Evaluation of the Québec System of Financial Security at Retirement in Relation to that of other Industrialized Countries

Régie des rentes du Québec
Direction de l'évaluation et de la révision

TABLE OF CONTENTS

Introduction **5**

Chapter 1 – Historical context and governance of the plans **7**

1.1 Historical context 9
1.2 Public mechanisms for the governance of plans 11
1.3 The reform process 14
1.4 Summary: Political and institutional issues 17

Chapter 2 –Demographic and economic environment **19**

2.1 Demographics 21
2.2 Economic growth, labour market and productivity 24
2.3 Summary: the demographic and economic issues 26

Chapter 3 – General structure of systems of financial security at retirement **27**

3.1 Québec and Canada 29
3.2 France 30
3.3 Italy 31
3.4 Netherlands 33
3.5 Sweden 34
3.6 United Kingdom 35
3.7 Germany 37
3.8 Japan 38
3.9 United States 38
3.10 Systems based on individual funded accounts 39
3.11 Summary: The primary models of pension organisation 41

Chapter 4 – Characteristics of pension plans **43**

4.1 Coverage 45
4.2 Income replacement rates 49
4.3 Maximum pensionable earnings 52
4.4 Retirement age 53
4.5 Indexation of pensions after retirement 57
4.6 Survivors' benefits 58
4.7 Summary: The protection offered for retirement 60

Chapter 5 – Economic well-being of seniors **65**

5.1 Income adequacy of seniors 67
5.2 Income sources for seniors 71
5.3 Poverty among seniors 73
5.4 Income inequality among seniors 77
5.5 Overview of economic well-being 78
5.6 Summary: Income-related components of well-being 80

Chapter 6 – Cost and funding of pension plans **83**

6.1 Pension cost 85
6.2 Pension plan assets 92
6.3 Funding arrangements 93
6.4 Long-term funding strategies 93
6.5 Summary: Pension funding 96

Chapter 7 – Strategies for meeting future challenges.. **97**

7.1 Recent reforms 99

7.2 Changes under review 103

7.3 Summary: Preferred strategies.. 106

Conclusion – Strengths and weaknesses of the Québec system.................................... **111**

Bibliography **116**

The Régie des rentes du Québec has adopted a strategic plan for 2002-2007 that is especially intended to increase Quebeckers' understanding of the Québec system of financial security at retirement. In this context, it was useful to analyze our retirement system and compare it with existing systems in other countries. On the basis of our analysis, we can determine our system's strengths and weaknesses and, if needed, draw from the sound practices that are in place in countries whose system is comparable to our own.

Any comparison must nevertheless take into account the different contexts in which these plans have developed. Each country's specific historical, political and economic reality all shape the retirement system, which is based on principles and a vision that are its alone with regard to how to share responsibilities between the State, businesses and individuals. Any comparative analysis must therefore take into account all these differences in order to provide a balanced assessment.

Québec can be proud of having established one of the strongest systems in the world. Our model is often held up as an example, as much for its sound funding methods as for its positive effects on the income of seniors. However, to go beyond first impressions, it became necessary to conduct a more formal evaluation of the system. This study therefore constitutes a thorough analysis of the various aspects of the Québec retirement system and a systematic comparison with existing systems in other countries. The evaluation will enable us to validate our impressions by means of a complete and methodical assessment.

This report is part of an ensemble of studies on the subject of retirement that the Régie intends to conduct over the next few years. With a better understanding of plans and client behaviour, the Régie will be better able to guide its efforts toward promoting financial security at retirement.

Each country's system of financial security has its own objectives and structure. The comparative assessment presented in this report is intended to show the extent to which the Québec system has reached its objectives and to compare it to foreign systems that have been built at other moments in time, which may deal with different demographic and economic contexts and whose structure may greatly differ from that adopted by Québec.

For each of the countries concerned, Chapter 1 provides a brief description of the framework in which the pension plans operate in relation to the various actors in the society. The provisions under those pension plans and the changes they have undergone also reflect the context of the country in which they exist. Chapter 2 deals with current and projected realities regarding populations and labour market changes. It also highlights the pressures facing pension plans in the coming decades.

Chapters 3 and 4 describe the structure and provisions of plans in various industrialized countries in order to highlight those aspects having the greatest impact on the income of retirees.

Chapter 5 compares the economic well-being of the aging population in Québec and elsewhere. The following issues are addressed: income adequacy, poverty among seniors, income sources and income disparities. This chapter allows us to show how pension plans have, up until now, fulfilled their role of income support.

In Chapter 6, we compare the methods for funding pension plans in effect in various countries. Chapter 7 highlights the strategies adopted or foreseen in order to cope with demographic and economic realities already affecting most retirement systems. The conclusion is a summary of the strengths and weaknesses of the Québec system and an overview of possible improvements.

