment policy and funding policy help ensure that the accumulated assets will be sufficient to pay the promised pensions.</p>

2.1.7 Examples of the impact of the valuation recommendations

The following four examples show the impact of the new valuation methods that the Committee is proposing.

□ Two plans subject to solvency rules

The first two examples refer to two plans currently subject to solvency rules.

■ A plan representative of plans subject to solvency rules

Table 11 gives data on a plan that is representative of all plans subject to solvency rules. The degrees of solvency (75%) and funding (90%) roughly correspond to the medians of all plans subject to solvency rules.

- The plan is mature. The liabilities related to retirees and beneficiaries represent 65% of current funding liabilities.
- Applying the enhanced funding rule would increase the current service cost as a percentage of total payroll. That cost would rise from 14% to 16%.
- However, compared with the rules in effect before the adoption of relief measures, the enhanced funding rule would significantly reduce the contribution toward eliminating the plan's deficiency, as a percentage of total payroll. That contribution would fall from 73% to 19%. It would also decline compared with the current percentage of 38%.

TABLE 11

Plan currently subject to solvency rules—1st example

(in millions of dollars unless otherwise indicated)

Funding	Current funding rule		Enhanced funding rule
Assets	139.1		139.1
Liabilities	154.4		170.1
<i>Surplus assets (Deficiency)</i>	(15.3)		(31.0)
Degree of funding	90%		82%
Solvency	Current solvency rule		Modified solvency rule⁽²⁾
Assets (net of hypothetical windup costs) ⁽¹⁾	144.8		144.8
Liabilities	194.0		176.8
<i>Surplus assets (Deficiency)</i>	(49.2)		(32.0)
Degree of solvency	75%		82%
Costs	Without relief (Amortization of the solvency deficiency over 5 years)	Current (Amortization of the solvency deficiency ⁽³⁾ over 10 years)	Recommended (Amortization of the enhanced funding deficiency over 15 years)
Current service cost for defined benefits	2.0	2.0	2.3
Contribution toward deficiency	10.6	5.5	2.8
<i>Total</i>	12.6	7.5	5.1
Current service cost as a percentage of total payroll	14%	14%	16%
Contribution toward deficiency as a percentage of total payroll	73%	38%	19%
<i>Total as a percentage of total payroll</i>	87%	52%	35%
Discount rate	Current funding rule		Enhanced funding rule
	5.30%		4.09% - retirees
			5.30% - active period
			4.09% - retirement period

(1) The amount of assets on the basis of solvency includes the value of a letter of credit provided by the employer.

(2) Corresponds to a valuation of solvency taking into account the new formula for determining transfer values.

(3) Amortization amount based on the smoothed value of assets of \$146.1 million, as allowed under the relief measures.

Note: The most recent actuarial valuation was made as at December 31, 2011, and the current level of required contributions corresponds to that stated in the report submitted on the actuarial valuation.

Source: Régie des rentes du Québec.

■ **A young plan**

Table 12 also gives data on a plan subject to solvency rules. The plan is young. The liabilities related to retirees and beneficiaries represent 25% of current funding liabilities.

- The enhanced funding rule would increase in the current service cost as a percentage of total payroll. That cost would rise from 15% to 18%.
- However, compared with the rules in effect before the adoption of relief measures, the enhanced funding rule would reduce the contribution toward the deficiency, as a percentage of total payroll. That contribution would be lower than in the preceding example. It would drop from 26% to 13%. It would also drop compared with the current percentage of 14%.

TABLE 12

Plan currently subject to solvency rules—2nd example

(in millions of dollars unless otherwise indicated)

Funding	Current funding rule		Enhanced funding rule
Assets	598.8		598.8
Liabilities	759.6		880.9
<i>Surplus assets (Deficiency)</i>	<i>(160.8)</i>		<i>(282.1)</i>
Degree of funding	79%		68%
Solvency	Current solvency rule		Modified solvency rule⁽¹⁾
Assets (net of hypothetical windup costs)	601.1		601.1
Liabilities	833.7		712.8
<i>Surplus assets (Deficiency)</i>	<i>(232.6)</i>		<i>(111.7)</i>
Degree of solvency	72%		84%
Costs	Without relief (Amortization of the solvency deficiency over 5 years)	Current (Amortization of the solvency deficiency ⁽²⁾ over 10 years)	Recommended (Amortization of the enhanced funding deficiency over 15 years)
Current service cost for defined benefits	30.0	30.0	35.0
Contribution toward deficiency	49.1	26.5	26.2
<i>Total</i>	<i>79.1</i>	<i>56.5</i>	<i>61.2</i>
Current service cost as a percentage of total payroll	15%	15%	18%
Contribution toward deficiency as a percentage of total payroll	26%	14%	13%
<i>Total as a percentage of total payroll</i>	<i>41%</i>	<i>29%</i>	<i>31%</i>
Discount rate	Current funding rule		Enhanced funding rule
	5.75%		4.18% - retirees
			5.75% - active period
			4.18% - retirement period

(1) Corresponds to a valuation of solvency taking into account the new formula for determining transfer values.

(2) Amortization amount based on the smoothed value of assets of \$602.2 million, as allowed under the relief measures.

Note: The most recent actuarial valuation was made as at December 31, 2011, and the current level of required contributions corresponds to that stated in the report submitted on the actuarial valuation.

Source: Régie des rentes du Québec.

□ Two plans exempted from solvency rules

The following two illustrations refer to plans currently exempted from solvency rules.

■ A plan representative of plans exempted from solvency rules

Table 13 gives data on a plan in the municipal sector that is representative of all plans exempted from solvency rules. The degrees of solvency (67%) and funding (83%) roughly correspond to the medians of all plans exempted from solvency rules. The plan is young. The liabilities related to retirees and beneficiaries represent only 30% of current funding liabilities.

- Applying the enhanced funding rule would result in an increase in the current service cost, as a percentage of total payroll. That cost would rise from 17% to 20%.
- However, compared with the rules in effect before exemption from solvency rules, the enhanced funding rule would significantly reduce the contribution toward the deficiency as a percentage of total payroll. That contribution would drop from 42% to 16%. The contribution would increase compared with the current percentage of 8%.

TABLE 13

Plan currently exempted from solvency rules—1st example

(in millions of dollars unless otherwise indicated)

Funding	Current funding rule		Enhanced funding rule
Assets	105.7		105.7
Liabilities	127.3		151.1
<i>Surplus assets (Deficiency)</i>	<i>(21.6)</i>		<i>(45.4)</i>
Degree of funding	83%		70%
Solvency	Current solvency rule		Modified solvency rule⁽¹⁾
Assets (net of hypothetical windup costs)	105.5		105.5
Liabilities	157.8		142.8
<i>Surplus assets (Deficiency)</i>	<i>(52.3)</i>		<i>(37.3)</i>
Degree of solvency	67%		74%
Costs	Simulation (Rules for private plans: amortization of the solvency deficiency over 5 years)	Current (Amortization of the funding deficiency over 15 years)	Recommended (Amortization of the enhanced funding deficiency over 15 years)
Cost of current service for defined benefits	4.4	4.4	5.3
Contribution to deficiency	11.2	2.2	4.2
<i>Total</i>	<i>15.6</i>	<i>6.6</i>	<i>9.5</i>
Cost of current service as a percentage of total payroll	17%	17%	20%
Contribution to deficiency as a percentage of total payroll	42%	8%	16%
<i>Total as a percentage of total payroll</i>	<i>59%</i>	<i>25%</i>	<i>36%</i>
Discount rate	Current funding rule		Enhanced funding rule
	6.00%		4.22% - retirees 6.00% - active period 4.22% - retirement period

(1) Corresponds to a valuation of solvency taking into account the new formula for determining transfer values.

Note : The most recent actuarial valuation was made as at December 31, 2010. The current funding liabilities shown above correspond to the projected amount as at December 31, 2011, assuming the expected rate of return is kept at 6.0% and the solvency liabilities are estimated using the assumptions applicable as at December 31, 2011. The current level of current service contributions corresponds to that in the report submitted on the actuarial valuation.

Source: Régie des rentes du Québec.

■ **A mature plan**

Table 14 gives data on a plan in the university sector that is also currently exempted from solvency rules. The degrees of solvency (63%) and funding (79%) are not far from the degrees of solvency and funding of the preceding example. The plan is more mature than the plan in the preceding example and has a much greater weight.

- Applying the enhanced funding rule would increase the current service cost as a percentage of total payroll. That cost would rise from 19% to 24%.
- However, compared with the rules in effect before exemption from solvency rules, the enhanced funding rule would significantly reduce the contribution toward the deficiency, as a percentage of total payroll. That contribution would drop from 81% to 33%. The contribution would increase compared with the current percentage of 18%.