CHAPTER 1

HISTORICAL CONTEXT AND THE GOVERNANCE OF PLANS

The current structure of the retirement income security systems in the countries studied is a reflection of political choices. It is also a reflection of institutional and economic constraints. It is therefore pertinent to briefly review the key moments in the history of pensions elsewhere in the world and identify the turning points in the development of retirement systems in various countries. The evolution of plans is also influenced by the role and importance granted to the various actors in society and by the legislative process. An overview of these components is provided for each of the countries evaluated.

1.1 HISTORICAL CONTEXT

1.1.1 Historical highlights regarding pensions around the world

Germany was the first country to adopt a social insurance program in 1889. The program was adopted under German Chancellor Otto von Bismarck, recognized as the father of social security. A statesman, he wanted to improve the condition of workers who had to leave work because of age and infirmity. He also wanted to block the thrust of radical socialists in Germany by improving living conditions for workers.

In 1908, Great Britain adopted the *Old Age Pensions Act.* Under the *Act*, small, fixed-dollar-amount pensions were paid, funded by the government's general revenues.

Within the framework of Franklin D. Roosevelt's New Deal, the *Social Security Act* was adopted in the United States in 1935, in the midst of economic crisis. The *Act* created a public pension program that, at the outset, paid only retirement benefits. The 1939 amendments added dependents' benefits and survivor's benefits. Disability benefits were not added until 1954. In 1882, the first company pension plan was implemented in the United States by the Alfred Dodge Company. By 1890, five companies were offering a pension plan to their workers. These plans were not very generous and required that the worker's entire career be spent with the employer in question in order to receive a pension. Overall, the private plans in the beginning of the twentieth century only benefited a handful of workers.

Another important event in the history of social security was the publication of the Beveridge Report in Great Britain in 1942. In the wake of World War II, with problems of poverty and unemployment evident, the Beveridge Report convinced British society of the need for establishing full social measures for protecting workers in the event of retirement, disability, death, sickness, unemployment, and work-related accidents. The Report led to the National Insurance System, a contributory system (worker, employer, government) offering flat-rate benefits. The proposed system was integrated into general assistance measures and opened the door to the adoption of additional, optional measures intended to complete the protection offered by the public system. The Beveridge Report influenced the future development of the British system, leaving ample room for private measures.

In France, a law passed in 1945 made it possible to reorganize the social insurance plan, which, until that time, had been based on funded plans that had been established for specific categories of workers. A general plan was created for all workers in the private sector, with the exception of farm workers. Special plans continued to cover the public sector, self-employed workers and some large, public corporations in the energy and transportation sector. The principle of pay-as-you-go was adopted to fund all these plans. The new system depended on cooperation between workers and unions in order to propose a national system of supplemental pension plans that would be funded on a pay-as-you-go basis. Even today, this approach continues to influence the way reforms are discussed and adopted in France, as well as on the sensitivities of social players when changes are made to the system.

Germany has seen significant expansion of business-sponsored pension plans. Since the beginning of the century, Germany has allowed the implementation of unfunded plans whose solvency was guaranteed by the financial health of the business. Employers create accounting reserves for pensions, that did not have to be backed by corresponding assets. Such reserves were essentially claims on future revenues of the business, allowed because industrial groups were managed by the big banks, thus reducing the risk of insolvency. Italy adopted mechanisms similar to those in Germany, to develop its own supplemental retirement system.

A pivotal moment in the area of public pensions was the 1981 reform in Chili. The national defined benefit pension plan was replaced with individual funded accounts, called Pension Savings Accounts. Since their inception, numerous Latin American countries have copied that approach.

During the 1990s, in order to resolve the problem of the inevitable increase in the cost of their public plan, Sweden and Italy both carried out a thorough review of their public pension system. Both countries implemented a notional defined contribution pension plan that reinforces the link between contributions that are made and benefits that are received. This system has served as a model for various recent reforms.

1.1.2 The history of pensions in Canada and Québec

In Canada, the history of pensions begins in 1927 with the adoption of the *Old Age Pensions Act*, which, at the outset, provided for small benefits for people in need. The *Old Age Security Act* of 1952 replaced the 1927 law, improving the minimal provisions of the earlier plan. Benefits became payable to all people aged 70 years and over who met residence requirements.

The registered retirement savings plan was created in 1957. In 1966, the Québec Pension Plan and the Canada Pension Plan came into effect. Then, between 1966 and 1970, a number of provincial laws were adopted in order to provide a framework for supplemental pension plans.

The Québec Pension Plan is an important component of the Québec system of financial security at retirement. Its creation followed the efforts of the 1964 interministerial committee (the Dupont report), in which certain guiding principles were put forth:

- after retirement, a portion of the worker's active-life income must continue;
- benefits must be protected in the case of mobility in the labour market;
- benefits must not be unduly affected by unemployment and inflation;
- coverage must be universal;
- the plan must be contributory on the part of the worker;
- the plan must be self-financing;
- there must be redistribution among members of various levels of income;
- the QPP must not hinder the development of private pension plans.

The Dupont report made the following recommendations regarding the more specific provisions of the QPP:

- employment earnings must be covered up to the amount of the average wage in Québec;
- the maximum covered must be adjusted to take into account inflation;
- retirement age must be 65 years;
- the pension must be reduced if the person receives employment earnings after age 65;

- the replacement rate offered by the QPP must take into account the universal pension (Old Age Security) from the federal government. The rate of combined replacement (QPP + Old Age Security) must be roughly 50% for the married average-income earner and for the single low-income earner. A 25% replacement rate for the QPP enabled reaching that objective in 1966;
- the pension must be calculated taking into account the wages over the course of the worker's entire career. Past wages must be indexed to take into account the increased cost of living. Certain years of low income must be excluded for the purposes of calculating the pension.

The assessment proposed in this report will be made in the light of the principles adopted for the implementation of the Québec Pension Plan.

1.2 PUBLIC MECHANISMS FOR THE GOVERNANCE OF PLANS

1.2.1 The situation in Québec

Québec Pension Plan

The Minister of Employment, Social Solidarity and Family Welfare, who is responsible for the Régie des rentes du Québec, proposes amendments to the government's laws and regulations concerning the Québec Pension Plan. He must bear responsibility for the policies that he sponsors and is accountable for them to the National Assembly. The Minister responsible is also the spokesperson for the administration of the Régie des rentes before the National Assembly. The Québec Minister of Revenue is responsible for the application of Title III of the *Act respecting the Québec Pension Plan*, which covers the contributions payable to the Québec Pension Plan. The Ministère du Revenu collects the contributions and remits them to the Régie.

The Régie is administered by a Board of Directors, which is made up of a president and eleven members appointed by the government from various sectors of society. The president of the Board of Directors is also the General Manager of the Régie. The President and General Manager is, ex officio, the vice-president of the Board of Directors of the Caisse de dépôt et placement du Québec. The Régie's Board of Directors must approve the Régie's general objectives. It also receives the accounting records and financial statements contained in the annual report, as well as the Régie's operating budget. The Board also adopts the Régie's regulations, which must, in turn, have government approval.

The members of the Board are called upon to participate in various committees of the Board of Directors including the audit and performance committee, the information management systems committee, the client service committee, the investment policy committee and the governance committee.

In the area of retirement, the Régie is responsible for administering the Québec Pension Plan and supervising supplemental pension plans. The Régie has an independent budget; however, it is subject to numerous controls by central agencies. As a government agency, the Régie is also subject to control by the auditor general, to examination by the Public Protector, as well as to the jurisdiction of the Commission d'accès à l'information and the Commission des droits de la personne et des droits de la jeunesse.

Caisse de dépôt et placement du Québec

The Caisse de dépôt is a public body invested with the usual powers of a corporation. By law, all assets under the Québec Pension Plan must be deposited with the Caisse de dépôt.

The Caisse de dépôt is supervised by a Board of Directors, including the Chairman and Chief Executive Officer of the Caisse, the President of the Régie des rentes du Québec and representatives of various groups within Québec society. The Chairman and CEO of the Caisse is appointed for ten years by the government and can only be relieved of his duties by a resolution of the National Assembly.

A specific investment policy is established for each depositor depending on risk tolerance, needs for liquidity and investment horizon.

Supplemental pension plans

The *Supplemental Pension Plans Act* grants minimum benefits to members and beneficiaries and aims at ensuring openness regarding pension plan administration. The law provides the framework for the funding and solvency of plans and guarantees sound investment management. It also provides rules for registering plans and associated amendments, as well as for the information required by the Régie des rentes du Québec for exercising its monitoring powers.

With regard to supplemental pension plans, the Régie must:

- ensure that the plan administration and operations are conducted in accordance with the law;
- register the plan texts and amendments;
- examine annual information returns and actuarial valuations;
- provide information for the plan administrators, members, beneficiaries, employers and any interested citizen;
- foster the establishment and improvement of pension plans.

To this end, Québec adopted the principle of trust patrimony. Thus, the pension plan is a completely distinct entity from the sponsoring business and is administered by a pension committee. The pension committee is the trustee of the pension plan and, as such, has the ultimate responsibility for its administration. The committee makes strategic decisions, monitors the plan and coordinates the execution of activities to ensure that deadlines are respected.

In carrying out its functions, the pension committee must act with skill and prudence. It must therefore have procedures and mechanisms that foster good decision-making and adequate monitoring of the plan's administration. In addition, members may be protected against any negligence that may incur their personal liability.