TABLE 14

Plan currently exempted from solvency rules—2nd example

(in millions of dollars unless otherwise indicated)

Funding	Current funding rule		Enhanced funding rule
Assets	61.2		61.2
Liabilities	77.9		96.1
<i>Surplus assets (Deficiency)</i>	<i>(16.7)</i>		<i>(34.9)</i>
Degree of funding	79%		64%
Solvency	Current solvency rule		Modified solvency rule⁽¹⁾
Assets (net of hypothetical windup costs)	61.2		61.2
Liabilities	96.9		90.2
<i>Surplus assets (Deficiency)</i>	<i>(35.7)</i>		<i>(29.0)</i>
Degree of solvency	63%		68%
Costs	Simulation (Rules for private plans: amortization of the solvency deficiency over 5 years)	Current (Amortization of the funding deficiency over 15 years)	Recommended (Amortization of the enhanced funding deficiency over 15 years)
Current service cost for defined benefits	1.8	1.8	2.2
Contribution toward deficiency	7.7	1.6	3.2
<i>Total</i>	9.5	3.4	5.4
Current service cost as a percentage of total payroll	19%	19%	24 %
Contribution toward deficiency as a percentage of total payroll	81%	18%	33 %
<i>Total as a percentage of total payroll</i>	100%	37%	57 %
Discount rate	Current funding rule		Enhanced funding rule
	6.50%		4.20% - retirees 6.50% - active period 4.20% - retirement period

(1) Corresponds to a valuation of solvency taking into account the new formula for determining transfer values.

Note: The most recent actuarial valuation was made as at December 31, 2010. The current funding liabilities shown above correspond to the projected amount as at December 31, 2011, assuming the expected rate of return is kept at 6.50% and the solvency liabilities are estimated using the assumptions applicable as at December 31, 2011. The current level of current service contributions corresponds to that in the report submitted on the actuarial valuation.

Source: Régie des rentes du Québec.

□ **Several observations**

As the preceding examples show, the new rules recommended by the Committee would have varying effects, depending on the plan to which they would be applied.

■ **A caution: effects may vary**

Many factors can influence the results under the enhanced funding rule compared with other methods for valuating actuarial liabilities, in particular, the pension plan's benefit formula, the generosity of retirement benefits, plan maturity, average age of member groups, as well as the economic and demographic assumptions used.

Nevertheless, the preceding examples show that the new enhanced funding rule would increase the current service cost. That illustrates the fact that the new rule would bring plans into line with their true costs. However, the effect on contributions toward deficiencies would vary, depending on the specificities of each plan.

■ **Putting the proposed changes in perspective**

The preceding examples do, however, put in perspective the changes proposed by the Committee. Moving to the new rules would give all plans a stable and uniform framework.

2.2 A series of measures to enhance plan governance and management

Further to comments by stakeholders, the Committee recommends a series of measures to **enhance plan governance and management**, with the specific goal of giving partners more leeway to share costs as well as address the problem of asymmetry between risk taking and the advantages of risk taking.

There are five measures, which aim to:

- give partners more leeway to **share costs**;
- **address the problem of asymmetry** between risk taking and the advantages of risk taking;
- **authorize the purchase of annuities from an insurer during the plan's existence** for the purpose of paying pensions, thereby transferring the responsibility with regard to the concerned retirees and beneficiaries;
- offer the option of **creating a separate account for retirees**;
- eliminate the unintended effects related to protecting vested benefits, in the **funding of multi-employer pension plans**.

2.2.1 More leeway to share costs

The *Supplemental Pension Plans Act* specifies that the employer is solely responsible for deficiencies. The *Act* does not recognize cost sharing between the employer and active members. However, agreements between employers and active plan members with regard to the sharing of pension plan costs are becoming more and more common.

Recommendation n° 9

The Committee recommends that the *Supplemental Pension Plans Act* specifically recognize that pension plan costs can be shared between the employer and the active members with regard to:

- Current service;
- Deficiencies for future service from the date on which the measure is introduced or deficiency for past service.

To protect active members of private sector pension plans, the *Act* should provide that the members may not be held responsible for more than 50% the costs attributed to them.

The Committee recommends that, for public sector pension plans under the supervision of the Régie des rentes du Québec, current service costs must be shared in a proportion of 50% between the employer and active members.

In order to avoid systematically transferring to new workers the costs related to plan deficiencies, the *Act* should provide for the cost sharing of deficiencies between active members and retirees. Cost sharing of this nature would only apply to deficiencies related to credited service after the introduction of the new measure.

It is the Committee's recommendation that, where costs are shared, plans must be obligated to set out a policy concerning benefits. The purpose of the policy is to inform plan members of the rules that apply with regard to benefit increases and benefit reductions. The *Act* must provide minimum rules for adopting such a policy, as well as outlining its contents.

The *Act* must also provide that only the member contributions for current service be taken into account for the application of the minimum employer contribution – referred to as the 50% rule.

In keeping with current practices, the employer would remain responsible for the entire debt if the plan were terminated or for a balance owing when a member transfers his or her benefits out of the plan.

2.2.2 Asymmetry between risk taking and the advantages of the risks

This asymmetry is one of the reasons many employers make only the minimum contributions required to pension plans.

Recommendation number 10

The Committee recommends that the employer be refunded from the surplus assets, up to the amount of the amortization payments made to fund deficiencies, based on the conditions provided for in Recommendation number 5.

For pension plans where costs of deficiencies are shared, the amount repaid from the surplus assets should be determined according to the costs borne by the employer.

This measure aims to encourage the acceleration of pension plan funding, by allowing employers to recover amortization payments.⁸⁷

⁸⁷ See page 57.

2.2.3 Purchase of annuities from an insurer during the existence of a plan

Sound risk-management practices should allow pension committees to purchase annuities from insurers during the plan's existence, to cover pensions in payment.

Recommendation number 11

The Committee recommends that, during the existence of a pension plan, the pension committee be allowed to proceed with the settlement of all or part of the beneficiaries' retirement pensions by purchasing insured annuities from an insurer. The employer would be freed of responsibility with regard to retirees and beneficiaries, in proportion to that payment.

Should the employer wish to settle pensions using this method, it should be required to adopt, in conjunction with the pension committee, a policy for the purchase of annuities that contains the information provided for under the *Supplemental Pension Plans Act*.

Where the purchase of annuities reduces the solvency ratio or enhanced funding ratio, the employer must make up the difference.

The *Supplemental Pension Plans Act* offers few options for dealing with plan maturity. Payment of pensions by an insurer during the existence of the plan allows the risks related to plan maturity to be effectively managed.

2.2.4 The option of creating a separate account for retirees

Recommendation number 12

The Committee recommends making it possible to divide the pension fund of a pension plan into two accounts, of which one would be comprised of the assets related to the benefits of the retirees.

That account would make it possible to ensure better matching of the assets and liabilities allocated to the group of retirees.

Given the protection thus provided to retirees, amendments funded with surplus assets that affect active plan members would no longer be subject to the equity principle.

Based on this recommendation, the two accounts would be treated as though each one had separate assets, with separate degrees of solvency and funding.

In the event of plan termination, the benefits of members would be paid from the corresponding account.

The transfer of assets to the separate account for retirees should be done on an enhanced-funding basis.

The plan's internal by-laws should provide the rules governing the time and frequency of such transfers. The rules should be adopted in accordance with the provisions of the *Act*.

2.2.5 Counteracting the unintended effects of protecting vested benefits in the funding multi-employer plans

As previously mentioned, there are unintended effects related to not requiring the benefits of plan members to be paid off on the withdrawal of an employer from a multi-employer plan.⁸⁸ In certain cases, the other employers could be obligated to cover the deficiency related to members who have never been in their employ.

Recommendation number 13

The Committee recommends that, in the case of the withdrawal of an employer from a multi-employer plan, the *Supplemental Pension Plans Act* should no longer allow members affected by the withdrawal – called “orphans” – to keep their benefits in the plan. Those benefits should be paid in order to avoid having the responsibility for any deficiencies become that of the other employers.

Insofar as concerns orphans who currently have benefits in a multi-employer negotiated contribution plan, the *Act* should allow for the payment of their benefits in proportion to the plan’s degree of solvency.

The Committee also recommends that the Régie des rentes du Québec take a closer look at the particular problems involved with these plans, with an aim to setting out measures that will restore their financial situation while taking into account their individual characteristics.

⁸⁸ See page 66.

2.3 Eliminating plan deficiencies through restructuring

Under the new rules proposed by the Committee, valuations of pension plans must bring plans into line with true costs as accurately as possible by using a valuation method that reflects financial realities as much as possible. As previously mentioned, these rules would have an effect on current service costs and the evaluation of liabilities, which in turn would affect contributions.

Imposing these new funding rules, along with providing more leeway to enhance plan governance and management, may not be sufficient to restore the financial situation of defined benefit plans. Parties to pension plans must also be given the manoeuvring room required to eliminate deficiencies through restructuring by redefining certain elements of benefit commitments.

Such restructuring is already possible for future service; however the Committee believes further steps should be taken. Methods for directly managing liabilities must be foreseen, by restructuring certain vested benefits, while maintaining basic commitments.

A five-year period for negotiations to reformulate the concept of vested rights

To eliminate plan deficiencies, the Committee recommends that parties to a pension plan be able to restructure plans over a five-year period.

The exact restructuring mechanisms would be negotiated by all parties and would **reformulate the concept of vested rights**.

- Some benefits could be re-examined during negotiations depending on the employers' and employees' capacity to pay.
- However, the basic commitment of defined benefit plans—namely, a pension determined as a percentage of salary and according to the number of years worked—would be protected.
- Furthermore, pensions in payment would in no way be reduced.

If no agreement is reached within three years, the employer could, in the last two years of the five-year period, make unilateral amendments to the points identified, subject to certain specific conditions. One such condition would oblige the employer to make a payment reducing the deficiency in the same proportion.

Furthermore, subsidized early retirement benefits payable before age 55 would henceforth be forbidden. In contrast to our previous recommendations, this recommendation applies only to future service.