The *Income Tax Act* sets the maximum amount of contributions that can be paid to a pension plan, as well as the maximum pension amounts that the plan can pay. It limits the foreign investments that the fund can make. Every plan must file an annual information return with the tax authorities.

1.2.2 Situation in other countries

United States of America[1]

In the U.S., social security contributions are collected by the Internal Revenue Service and the payment of benefits is carried out by the Treasury Department. Other duties related to the public pension plan fall under the responsibility of the Social Security Administration, which is an independent agency whose director reports directly to the President.

In accordance with the U.S. constitution, laws must obtain a majority of the votes in each of the two Houses of Congress and be approved by the President. Laws affecting social security must first be considered and recommended by the Committee on Ways and Means in the House of Representatives.

Two types of institutions share the responsibility of monitoring the evolution of the plan: the Board of Trustees for the plan's fund and the councils and periodic committees on social security. The monitoring of financial aspects of the plan is especially under the responsibility of the Board of Trustees. The Board is made up of six administrators of whom four are heads of executive agencies of government and the other two members belong to civil society, appointed to a four-year term by the President. One of the administrators must belong to the minority party.

In accordance with the *Employee Retirement Income Security Act* (ERISA), supplemental pension plans in the United States are optional. As in Canada, they are subject to a series of rules regarding membership, vesting, funding, investment, benefits and amendments. Three federal agencies are involved in the administration of the ERISA:

- The Internal Revenue Service administers the financial aspects affecting contributions and benefits. It is also in charge of monitoring funding, membership and vesting rules;
- Defined benefit plans pay a premium to the Pension Benefit Guaranty Corporation which insures benefits in the event that reserves are insufficient following a plan's termination;
- The Department of Labor administers those activities involving reports, disclosure and the fiduciary rules that provide the framework for managing plan assets.

The fiduciary responsibility with regard to the pension plan is not conferred to a pension committee as it is in Québec. Rather, it is conferred upon various providers of services required by the plan. The fiduciaries of a supplemental pension plan are appointed by the plan sponsor. Moreover, they are subject to strict rules of conduct and must avoid conflicts of interest in accordance with the ERISA.

United Kingdom[2]

Four organizations are concerned with the governance of public and private pension plans in the United Kingdom:

- The Department for Work and Pensions (DWP) is mainly responsible for providing services to contributors and beneficiaries. It administers the State Pension and the State Earnings-Related Pension Scheme (SERPS). It participates in the development of government policies regarding pensions;
- The Occupational Pensions Regulatory Authority (Opra), which reports to a board of directors, is the agency that provides the framework for occupational pension schemes. It intervenes when a breach has been signalled regarding pension rules affecting occupational pension schemes. It has the power to impose penalties on those responsible for the breach. Opra maintains a Pension Schemes Registry and can

[1] Inspired in part by Gillion, Colin; Turner, John; Bailey, Clive; Latulippe, Denis. 2000. *Social Security Pensions – Development and Reform* (International Labour Organization).

[2] Source: Internet site of the Inland Revenue of the United Kingdom (www.inlandrevenue.gov.uk/pensionschemes/orgs.htm)

help people trace pension schemes in which they previously participated. It is also in charge of educating and informing pension scheme trustees, employers and pension professionals regarding legal requirements;

- The Financial Services Authority (FSA) is an independent non-governmental body that regulates the financial services industry in the United Kingdom. The FSA supervises investment managers, as well as the sales and marketing of investment vehicles, including pension and annuity products;
- The Government Actuary's Department (GAD) offers independent actuarial advice to mainly public sector clients. It carries out the actuarial valuation of public schemes and pension schemes in the public sector. It also provides advice for the Inland Revenue and Opra regarding regulations affecting supplemental pension plans.

Japan

The Social Insurance Agency is set up as an external office of the Ministry of Health, Labour and Welfare and is responsible for the administration of the national pension, Employees' pension insurance, government-managed health insurance and seamen's insurance.

With regard to public plan investments, the situation changed in 2001. Prior to 2000, the reserves from the pension system were deposited with the Trust Fund Bureau, pursuant to the law, which used the funds as a source of investment and loans for the government. Under that system, only a small portion of the reserve funds were invested on the markets. Since April 2001, a new entity called the Government Pension Investment Fund (GPIF) manages public pension scheme reserves. The Minister of Health, Labour and Welfare is responsible for this new agency. He is counselled by the Social Security Advisory Committee regarding choices of categories of assets and management of reserves. General objectives are outlined in the law regarding various categories of authorized assets. Management of funds is entrusted to outside managers evaluated by the GPIF. Its own performance is evaluated by the minister responsible. The choice of categories of assets is decided upon by the minister in consultation with the Social Security Advisory Committee. The short-term tactical objectives are decided upon by the GPIF. Its board of directors determines the agency's management and administration guidelines. The chairman of the board of the GPIF is appointed by the minister. Two other members are chosen by the chairman, in agreement with the minister.

1.3 THE REFORM PROCESS[3]

A reform in the retirement system generally calls upon a number of entities and groups in the society. However, both the nature and scope of the consultations, and the decision-making process vary from one country to another.

1.3.1 Québec

The government published a discussion paper in the context of the 1998 reform of the Québec Pension Plan. The document dealt especially with funding and rules of governance in order to ensure the Plan's long-term viability. The consultation that followed yielded comments from all groups of society. A bill was drafted following consultations.

The *Act respecting the Québec Pension Plan* now provides for an actuarial report to be prepared every three years. Public consultation takes place every six years. Following such consultation, adjustments can be made to the plan concerning the amount of contributions or the provisions affecting benefits. The plan's continuity and matching benefits to the needs of the population are thus ensured.

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[3] Source: Reynaud, Emmanuel. 2000. *Social Dialogue and Pension Reform: United Kingdom, United States, Germany, Japan, Sweden, Italy, Spain* (ILO, Geneva).

The federal government has the power to change the Old Age Security program according to the usual legislative process. There is no formal consultation process for review of the program. In the mid-1990s, the federal government tried to change the program in order to tailor it more for lower-income individuals, thus reducing the long-term costs. However, strong reaction from pressure groups made the government back away.

1.3.2 United Kingdom

Historically, adaptations to the public pension plan resulted from choices made by the government. Other actors may also be consulted: the consultative committee on social security, the government actuary and the House of Commons' social security committee. When the government wishes to initiate a reform, it organizes a consultation on the proposals, as put forward in its electoral program. It also publishes a working paper in which different options are presented that are possible within the context of the orientations chosen by the government. Other reports also fuel the debate, in particular those of the government actuary, including for example, an annual report on the plan's financial situation and a five-year report presenting projections. The government alone decides on the scope of the consultation. In general, the main participants are retirement professionals, employer and union organizations and research institutes. Nonetheless, the government remains in control of the content of the reform, which it must have approved by its majority in Parliament.

1.3.3 United States

The Board of Trustees publishes a yearly report describing the current and future situation of the plan. The Board supervises the periodic actuarial valuation that serves as the basis for analyzing reform projects. Moreover, since 1995, there is a permanent consultative committee that examines the plan's situation. Prior to that time, an ad hoc consultative committee was set up once every four years. It included representatives from unions, employers, self-employed workers and individuals from non-trade organizations. Such committees helped reach agreement on reforms to be undertaken. However, recent measures for limiting expenditures had to be negotiated by other means, involving the intervention of experts and members of Congress. Recently, interest was raised regarding the plan's survival in a conference held by the President at the White House, as well as by statements made by the President regarding the possibilities for reforms for ensuring the plan's long-term survival.

1.3.4 Germany

In Germany, the participation of social partners is an integral part of the national retirement system. The institutions that manage the plan have bodies of representatives made up of employers and insured persons. A social council is made up of four representatives of insured persons, four representatives of employers, a representative of the federal bank and three representatives from the sector of economic and social sciences. The members are named by the government, following a recommendation from public plan managers for representatives of insured persons and employers. The social council is responsible for providing an advisory opinion on the federal government's annual report with respect to pension insurance. It presents the various parties' positions regarding identifying the problematic issues to be addressed and the subsequent reforms. During the 1992 reform, the council made it possible for an agreement to be calmly reached between the various parties; on the other hand, during the 1997 reform, there were heated confrontations within the social council. The government basically relied on expert committees. The absence of agreement between various parties explains why the new government has again called the reform into question.

1.3.5 Japan

Japan has put into place a permanent control mechanism for its retirement system. The system must be examined at least once every five years. A consultative retirement committee is put into place during reforms. The civil servants of the retirement service consult with the various groups in society, although they alone draft the final report. In this way, they retain a certain degree of control over the content. Based on the report, and in conjunction with the party in power, the retirement service drafts legislation. The debate on retirement therefore remains limited and controlled by the party in power.

1.3.6 Sweden

The way things operate in Sweden must be described within the context of the reform of the 1990s. The reform of the plan was adopted in its details in 1998; however, the reform of the retirement system had been the subject of reflection for quite some time. An initial committee had been formed in 1984. It was made up of representatives of the seven political parties represented in Parliament, social partners, representatives from the administration and experts. After a number of intermediary reports, a final report was issued in 1990. Given the amount of criticism levelled at that report, the government did not make any proposals to the Parliament. Rather, it formed a second committee in which the seven political parties were represented. In 1994, a proposal for reform was submitted, supported by five of the seven parties—four parties from the liberal-conservative majority in power and the main opposition party, the Social Democratic Party. The main principles of the reform were approved by Parliament in June 1994, although certain unresolved questions remained. A working group consisting of the five parties favourable to the reform continued the work after the change in majority in September 1994. The new proposals were adopted by Parliament in June 1998, as a result of the agreement of the five parties in favour of the reform.