Restructuring under the current law with regard to future service

Under the current legislation, pension plans can be restructured with regard to future service.

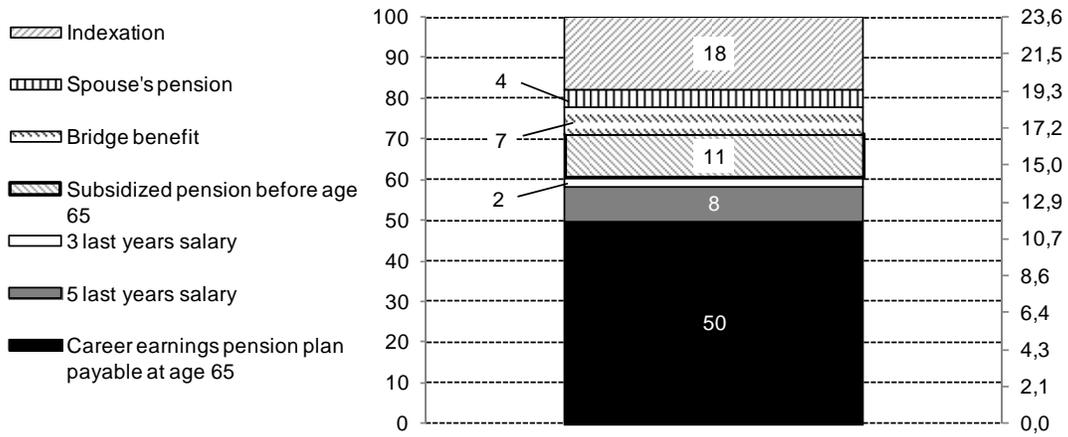
As an example, a simulation of the effects of a reduction in benefits was carried out for a plan offering a pension based on average salary for the three years preceding retirement, a bridge benefit, indexation after retirement (inflation less 1%) and a reduction of 3% per year of early retirement before age 60.

- By using enhanced funding, the cost of current service of the plan would be 23.6% of the total payroll.
- In order to reduce the cost of current service, under the Act, reductions in future benefits could be negotiated.
- A breakdown of the cost of various benefits offered by the plan is shown in Chart 32.

CHART 32

Cost of current service breakdown by benefit type

(Percentage of total cost at left and current service cost as a percentage of the total payroll at right)



Source: Régie des rentes du Québec.

2.3.1 Five years to agree upon the restructuring required

To allow the parties to pension plans to reach an agreement on the restructuring that is required to ensure plan sustainability, the Committee proposes a clearly defined five-year period be set out.

Recommendation number 14

The Committee recommends that, during the of five-year period following the implementation of the enhanced funding method, the parties to a pension plan (the employer, active members, non-active members whose pensions have been deferred and retirees who are receiving pensions) reach an agreement on a certain number of measures that will reduce plan costs and secure benefits where past service is concerned.

During that five-year period, the Régie des rentes du Québec must, each year, report on the amendments made to pension plans and the changes in the financial situations of the plans to which one or more amendments have been applied.

Where negotiations between an employer and active members (including members receiving deferred pensions) are concerned, the Committee recommends that the measures for restructuring allow vested rights to be revised or suspended and, in addition to what is currently allowed for bridge benefits, that they cover:

- Indexation of pensions after retirement;
- Indexation of pensions paid before normal retirement age (deferred pensions);
- Early retirement subsidies (before age 65);
- Early benefits taken into consideration when calculating the benefit for early departure;
- Subsidies for surviving spouse's pensions.

Where negotiations between an employer and active members (including members receiving deferred pensions) are concerned, the Committee recommends that, where a final-pay plan is converted to a career-pay plan for future service, both the employer and the active members must agree not to take into account changes in salary with regard to service completed prior to the amendment.

Where negotiations occur between an employer and retirees, the Committee recommends that measures for restructuring encompass indexation of pensions after retirement.

Where indexation of the benefits of retirees is concerned, the Committee recommends that indexation may be reduced only if less than 30% of retirees are opposed to the amendment. In the interest of equity, the retirees should be consulted concerning the amendment by following a procedure similar to the one set out in the *Supplemental Pension Plans Act*

.../...

Recommendation number 14 (continued)

For unionized employees, the Committee recommends that unions be allowed to negotiate the reduction or suspension of benefits before the effective date of the collective agreement.

Where non-unionized employees are concerned, the Committee recommends that the reduction or suspension of the benefits of active plan members be carried out provided they be subject to a consultation process similar to the one provided for under the *Supplemental Pension Plans Act* for the purpose of applying the equity principle and that less than 30% of active members or those receiving deferred pensions are opposed thereto.

To ensure that the restructuring of plans does not lead to plan termination once the plan's financial situation has been re-established, the Committee recommends that reductions in benefits be restored if the plan is terminated within ten years of its restructuring.

Reformulating the concept of vested rights

Under the general legal principles of contracts, where the parties are in agreement, the terms of a contract can be revised, in particular to take into consideration changes to the situation that have occurred since the contract was signed. Under the *Supplemental Pension Plans Act*, vested benefits are nearly untouchable.

Where restructuring is required, the level of protection under the Act is a roadblock. Only in the case of bridge benefits can restructuring measures can be adopted without the consent of the affected parties.

The Committee recommends that the concept of vested rights be reformulated. In the Committee's opinion, the parties must be able, should they so desire, to consent to amendments to benefits that would secure the plan.

□ Facilitating negotiations to ensure plan sustainability, with guidelines

The objective of the Committee's recommendations is to provide flexibility that will allow the parties to redefine commitments in order to ensure plan sustainability.

There are, however, two guidelines that must govern the proposed flexibility:

- The Act should provide that commitments may be renegotiated over a period of five years only.
- Only the aspects of benefit commitments identified in the recommendation can be negotiated.

2.3.2 Setting benefits apart

Recommendation number 15
<p>The Committee recommends that the parties to the plan be able to set apart all or a portion of the benefits suspended under recommendation number 14, as recoverable benefits.</p> <p>If the benefits set apart are paid retroactively, they would be subject to the same conditions as an increase in existing benefits, as provided under recommendation number 5.</p>

The objective of recommendations 14 and 15 is to facilitate negotiations between the employer, active members and retirees.

2.3.3 The possibility of making unilateral amendments to plan indexation

Recommendation number 16

The Committee recommends that, beginning in the fourth year of the five-year period following the implementation of the enhanced funding method, the employer have the option of unilaterally eliminating or amending the indexation of benefits related to past service while the plan is being revised.

This option could apply to active members as well as current retirees and beneficiaries.⁸⁹ It could not, however, under any circumstances be applied retroactively to benefits that have already been paid. Any changes to indexation could be applied only to future payments.

The employer could avail itself of this option on three conditions:

- The unilateral redefinition of indexation would have to be applied uniformly to current and future retirees with regard to past service.
- The changes to indexation could not reduce the enhanced funding deficiency by more than half.
- In order to benefit from the measure, the employer would also have to contribute financially to the plan so as to reduce the deficiency proportionally.

As with recommendation number 14, to ensure restructuring of the plan does not lead to its termination once the plan's financial situation has been re-established, the Committee recommends that reductions in benefits be restored if the plan is terminated within 10 years after being restructured.

Last-resort measure

In the eyes of the Committee, this measure should be considered a last resort. The spectre of unilateral action by the employer should encourage the parties to negotiate.

The possibility of taking unilateral action could only apply to the future indexation of benefits, which is of major financial concern.

- Full indexation increases plan costs by up to 30%.⁹⁰
- By changing indexation, plan costs could be reduced significantly without affecting the basic benefits of the members.

⁸⁹ Includes non-active members whose pensions are deferred.

⁹⁰ See page 58.

2.3.4 Prohibiting certain benefits for future service

Recommendation number 17

The Committee recommends that it no longer be possible to offer, to members under age 55, subsidized early retirement benefits under defined benefit plans, for future service.

The Committee recommends that the right to the additional pension benefit resulting from the calculation method provided for under section 60.1 of the *Supplemental Pension Plans Act* be revoked.

These benefits cause a considerable increase in plan costs, which is why the Committee recommends that in future, they be prohibited.⁹¹

The latter part of the recommendation pertains to the additional pension benefit offered to members who stop working or die before age 55. In the Committee's opinion, that benefit should be revoked.⁹² Paying a benefit that is greater than the pension initially promised, thereby subsidizing the pensions of members who stop working early, should not fall under the purview of pension plans.

⁹¹ See above, page 58.

⁹² See above, page 66.

Sustainability of defined benefit plans over the long haul

In conjunction with the implementation of the longevity pension, the purpose of the various recommendations presented above is to **protect the basic commitments of defined benefit pension plans**. The sustainability of those plans must be ensured in order for them to provide financial security.

This outlook is the root of the Committee's choice to advocate the enhanced funding method as a means of bolstering the funding of defined benefit pension plans; insufficient funding of current service contributions and efforts to finance funding deficiencies are emphasized. The Committee therefore counsels plan sponsors and members to take steps in this direction.

Further effort required

In the Committee's opinion, additional effort is required, however, to ensure that the method of funding secures benefits.

Had the principles of financial economics been applied, the Committee would have recommended a much more stringent funding method. The effect of using such a method would have been to ensure, from a probability standpoint, that sufficient capital would have accumulated to pay the promised pensions. For integrated risk management to occur, investment risks, asset-liability risks and demographic risks must be taken into consideration when determining the funding required to ensure the commitments of defined benefit plans.