In Sweden, broad consensus was sought, although there were some changes during the reform process. The vast initial study that involved social partners and other groups was gradually replaced by the interventions of the political parties represented in Parliament, and ultimately by the political parties favourable to the reform.

1.3.7 Italy

As in the case of Sweden, Italy's retirement system underwent profound transformation during the 1990s. The two reforms of the 1990s (the Amato and Dini reforms) contributed to that change. Although the two reforms had the same objective—namely, to ensure the continuity of the system—the actors involved varied according to the political and economic contexts. During the Amato reform (1992), the government essentially decided the reform. The country had just come out of a financial crisis and wanted to renew confidence in international financial markets by showing that Italy could control its public spending. In this emergency situation, the government received a delegation from the Parliament for reform of the retirement system. Under the Berlusconi government that followed, a committee made up of members named by the government and representatives of the social partners did not reach agreement. Therefore, the government alone proposed a reform plan, before being obligated to withdraw it. Lastly, under the Dini government, the reform was negotiated by the government and the social partners, and was approved by all the parties, with the exception of the main employer organization. A ministerial organization, the evaluation unit for spending projections, was created in order to inform the government and social partners as to the reform's progress. The organization's activity could ensure it a major role in proposing reforms.

1.3.8 France

The nature of the French retirement system (which is made up of a general plan, compulsory supplemental plans and specific plans for certain categories of workers) makes for a system that gives particular importance to social partners and society in general. A number of attempts at reform failed during the 1990s because of the problem of reconciling the demands of various groups.

During the 2003 reform in France, the following process was adopted. Further to a general policy statement by the Prime Minister, a series of exchanges were held with various political groups in the country. This was followed by meetings with social partners. Draft legislation culminated from those consultations and was submitted to the Council of Ministers.

1.4 SUMMARY: POLITICAL AND INSTITUTIONAL ISSUES

1.4.1 Political issues

With the exception of the United Kingdom, most European public pension systems are relatively generous. Although they are characterized by a high rate of contribution, the financial situation facing them causes concern. The European governments must therefore come up with various means for reducing benefits or modifying the plans' rules. However, members and social partners view such trends as breaches of past promises.

The situation in Québec is different because the public plan holds a lesser role in the overall retirement system. The 1998 reform of the Québec Pension Plan allowed for readjustment of the plan—especially its funding—without considerable change to the benefits offered. However, there is a political risk related to the federal Old Age Security program, funded by the federal government. The federal government may change that program in order to reduce its scope and costs.

1.4.2 Institutional issues

Measures such as the Régie's administration of the QPP, collection of contributions by the Québec Ministère du Revenu and management of investments by the Caisse de dépôt have proven their effectiveness.

Québec has also given itself sufficient mechanisms for governance, including:

- well-defined roles for the minister in charge, board of directors of the Régie des rentes du Québec, the Caisse de dépôt and the President and General Manager of the Régie des rentes du Québec;
- the actuarial valuation of the QPP every three years and a public consultation every six years;
- an effective law for supervising supplemental pension plans;
- the role played by the Régie in the promotion of pension plans;
- a model for managing the reserves by the Caisse de dépôt, often cited as an example.

CHAPTER 2

DEMOGRAPHIC AND ECONOMIC ENVIRONMENT

In the future, the evolution of pension systems will in large part be dictated by how governments respond to the demographic and economic constraints confronting their respective countries. This chapter compares the demographic and economic realities facing the countries concerned. It also touches on the pressures workers and employers will have to deal with from now on regarding pension plan funding.

2.1 DEMOGRAPHICS

All developed societies will witness the aging of their population over the coming decades. However, the extent of this demographic transformation and the speed with which it occurs will vary from one country to another. In Québec, it will be felt rapidly and to a large extent. In the United States, the higher fertility rate will result in changes in the structure of the population that will be less noticeable than in Québec. In Europe, the demographic transformation will begin earlier than in North America.

2.1.1 Decreased birthrate: fewer contributors over the long term

Most of the countries included in this study have very low total fertility rates. Currently, the lowest rates are in Italy (1,23), Japan (1,32) and Germany (1,35). In the United States, the population replacement rate is higher. Canada's fertility rate is 1,48 and for Québec, the rate is 1,45.