The stochastic method suits this purpose. The concept of financial security involves ensuring that funding closely reflects true costs to provide as much assurance as possible that commitments are met, which in turn increases the likelihood that the capital accumulated will suffice to pay the pensions promised.

To provide that level of assurance, the Netherlands has obligated pension plans to take into consideration investment and asset-liability risks in their funding policies. For the Netherlands, using the stochastic approach, we establish at 97.5% the probability that over a one-year horizon, funding will be sufficient to meet commitments, that is, that the plan will be fully funded. To do so, a provision for adverse deviations of 20% to 30% must be funded.

With the passage of the law introducing shared-risk pension plans, New Brunswick has prescribed that approach.

The Committee's recommendation to increase the provision for adverse deviations to 15% does not include the requirement for it to be funded. Nevertheless, it does provide a buffer to promote sound management of the risks associated with the use of surplus assets.

Opting for pragmatism

The Committee does not recommend, however, using a stochastic method.

Ideally, that method would be required as a basis for providing financial security in retirement, which should be the goal of any new plan. It therefore follows that the funding of a new plan such as a target-benefit plan would use that method to lower to an acceptable level the probability of having a deficiency or having to reduce benefits.

In its desire to bolster risk management and see its recommendations adopted, the Committee has opted to take a more pragmatic approach. Revamping defined benefit plans by imposing a stochastic method—despite the accessibility of that method for plans wishing to ensure benefit commitments now—would be much too costly.

By advocating the use of a single discount rate for part of the funding required to pay pensions, the Committee believes costs would be more closely reflected. In our opinion, the realization that current service is underfunded will be sufficient to trigger orderly restructuring where warranted.

As a control measure, the Committee recommends implementing the obligation to adopt—in addition to the already mandatory investment policy—a funding policy and, in the case of shared costs, a benefits policy that further increases the accountability of pension committees and transparency with regard to pension plan risks.

The likelihood of meeting commitments must be regularly quantified

Given the transitional rules that are proposed for plan restructuring, the Committee firmly believes that plan members should be aware of the level of risk affecting their retirement security.

It is therefore recommended that the likelihood of meeting commitments be quantified regularly and that plan members be provided with clear information on the subject.

The social contract

The social contract will come into its own once the parties take the bull by the horns and implement the Committee's recommendations.

3. HELPING WORKERS SAVE MORE FOR RETIREMENT AND MAKING THE SYSTEM MORE EFFECTIVE

The Committee has made several recommendations in order to support workers in their efforts to save more for retirement and to make the retirement system more effective.

The Committee has found that the implementation of the longevity pension and the efforts that have gone towards ensuring the sustainability of defined benefit plans will not suffice to increase savings to the desired level.

There are a number of ways to improve saving for retirement. The Committee makes two recommendations for supplemental plans other than defined benefit plans, specifically:

- speedy implementation of **voluntary retirement savings plans**, with a few adjustments;
- loosening of the legislative framework so as to make the **withdrawal of retirement savings** more flexible.

☐ **A few numbers**

The Committee's finding is illustrated in Chart 15.

At the Committee's behest, the Régie des rentes du Québec has made further calculations of the savings required for retirement that were shown in Chart 2.⁹³

Table 15 takes the previous example of a worker aged 22 or 30 who earns \$50,000 and wishes to retire at age 60, 62 or 65 with a retirement income that represents 60% of his or her salary. In this scenario, the effect of the longevity pension is taken into account.

We see that the implementation of the longevity pension reduces the amount the worker must save.

TABLE 15

Savings needed for retirement⁽¹⁾ – to replace 60% of a pre-retirement income of \$50,000, after the longevity pension has been implemented
(savings rate as a percentage of income)

Age when saving begins:	retirement at age 60		retirement at age 62		retirement at age 65	
	22	30	22	30	22	30
Savings needed ⁽²⁾ at a 2% real rate of return	13	17	10	13	6	8
Savings needed ⁽²⁾ at a 3% real rate of return	10	14	8	10	5	6

(1) Savings needed over and above the coverage provided by the public plans (Old Age Security and Québec Pension Plan), including the longevity pension.

(2) Personal savings where the person does not have a supplemental pension plan to cover needs.

Notes: For the purpose of making calculations, it is assumed that the person is currently earning \$50,000, stops working and takes retirement at the ages shown in the table. The savings rates were calculated by taking into account a 1% real rate of salary increase and depending on the scenario, a 2% or 3% real rate of return, before and after retirement.

Income from private savings was determined by assuming that an Old Age Security pension begins at age 67 (with no adjustment to reflect eventual changes to the program) and by assuming that a retirement pension under the Québec Pension Plan begins at age 65.

It is also assumed that the person began contributing to the Québec Pension Plan and the longevity pension at age 20.

For simplification purposes, no mortality was assumed before or after retirement. Death is assumed at age 90.

Source: Régie des rentes du Québec.

Under the renewed retirement system proposed by the Committee, supplemental pension plans other than defined benefit plans have a key role to play, by giving workers a predictable way to meet their savings needs from the time they leave the labour force to the time payment of the longevity pension begins.

⁹³ See page 43.

3.1 Voluntary retirement savings plans

The implementation of voluntary retirement savings plans, which was confirmed in the 2013-2014 budget speech,⁹⁴ corresponds to one of the Committee's concerns: continued diversification of pension plans must be maintained and to that end, personal savings plans must be promoted.

Recommendation number 18

The Committee recommends that voluntary retirement savings plans be rapidly implemented, as announced in the 2013-2014 budget speech.

The Committee also recommends that the government improve the proposed voluntary retirement savings plans by exempting employers that offer a group tax-free savings account (TFSA) from the obligation to offer a voluntary retirement savings plan, as is the case for employers that offer a group RRSP.

Supervision of voluntary retirement savings plans must include regulation of all fees and charges reducing returns, and their disclosure by the Régie des rentes du Québec. The government should monitor trends in costs and, if necessary, legislate.

Improving voluntary retirement savings plans

Voluntary retirement savings plans should be highly effective tools to allow workers to contribute to their financial security from the time they retire until longevity pension payments begin.

To facilitate the penetration of voluntary retirement savings plans, the Committee supports the prudence shown by the government where the locking-in of funds is concerned. As the government's project provides, management of the funds accumulated should not be subject to strict rules and should be accessible before retirement. However, it is the Committee's opinion that the government's project would be more likely to succeed if:

- management fees were regulated;
- the rules were relaxed to meet the needs of certain lower income workers for whom a tax-free savings account (TFSA) would be more advantageous than the voluntary retirement savings plan.

The success of the new voluntary retirement savings plan lies mainly in its ability to offer workers low-cost, quality investments.

⁹⁴ Gouvernement du Québec, *Budget 2013-2014*, page 10.

3.2 Making the withdrawal of retirement savings more flexible

The retirement system could be made more effective by allowing for greater flexibility in the withdrawal of retirement savings. To this end, the Committee makes three recommendations that target:

- Defined contribution plans;
- Retirement accounts and life income funds; and
- Registered retirement savings plans.

3.2.1 Defined contribution plans

Recommendation number 19

The Committee recommends that the *Supplemental Pension Plans Act* be amended to allow variable contributions to be made to defined contribution plans, using the same model as for life income funds.

This option should also be made available to defined benefit plans that have a defined contribution component.

Under federal tax rules, variable benefits can currently be paid from defined contribution plans using the same model as for life income funds.⁹⁵

In some jurisdictions, particularly in Alberta and Manitoba, it is possible to have a variable benefit account in a defined contribution plan using the same model as for life income funds.⁹⁶

Québec should follow suit and adopt provisions that mirror those in effect in Alberta and Manitoba. This would provide defined contribution plans with more flexibility, while allowing members to continue taking advantage of significant economies of scale where costs are concerned.⁹⁷

⁹⁵ Section 8506 of the *Income Tax Regulations*, C.R.C., c. 945.

⁹⁶ Section 8506 of the *Income Tax Regulations*, C.R.C., c. 945.

⁹⁷ See page 68.

3.2.2 Retirement accounts and life income funds

Recommendation number 20
<p>The Committee recommends allowing individuals over age 60 to more rapidly withdraw the locked-in amounts held in a retirement account or life income fund.</p> <p>The rules governing the determination of maximum withdrawal amounts should be set out in the regulation.</p> <p>Similar measures should also apply to take into account the implementation of the longevity pension.</p>

The purpose of the measure is to allow individuals who postpone the payment of benefits under the Québec Pension Plan and Old Age Security to even out variations in their retirement income.

This type of withdrawal should also be possible once the longevity pension has been implemented so that individuals can continue receiving similar amounts both before and after age 75.

3.2.3 Registered retirement savings plans

Recommendation number 21

The Committee recommends that the age at which amounts in a registered retirement savings plan must be transferred be changed to age 75. The Gouvernement du Québec should initiate discussions with the federal government for this purpose.

The age at which the amounts in a registered retirement savings plan must be transferred is currently set at 71. Changing the age to 75 could encourage some individuals to stay in the workforce longer.

CONCLUSION

With its recommendations, the Committee has laid the groundwork for an exciting and ambitious project involving the government and all Québec workers: renewing the Québec retirement system and ensuring its sustainability in order to establish what could be called an “intelligent retirement system.”

The new system proposed by the Committee would, over time, bolster the financial security of all workers.

- For many workers, it would provide access to an improved retirement plan.
- It would take into account the fact that all employers do not have the financial means to offer a defined benefit plan.
- It would give defined benefit plans the means for ensuring their sustainability.
- It would promise future retirees a pension that is financially sustainable by members and employers, that is, one whose funding closely reflects actual costs.
- It would strengthen other supplemental pension plans suitable for many workers and employers.

Because of its very nature, this project should be the subject of a true **social contract** whose universal goal would be to strengthen the financial security of all Québec workers.

APPENDICES

APPENDIX 1 – THE COMMITTEE

The members of the Committee

☐ **Alban D'Amours, Chair**

Alban D'Amours has Master's degree in economics from Université Laval and pursued doctoral studies at the University of Minnesota. He is a force of change and growth. Regardless of the field in which he has worked—public, private, coop or university—he has been praised for his humanistic approach, creativity and achievements. He has always put people first, which, without a doubt was the case while working for the Québec public service and at Desjardins Group. As President and CEO of Desjardins Group until April 2008, he helped develop a cooperative business model combining assets and values.

His professional life has been active, innovative and successful. At Université de Sherbrooke, where he was a professor and a department head between 1967 and 1981, he helped found the Institut de recherche sur les coopératives and contributed to the implementation of the master's degree in taxation program. At the Québec Ministère du Revenu, where he was Deputy Minister from 1981 to 1986, he introduced the concept of quality of life at work, significantly improved citizen relations and instilled pride in the personnel. He was Assistant Deputy Minister of Energy from 1986 to 1988 and had a hand in the creation of the Institut de l'énergie et de l'environnement de la Francophonie, which is now based in Québec (city).

At the Desjardins Group, where he held high-level management positions from 1988 to 2008, he instilled a vision focussed on people, driving progress and catapulting sales to remarkable heights.

Mr. D'Amours has taken an interest in multiple causes and presided over numerous fund-raising campaigns. He has chaired or been a member of several boards of directors. He is an honorary president of the Confédération Internationale des Banques Populaires. Mr. D'Amours chaired the consultation table during the public debate on energy in Québec and the Commission sur la fiscalité et le financement des services publics. He also participated in the Groupe de travail sur le rôle du secteur privé dans le domaine de la santé.

Alban D'Amours was named Business Personality of the Year at the Gala Excellence La Presse in 2000 and Financial Personality of the Year by the magazine *Finance et Investissement* in 2002. Mr. D'Amours holds a doctorat honoris causa from Université du Québec and Gloire de l'Escolle from Université Laval. In 2003, he was awarded the Équinoxe prize by the Société des relationnistes du Québec and the Dimensions prize by the Ordre des administrateurs agréés du Québec, of which he is a Fellow. In June 2008, the Société des relations internationales du Québec awarded Mr. D'Amours the new Reconnaissance dans la catégorie milieu économique prize. He was named Grand Québécois at the Chambre de commerce de Québec's April 2011 gala.

Alban D'Amours is a Member of the Order of Canada (C.M.) and Grand Officier of the Ordre national du Québec (G.O.Q.).

☐ René Beaudry

René Beaudry, FSA, FCIA, is an actuary whose expertise lies in the elaboration of global strategies for pension plans, administration, investment management, actuarial valuations, the use of surplus assets in pension plans and the design of supplemental pension plans. His excellent communications skills, strategic ability, ability to see the bigger picture and proactive approach to pension plan funding have helped him maintain loyal clients during his 32-year practice. He cofounded Normandin Beaudry, which is now comprised of over 125 employees specialized in actuarial consulting, remuneration, communications and organizational development.

☐ Luc Godbout

Luc Godbout is the head of Université de Sherbrooke's finance department. He is also the head researcher on public finance at the Chaire de recherche en fiscalité et en finances publiques. He has recently done research on the effects of the aging Québec population on public finances. He is also co-editor of *Le Québec économique* published yearly by the Presses de l'Université Laval.

☐ Claude Lamoureux

Claude Lamoureux holds a Bachelor of Arts degree from the Université de Montréal and a Bachelor of Commerce (actuarial studies) degree from Université Laval. He was awarded honorary doctorates by Université de Montréal and York University. He is a Fellow of both the Canadian Institute of Actuaries and the Society of Actuaries and has over 35 years of experience in the field of finance, including pension funds and investments.

Mr. Lamoureux joined the management team at the Ontario Teachers' Pension Plan (Teacher's) in 1990. By the time he retired in 2008, plan assets had soared from \$17 billion to over \$100 billion. Prior to his time at Teacher's, Mr. Lamoureux had been a financial manager for 25 years at the Metropolitan, in Canada and the United States, and climbed the corporate ladder to become head of operations in Canada.

Cofounder and ardent supporter of the *Canadian Coalition for Good Governance*, Mr. Lamoureux is also a member of several boards of directors.

☐ Maurice N. Marchon

Maurice N. Marchon holds a degree in economics from the Université de Fribourg, Switzerland and a Ph.D. in Economics from Ohio State University. He is a tenured professor at HEC Montréal and teaches the analysis of economic environments and economic forecasting.

While Professor Marchon claims that economic forecasters are not all-seeing, he is nevertheless one of the most well-known and quoted specialists in the field of economic environment. His expert opinion is regularly requested by the newspaper *La Presse*, the magazine *Les Affaires* and by televised media; he also maintains close ties with various stakeholders in the field of portfolio management. Mr. Marchon is President of the HEC Montréal pension committee and a member of its subcommittee for pension plan investments.

Professor Marchon specialized in economic forecasting after teaching macroeconomics and public finance. Among his published works is *Prévoir l'économie pour mieux gérer* (Economic Forecasting for Improved Management). Moreover, his personal page on the HEC Montréal Web (<http://www.hec.ca/pages/maurice.marchon/>), makes his recent publications available and provides useful links for the analysis of economic environment.

☐ Bernard Morency

Mr. Morency is the Executive Vice-President, Depositors, Strategy and Chief Operations Officer at the Caisse de dépôt et placement du Québec. He oversees the teams responsible for depositors' accounts, strategic planning, operations and information technology.

He joined the Caisse in December 2007 and was promoted to Executive Vice-President, Depositors and Strategic Initiatives in April 2009. In March 2012, during the implementation of the Caisse's strategic plan, he also became Chief Operating Officer. Prior to working at the Caisse, Mr. Morency had a more than 30-year career at Mercer, where he was a member of the global executive team and held several management positions as well as that of senior manager. Mr. Morency was responsible for consultation activities involving pension plans on a world-wide scale for 10 years.

Fellow of the Canadian Institute of Actuaries and the Society of Actuaries in the United States, Mr. Morency is a member of the Conference Board of Canada and the boards of directors of CIRANO and Finance Montréal.

☐ Martin Rochette

Martin Rochette graduated from Université Laval's faculty of law and is senior partner at Norton Rose, where he devotes his time exclusively to questions pertaining to pension plans and employee benefits. Since 1977, Mr. Rochette has dedicated himself to all legal aspects of employee benefits, specifically with regard to pension plans. Consequently, he has kept abreast of changes in the field during the development and implementation of major reforms.

Mr. Rochette deals with most aspects of pension plans and employee benefits. He has handled litigation, and has often had exchanges with government entities such as the Régie des rentes du Québec, the Office of the Superintendent of Financial Institutions Canada and the Canada Revenue Agency. Among his distinctions is the Best Lawyers in Canada (2012) award for Employee Benefits Law.

Support team

During its work, the Committee was supported by teams from the Régie des rentes du Québec and the Ministère du Conseil exécutif.

Régie des rentes du Québec

Sonia Potvin, Director, Direction de la révision, des évaluations et de l'administration provisoire, Régie des rentes du Québec

Carole D'Amours, lawyer, Direction des affaires juridiques, Régie des rentes du Québec

Georges Langis, Chief Actuary, Bureau de l'actuaire en chef, Régie des rentes du Québec

Julie Lavoie, Actuary, Bureau de l'actuaire en chef, Régie des rentes du Québec

Philippe Guèvremont, Actuarial Analyst, Bureau de l'actuaire en chef, Régie des rentes du Québec

Thomas Landry, Actuarial Analyst, Bureau de l'actuaire en chef, Régie des rentes du Québec

Étienne Poulin, Actuarial Analyst, Bureau de l'actuaire en chef, Régie des rentes du Québec

Ministère du Conseil exécutif

Jean-Pierre Pellegrin, Economist, Deputy Secretary and Head of the Direction des politiques publiques et des prospectives, Secrétariat aux priorités et aux projets stratégiques

Alexandre Simard, Economist, Consultant, Secrétariat aux priorités et aux projets stratégiques

Claude Bertrand, Administrative Technician, Administrative Assistant, Secrétariat aux priorités et aux projets stratégiques

Anne-Marie Dubocage, Administrative Technician, Administrative Assistant, Secrétariat aux priorités et aux projets stratégiques

APPENDIX 2 – MAIN FEATURES OF THE RETIREMENT SYSTEM IN THE NETHERLANDS

The three distinct pillars of the Dutch retirement system are:

- a pay-as-you-go public plan;
- fully-funded supplemental pension plans;
- individual retirement savings vehicles.

Together they determine the total amount payable in retirement.

In July 2012, the Dutch adopted a major reform of the public retirement plan, delaying the legal retirement age by two years.