The low fertility rates of the last 40 years will cause a decrease—or at least a slower progression—in the working-age population over the coming decades. For public pension plans, this factor will add to the massive retirement of a huge population in a number of countries, as a result of what has been called the "baby boom". Most of the countries in this study saw a more or less significant baby boom following the end of World War II, with the exact period varying from one country to another. For example, the baby boom in Québec covers the period from 1950 to 1965. In the United States, it covers a somewhat longer period, from 1946 to 1964. For other countries, the magnitude of the baby boom was less noticeable, although their fertility rate underwent a marked decrease ("baby bust") which may have had a similar outcome. Some European countries saw two periods of high fertility, one just after the war and another during the 1960s. Japan also had two baby booms, from 1947 to 1949 and from 1971 to 1974.

Calculating the increase in one ratio in relation to the total population provides one way of comparing the effect of the variation in fertility rates. For example, we can observe the period of time required so that the ratio of people aged 65 and over goes from 12% to 24% (see Figure 2.1). That period of time is the shortest for Japan (23 years), followed closely by Québec (32 years). The Western European countries have witnessed that trend for a longer amount of time, despite the fact that they now have demographic ratios (aging population in proportion to the total population) that are higher than those in North America. The United States is not shown in the figure because the aging population reaches a maximum of 21% of the total population in 2040. Therefore, in Québec, the population will age more rapidly than in other industrialized countries.

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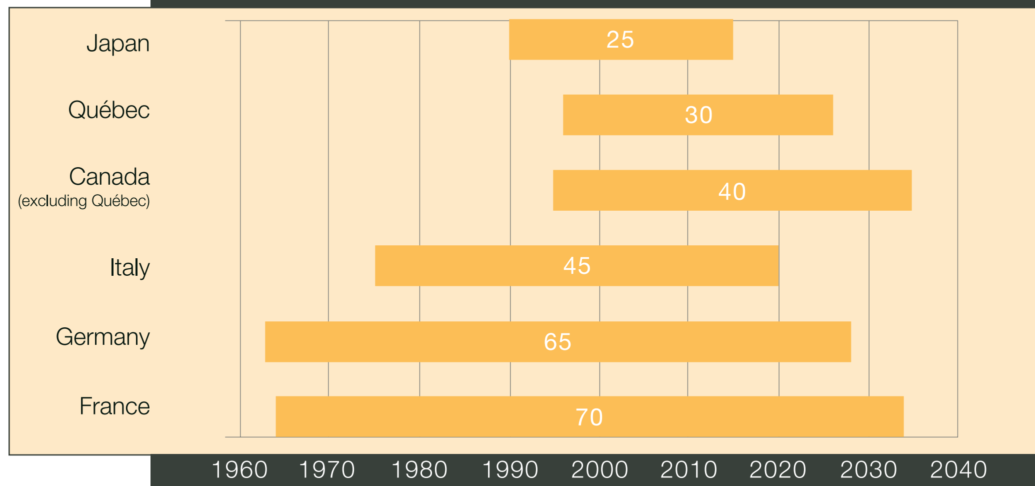
[4] Source: United Nations, *World Population Prospects: The 2002 Revision.*

Figure 2.1 Number of years needed for the population aged 65 or over to go from 12% to 24% of the total population



Sources: United Nations Secretariat, *World Population Prospects: The 2002 Revision*
Statistics Canada; *Demographic projections*, 2001
Actuarial Report on the Québec Pension Plan as at 31 December 2000

2.1.2 Increase in life expectancy: pensions payable for a longer period of time

Mortality rates continue to fall for all OECD countries and life expectancy at birth is about 76 years for men and 82 years for women.

Lower fertility, combined with increased life expectancy, makes for a decrease in the correlation between the number of workers and the number of retirees. Most European countries (Germany, France, Italy, United Kingdom, Sweden) and Japan only have 3,5 working-age people (20-64 years) for every person aged 65 and over. On the other hand, with their younger population, Canada and the United States have a ratio of 4,8 workers per retiree. However, that ratio will decrease over the next 30 years, and especially quickly in Canada and Japan, as shown in Table 2.1. Among the countries studied, the United States and the United Kingdom will have the highest ratios in 2030.

Table 2.1 Demographic data and projections by country

Country	Fertility rate (2000)	Life expectancy at birth				Ratio : 20-64 years / 65+	
		2000		2030		2000	2030
		Men	Women	Men	Women		
Québec	1,45	75,7	81,4	78,8	83,4	4,8	2,1
Canada	1,48	76,7	81,9	79,6	84,5	4,9	2,4
Germany	1,35	75,2	81,2	79,1	84,8	3,8	2,1
United States	2,11	74,3	79,9	77,0	82,7	4,8	2,9
France	1,89	75,2	82,8	79,1	85,8	3,7	2,3
Italy	1,23	75,5	81,9	78,3	84,4	3,4	2,0
Japan	1,32	77,9	85,1	82,1	91,0	3,6	1,8
Netherlands	1,72	75,6	81,0	78,4	83,7	4,6	2,4
United Kingdom	1,60	75,7	80,7	79,4	84,4	3,7	2,7
Sweden	1,64	77,6	82,6	80,6	85,6	3,4	2,1

Source: United Nations Secretariat, *World Population Prospects: The 2002 Revision.*

2.1.3 Increased passivity ratios

If people live longer while continuing to retire from the labour market at the same age as they now do, the proportion representing years of retirement in relation to years of work will continue to increase. This is what we refer to as the “passivity ratio”.