- In 1957, legal retirement age was set at age 65. It will gradually increase to age 66 in 2019 and age 67 in 2023.
- Thereafter, legal retirement age will be adjusted according to changes in life expectancy.

□ Characteristics of supplemental pension plans

In contrast to Canada, supplemental pension plans are mandatory in the Netherlands. Plans are characterized by their collective nature, risk sharing and efficient funding.

- This pillar covers approximately 90% of Dutch workers.
- Benefits are mainly acquired in defined benefit plans and often based on career average earnings.
- Plans are in the business or professional sectors or industry-wide, and coordinated with the basic public plan.

The vast majority of pensions in payment are indexed based on the increase in the average salary of active plan members or that of the consumer price index. However, indexation is generally conditional to the plan's financial health. In the last decade, most supplemental pension plans in the Netherlands were restructured to include automatic reductions in the indexation of benefits if plan funding drops below a certain threshold.

Moreover, by law a pension plan can change the vested benefits of retirees and reduce the amount of pensions already in payment, where necessary.

□ Degree of funding of supplemental pension plans

According to the recent study entitled *Pensions at a Glance 2011*,⁹⁸ the assets in private pension plans in the Netherlands as a percentage of GDP are the highest among OECD countries. In 2009, those assets represented 130% of the country's GDP, or about twice that of private plans in Canada (63%) or the United States (68%).

De Nederlandse Bank, the Dutch body that supervises supplemental pension plans, requires a minimum funding rate of 105% and an additional reserve representing roughly 25% of plan liabilities (the term "additional reserve" refers to a provision for adverse deviations).

The size of the reserve depends on several factors.

- The greater the risks taken in managing the assets, the higher the requirements regarding the additional reserve.
- The risks taken in investment strategies are generally circumscribed by a rule whereby pension plans must be able to meet their commitments in the short term. Many plan texts refer to a 97.5% probability of being fully funded over a one-year period.
- In most cases, the rate at which a plan must be funded in order to meet commitments is roughly 130%.

Moreover, when the degree of funding is determined, maximum values are set by the supervisory body with regard to the choice of expected rates of return by organizations.

□ Managing funding problems

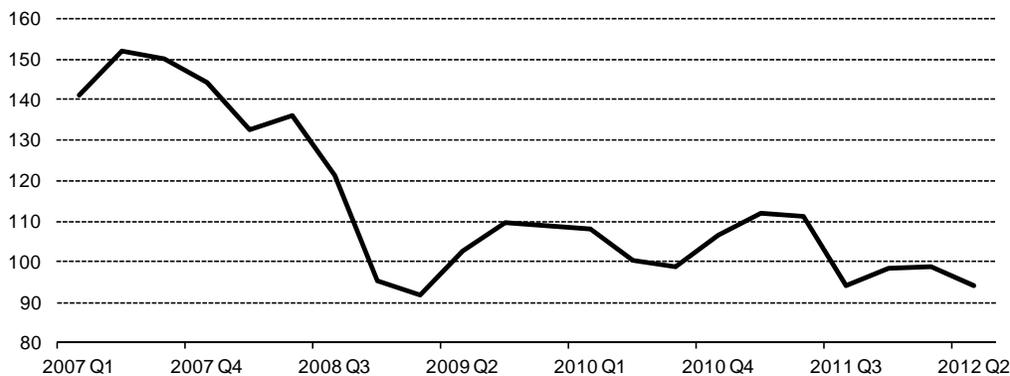
Right before the 2008 financial crisis, the average funding rate of pension plans was over 140%. At the end of 2008, the funding rate of most plans had dropped below 105%. The supervisory body therefore required that the minimum ratio be re-established in the following five years rather than the three years provided for by law. Plans then had 15 years to re-establish their additional reserve.

⁹⁸ OECD, *Pensions at a Glance 2011: Retirement-Income Systems in OECD and G20 Countries*, 2011.

As shown in Chart 33, since 2009, the average funding of pension plans has remained steady at around 100% despite continually decreasing interest rates.

CHART 33

Change in average funding rate of private pensions plans in the Netherlands
(as a percentage)



Source: De Nederlandse Bank.

In most cases, as long as the rate at which plans are funded is below the commitment target—including the additional reserve—the indexation of benefits cannot be reinstated. It is possible to make up for the suspension of indexation or decrease the contribution rate to a certain point once the ratio exceeds roughly 145%, depending on the type of plan.

Conclusion

The Dutch retirement system is quite generous, its funding is exemplary and it is overseen by a supervisory body that is responsible and prudent. There has been a progressive move towards a methodology where each individual receives a fair share of what he or she contributed, and everyone expects to contribute in an equitable way in order to alleviate funding problems.

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APPENDIX 3 – SOME EXAMPLES OF THE EFFECTS OF HARMONIZING THE LONGEVITY PENSION WITH A SUPPLEMENTAL PENSION PLAN

The examples below illustrate the effects of harmonizing the longevity pension with the supplemental pension plan of which two workers are members. Each individual was hired at a different time by the same company.

The benefits under the defined benefit plan offered by the company are harmonized with the longevity pension. The total of the pensions to be paid amount to 1.5% of the indexed salary.

Ms. Smith

In the first example, Ms. Smith was hired by the company after the longevity pension was implemented.

If Ms. Smith works for the company until age 65, her pensions under the private pension plan and the longevity pension will be as follows:

Private pension plan:

- a pension payable for the rest of her life, as of age 65, equivalent to 1% of her final salary (five-year average) per year of service;
- a pension payable from age 65 until her 75th birthday, equivalent to 0.5% of her final salary (five-year average) per year of service.

Longevity pension:

- a pension payable as of age 75, equivalent to 0.5% of her indexed earnings since the implementation of the longevity pension 25 years prior.

Mr. Jones

In the second example, Mr. Jones is 40 years old. He has been a member of the company pension plan for 15 years when the longevity pension is implemented.

If Mr. Jones works for the company until retirement age (age 65), his pensions under the private pension plan and the longevity pension will be as follows:

Private pension plan:

- a pension payable for the rest of his life, as of age 65, equivalent to 1.5% of his final salary (five-year average) per year of service prior to the implementation of the longevity pension and its harmonization with his private pension plan;

- a pension payable from age 65 until his 75th birthday, equivalent to 1% of his final salary (five-year average) per year of service following the implementation of the longevity pension and its harmonization with his private pension plan;
- a pension payable from age 65 until his 75th birthday, equivalent to 0.5% of his final salary (five-year average) per year of service following the implementation of the longevity pension and its harmonization with his private pension plan.

Longevity pension:

- a pension payable as of age 75, equivalent to 0.5% of his indexed earnings since the implementation of the longevity pension 25 years prior.

APPENDIX 4 – ECONOMIC EFFECTS OF THE LONGEVITY PENSION

In order to measure the economic effects of implementing the longevity pension, the Committee requested that the Québec Ministère des Finances et de l'Économie estimate the effects on workers, businesses and the government.

Table 16 shows the total contributions required when the longevity pension is first implemented, for workers, companies and self-employed workers.

TABLE 16

Contributions to the longevity pension
(in millions of dollars)

	Amount
Workers	1,925
Companies	1,925
Self-employed workers	230
Total contributions	4,080

Source: Ministère des Finances et de l'Économie du Québec.

The contributions shown in the chart above do not take into account changes in contributions to other plans due to coordination with the longevity pension. A good number of defined benefit plans will be coordinated with the longevity pension and as a result, contributions to those plans will be reduced. Contributions to some defined contribution plans could also be reduced if the amounts were shifted to the longevity pension. Certain workers could also reduce their personal savings to compensate for the contributions to be made. Thus, for a large number of workers and employers, additional costs would be limited or non-existent. In total, the savings shifted would vary between \$1.1 billion and \$1.7 billion.

Table 17 shows the details of the short-term effects of the additional contributions on the economy, based on two scenarios: whether workers and employers adjust their pension plans and retirement savings to a greater or lesser degree when adapting to the longevity pension.

According to the Ministère des Finances et de l'Économie, the longevity pension would:

- cost the government between \$230 and \$320 million in the year following its implementation;
- have a short-term negative impact on the economy somewhere between \$2,140 million and \$2,640 million, which represents a decrease in GDP of 0.6% to 0.8% (Québec's GDP was \$346 billion in 2011).

It must be noted, however, that the negative impact will be made up for in future by an increase in consumer spending, once benefits are paid to workers. That is to say, over the long-term, the negative impact will be fully compensated for by an increase in consumer spending that, at a minimum, is equivalent to the increase in contributions resulting from the longevity pension.

TABLE 17

Short-term effects by scenario

(in millions of dollars unless otherwise indicated)

	Low impact scenario	High impact scenario
Effect on personal taxes (workers)	-160	-240
Effect on corporate taxes (businesses)	-70	-80
Effect on government tax revenues	-230	-320
Financial effect on workers – including self-employed workers	-935	-1,235
Financial effect on businesses	-1,205	-1,405
Financial effect on workers and businesses	-2,140	-2,640
<i>Decrease in GDP</i>	<i>0.6%</i>	<i>0.8%</i>

(1) Two scenarios were selected:

- one scenario shows a weak reaction of workers and employers to the mandatory increase in contributions;
- the other scenario shows a strong reaction of workers and employers to the mandatory increase in contributions.

Source: Ministère des Finances et de l'Économie du Québec.

APPENDIX 5—PROPOSED FORMULA FOR CALCULATING TRANSFER VALUES

❑ Overview of the replication of transfer values calculated based on Fiera curves

According to accounting standards, the discount rate to be used when calculating a pension plan’s liabilities for accounting purposes must be a market rate and based on debt securities of “superior” quality companies. To determine that rate, the Canadian Institute of Actuaries (CIA) called on Fiera Capital (formerly Natcan) for the production of monthly spot rate curves (“zero rate”) in conformity with the methodology suggested in one of the CIA’s Educational Notes.⁹⁹

The Committee recommends using those curves to determine transfer values. However, it suggests that the approach and formula adopted to determine transfer values be analogous to those currently used in the CIA’s standards.

❑ Current formula (Canadian Institute of Actuaries)

The current standard of the Canadian Institute of Actuaries for calculating transfer values involves a formula based on 7-year Government of Canada bond yield-to-maturity rate and long-term Government of Canada bond yield-to-maturity. The formula determines an interest-rate curve to be used for discounting future payments related to pension plans.

The formula has two tiers:

$$\begin{aligned} \text{First tier, for the first 10 years: } i_{1-10} &= i_7 + 0.90\% \\ \text{Second tier, after 10 years: } i_{10+} &= i_L + \underbrace{0.5}_{\text{Multiplication factor}} * \underbrace{(i_L - i_7)}_{\text{Long-term-short-term spread}} + \underbrace{0.90\%}_{\text{Constant}} \end{aligned}$$

Where i_7 = yield-to-maturity rate for a 7-year bond and i_L = yield-to-maturity rate for a long-term bond.

❑ Estimated formula

First of all, the 0.9% constant will not be used in our analysis. In fact, that constant represents a form of liquidity premium, which is treated separately. A separate analysis will have to be made to ensure the level and maintenance of that parameter in the new formula.

⁹⁹ Canadian Institute of Actuaries, Educational Note—Accounting Discount Rate Assumption for Pension and Post-employment Benefit Plans, September 2011.

A formula like the CIA formula will be applied, using Fiera Capital series instead of federal bonds to replicate as accurately as possible the transfer values that would have been obtained by using the exact spot rate curve. The new formula will be similar in form but with the possibility that some parameter values may be different.

It should be noted that there are **four main differences** between the former method and the new, proposed method:

- The former method is based on a **yield-to-maturity curve that is virtually risk-free (federal bonds)**, whereas the new formula is based on a **spot rate curve** modelled by Fiera Capital for a group of **AA-rated corporate bonds**, which correspond to high quality debt instruments.
- Furthermore, **terms other than 7 years** are considered, as is done with the current CIA formula. The model's precision will thus be tested by using several different terms in the formulas.
- Likewise, the 0.9% constant is **absent** from the model for the reasons stated previously.
- Finally, the rates used based on Fiera Capital curves are **not rounded** before being used. They are used as is, unlike the procedure set out in the CIA standards.

Arbitrarily, Fiera Capital curve maturities of 6, 7, 8, 9 and 10 years were tested as replacements for i_7 in the formula. For i_L , Fiera Capital curve maturities between 15 and 25 years were considered, which correspond to long-term maturities.

The method of least squares was used to estimate the new values for the new formula's parameters.

- In other words, the formula was applied with data from recent months for various combinations of terms among those previously mentioned.
- In doing so, the method of least squares was used to find the parameter or parameters that minimize the sum of the squares of "errors" or "differences" between the transfer values obtained using historical data ("exact" values) and those obtained using the model ("estimated" values)
- We considered using the method of weighted least squares by giving more weight to more recent data, but the sample being currently limited to the period from September 2011 to January 2013 (i.e., since Natcan-Fiera Capital has been issuing monthly curves), that weighting method could not be justified. Equal weighting for each age group was applied as well.

Transfer values were calculated for both sexes and for various age groups (20-24, 25-29, etc.) and the retirement age was assumed to be age 65, except for the 55-59 and 60-64 age groups, for which it was assumed to be immediate.

- We assumed that the transfer value did not involve any spousal joint and survivor rights and that a 5-year guarantee was included in the initial payments of the deferred pension.
- The UP94 mortality table was used and projected dynamically, assuming annual retirement pension payments.
- We aimed for a “moderate” level of precision and exactness for all the sub-groups by implicitly giving more importance to older ages since transfer values for them are generally greater, all other factors being equal.
- In other words, a difference of 1% in a transfer value of \$10, for example, has the same weight as a difference of 10% on a transfer value of \$1, both cases resulting in a absolute difference of \$0.10.

Since the time interval available for making estimations is relatively short, **regular parameter updates for the final formula will be needed because it is based on only a small data sample that does not represent the entire range of plausible spot rate curve forms in the AA-rated corporate bond market.**

The conclusion arising from numerous tests is the following:

- Based on the data and method used, as explained previously, the terms used with the Fiera Capital curve to replace i_7 and i_L are, respectively, 10 and 20 years.
- The multiplication factor indicated in the preceding formula would be equal to 0.52 in the new formula, according to all the tests made with all the possible parameter combinations.
- Therefore, a factor of **0.5** will be used, for two reasons: first, it has not been shown that the new factor obtained is significantly different statistically from the original factor, which was 0.5.
- Furthermore, a factor can be arbitrarily rounded to the nearest tenth or hundredth, and choosing to round it to the nearest tenth seemed reasonable and does not significantly affect the results when using the method of least squares.

The new estimation formula:

First component, for the first 10 years: $i_{1-10} = i_{10}$

Second component, after 10 years: $i_{10+} = i_{20} + 0.5 * (i_{20} - i_{10})$

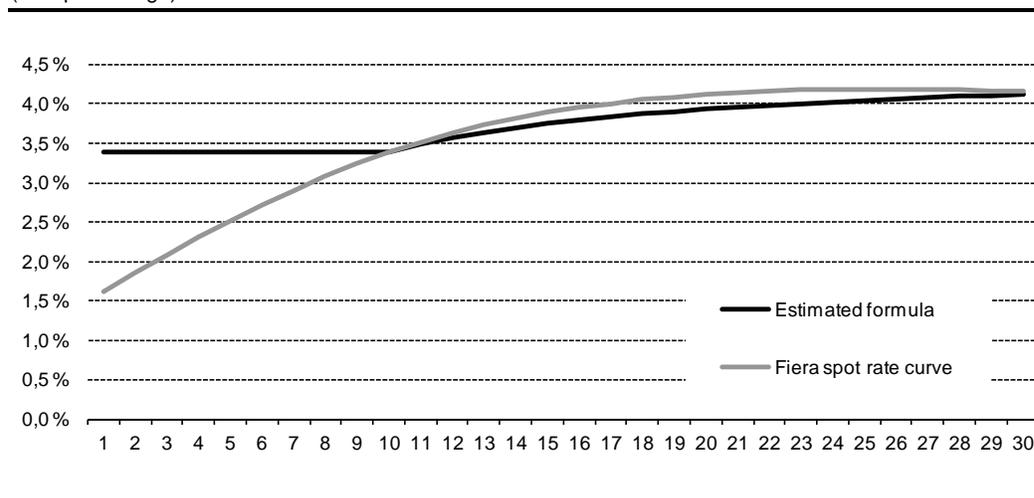
It is important to note that the new formula was derived by using data from a short time interval and with very specific assumptions that are not necessarily representative all pension plans in Québec.

- Therefore, the new formula should be looked at with caution and re-examined in the near future (and at regular intervals).
- Spot rate curve shapes that are different from the one under consideration here could have an effect on the level of the factor used in the formula.

The following charts illustrate the implications of using the new formula and parameters obtained for calculating transfer values. They show the type of curve generated for a given month (December 2012) and the subsequent changes in average transfer values for various age groups from September 2011 to January 2013.

CHART 34

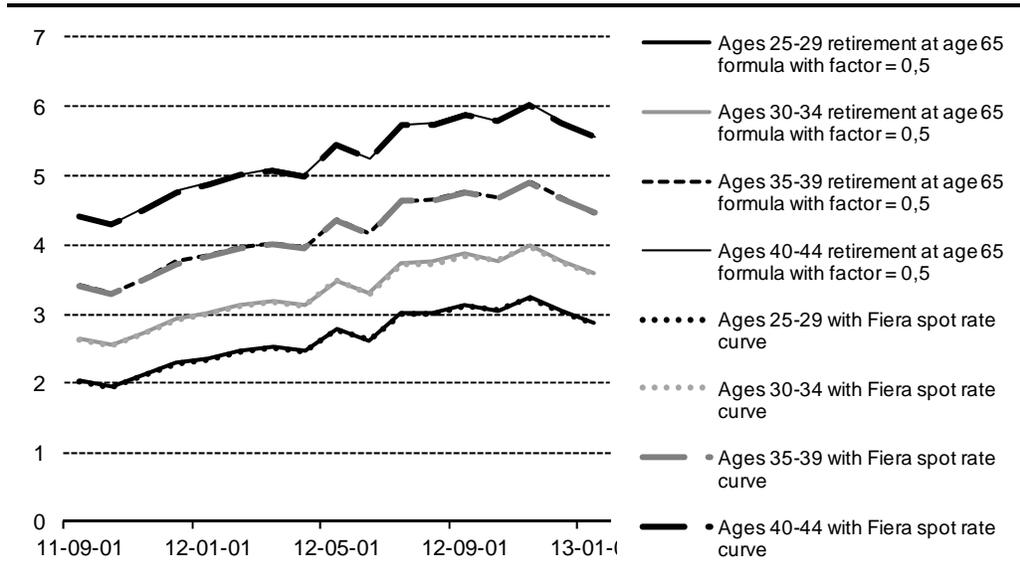
Estimation formula and Fiera spot rate curve—December 2012
(as a percentage)



Source: Régie des rentes du Québec.

CHART 35

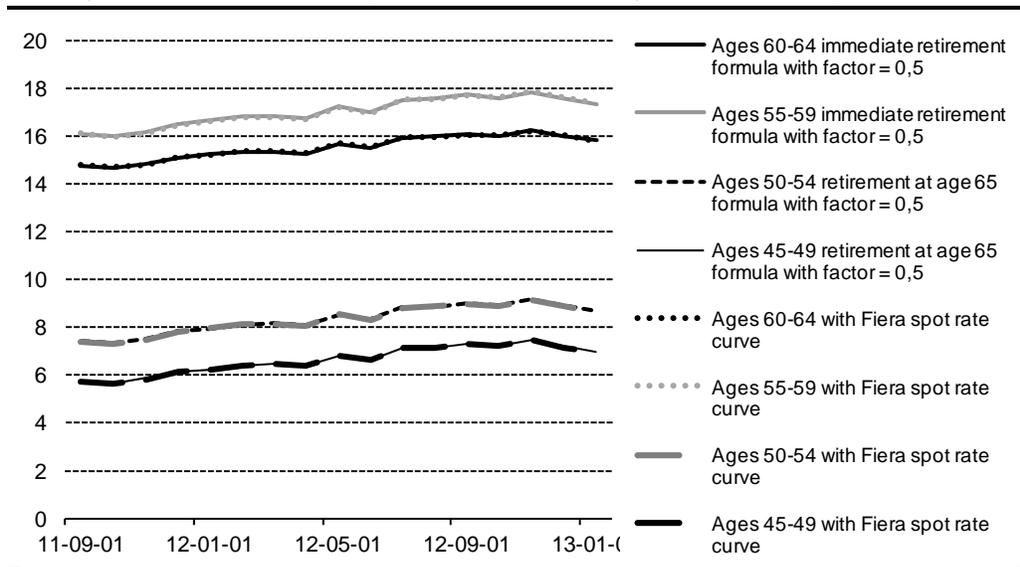
Annuity factors for women—September 2011 to January 2013



Source: Régie des rentes du Québec.

CHART 36

Annuity factors for women—September 2011 to January 2013 (continued)



Source: Régie des rentes du Québec.

Note that the charts are similar for men.

GLOSSARY

Active member

Worker who accrues benefits under a supplemental pension plan (or for whom contributions are paid into the pension plan).

Actuarial assumptions

Assumptions used for the actuarial valuation of a defined benefit pension plan. The main economic assumptions are interest rate, inflation rate and salary increase rate. The main demographic assumptions are mortality rates, retirement rates and withdrawal rates.

Amortization payment

Contribution made to fund a deficiency in a defined benefit pension plan.

Asset and liability matching

Approach aimed at building an investment portfolio that will harmonize changes in a plan's assets with changes in the plan's liabilities (commitments) in various economic situations. To be fully matched, a pension fund should take into account investments whose incomes coincide with benefit payments. In practice, because of the duration of pension benefits, perfect matching of assets and liabilities is difficult to achieve.

Asymmetry

Describes the situation where the party who assumes the risk of a deficiency in a defined pension plan cannot be compensated when surplus assets emerge.

Beneficiary

Person who receives a benefit under a supplemental pension plan following the death of a plan member. A beneficiary is usually a surviving spouse.

Benefits policy

Statement of the policies, standards and procedures related to benefits under a defined benefit pension plan. It may refer to the nature of improvements funded with surplus assets and the reduction of benefits.

Bridge benefit

Temporary pension paid to a plan member or beneficiary at the latest up to the age at which regular benefits under a public plan become payable.

Commitments (i.e., the promise) of a defined benefit pension plan (liabilities)

Aggregate pension benefits accrued in a defined benefit pension plan that will have to be paid out at some future date.

Consolidate amortization payments

Amortization payments are determined based on a plan's total, aggregate deficiency.

Contribution holiday

Temporary interruption of the payment of contributions for current service. A contribution holiday may be taken by the employer or the plan's members. It may be partial or total. The unpaid contributions are offset by the plan's surplus assets.

Coordination

Determination of the contribution or pension under a defined benefit pension plan taking into account a general plan, so that the sum of the benefits from both plans constitute the member's retirement income.

Current service cost

Cost of the benefits accrued for the current year.

Current service

Service accrued during a given year.

Defined benefit pension plan

Plan under which pensions are based on a plan-specific formula. Pensions generally correspond to a percentage of salary multiplied by the number of credited years of service under the plan. Includes dollar-per-month plans, career earnings plans and final pay plans.

Defined contribution plan

Capital accumulation plan under which contributions are credited to an account associated with each member. Contributions (employer and employee) are usually determined as a set percentage of salary. Benefit amounts are a function of the sums accumulated in a member's account.

Discount rate

Rate used to determine the present value, as of a given date, of future benefits under a defined pension plan.

Equity principle

Principle that plan amendments funded with surplus assets must be made so as to equitably affect the group of active members and the group of non-active members (which includes retirees).

Fully funded (defined benefit pension plan)

Plan in which the value of the assets is equal to the value of the liabilities on the basis of funding rules.

Funding (pension plan financed by)

Plan in which the contributions are set aside and increased by capital enhancement in order to pay pensions and benefits to the plan's members.

Funding deficiency

Amount by which the value of defined benefit plan commitments (liabilities) exceed the value of the plan's assets, on a funding basis (going concern).

Funding policy

Statement of the policies, standards and procedures related to funding a defined benefit pension plan. It may refer to plan contribution levels to be paid by the members and the employer, risk allocation, surplus assets allocation among the parties to the plan and the level of surplus assets that must be reached before a contribution holiday can be taken or before pension benefit improvements can be made.

Indexation

Adjustment of pension payments, based on a reference index.

Investment policy

Statement of the policies, standards and procedures related to the investment of a supplemental pension plan's funds. It may refer to investment objectives, admissible asset categories, reference portfolio, investment rebalancing policy, investment restrictions as well as admissible investment strategies and the objectives set for the managers of each asset category.

Maximum pensionable earnings (MPE)

Maximum employment earnings on which a worker must contribute to the Québec Pension Plan (\$51,100 in 2013).

Member

An individual who benefits from a supplemental pension plan as an active or non-active member. Not to be confused with a pension committee member, who may not be an employee.

Minimum employer contribution

Contribution that an employer must bear under the *Supplemental Pension Plans Act* and that must be at least equal to 50% of the value of the pension benefit accrued by a plan member or beneficiary.

Multi-employer pension plan

Pension plan whose members are the employees of several employers.

Non-active member

Member who is no longer accruing benefits under a supplemental pension plan (or for whom no contributions are being paid into the plan). Includes retirees and persons entitled to a deferred pension.

Pay-as-you-go pension plan (pay-as-you-go funding)

Plan under which each year's cash inflows from contributions are used in full (except for reasonable reserves) to pay pensions to members and their successors. This method is used for the public plans.

Pension beneficiary

Person who receives a pension benefit under the Old Age Security Act or the Act respecting the Québec Pension Plan. Not to be confused with a supplemental pension plan beneficiary (generally a surviving spouse).

Pension committee

Group of people charged with administering a supplemental pension plan. Under the Supplemental Pension Plans Act, a pension committee is the pension fund's trustee. A committee must have at least one member designated by the group of active plan members, one member designated by the group of non-active plan members and one independent (third party) member. They are joined by the members designated by the employer and, in some cases, by the union.

Pension credit

Benefits to which a member becomes entitled over time through his or her participation in a pension plan

Promise

See commitment.

Provision for adverse deviations

A provision corresponding to the reserve level that a defined benefit pension plan must reach to increase the benefit security or stabilize benefits and contributions.

Reducing amendment

An amendment to a defined benefit pension plan that reduces pension.

Smoothing (smoothed)

Method that levels short-term fluctuations in the market value of assets by transferring to future years a portion of gains and losses related to market volatility.

Solvency deficiency

Amount by which the value of defined benefit plan commitments (liabilities) exceed the value of the plan's assets, on the solvency basis (termination).

Solvent defined benefit plan

Plan whose assets are at least equal to the plan's liabilities on a solvency basis..

Stochastic method

An actuarial valuation based on a stochastic method is one that gives a range of possible results and assigns a probability of occurrence to each result.

Subsidized early retirement

Retirement pension whose payment begins before the normal retirement age and whose amount is not reduced to take into account early retirement or whose reduction is not based on actuarial factors to account for early retirement (actuarial equivalence).

Supplemental pension plan

Pension plan in the private sector or the public sector that is subject to the *Supplemental Pension Plans Act*, a specific law or an equivalent law. Registered retirement savings plans and deferred profit sharing plans are not supplemental pension plans.

Surplus assets (surplus)

Surplus corresponding to the value of the assets of a defined benefit pension plan less the total value of the plan's commitments (liabilities). A surplus may be determined on the basis of solvency or on the basis of funding.

Transfer value

Present value of an immediate or deferred pension following the death of a plan member or his or her termination of active membership in a defined benefit pension plan.

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