Table 2.2 shows, for various countries, the effect of increased life expectancy on the passivity ratio. For the purposes of simplicity, let us suppose that the age at which a person enters the labour market is 20 years for all countries. Let us also suppose that people retire from the labour market at the average age observed during the period from 1994 to 1999 and that the mortality rates are identical for all countries. The differences between the passivity ratios shown in the table therefore result only from the differences in the age of retirement from the labour market. In Québec, for example, the number of years spent in retirement represents 45% of the number of years of active life for a man. For a woman, it represents 63% of the number of years of active life since women retire younger from the labour market and have a greater life expectancy. In Japan, because of the higher actual retirement age, the passivity ratio is only 26% for a man. The passivity ratio in Sweden and the United States is also relatively lower than in the other countries.

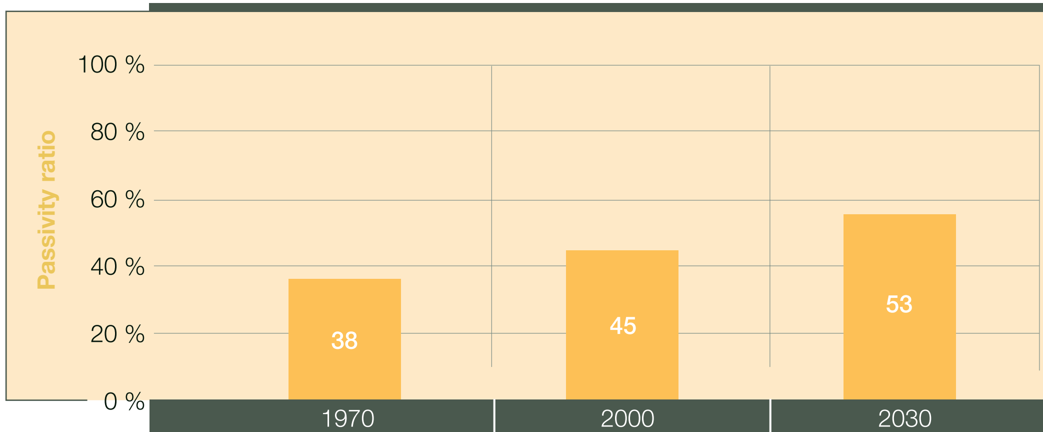
Table 2.2 Average age upon retirement from the labour market and current passivity ratios

Country	Age upon entering the labour market	Age upon retiring from the labour market		Length of retirement		Passivity ratio	
		Men	Women	Men	Women	Men	Women
Québec	20	61,1	59,4	18,7	24,7	0,45	0,63
Canada	20	62,2	61,1	17,9	23,2	0,42	0,56
Germany	20	60,5	60,8	19,2	23,5	0,47	0,58
United States	20	65,1	64,2	15,7	20,6	0,35	0,47
France	20	59,3	59,8	20,1	24,3	0,51	0,61
Italy	20	59,3	58,4	20,1	25,5	0,51	0,66
Japan	20	69,1	66,0	13,0	19,1	0,26	0,42
Netherlands	20	61,6	60,1	18,3	24,1	0,44	0,60
United Kingdom	20	62,0	61,2	18,0	23,1	0,43	0,56
Sweden	20	63,3	61,8	17,0	22,6	0,39	0,54

Source: Scherer (2001) and authors’ calculations.

Moreover, young people are entering the labour market later, as a result of a greater amount of schooling. In addition, life expectancy continues to increase in all countries. Projected passivity ratios could therefore reach much higher levels than those presented in Table 2.2 if the actual age of retirement does not increase. Therefore, in Québec, the passivity ratios for 1970, 2000 and 2030 can be compared by considering that the average worker enters the labour market at age 18 in 1970, at age 20 in 2000 and at age 22 in 2030. Also taken into account is the fact that life expectancy has increased since 1970 and will continue to do so until 2030 according to the data presented in section 2.1.2. According to that scenario, the passivity ratio for men will pass from 38% in 1970 to 45% in 2000, and then to 53% in 2030 (see Figure 2.2). Such a scenario supposes, however, that the average worker continues to retire from the labour market at the same age.

Figure 2.2 Evolution of the passivity ratio in Québec between 1970 and 2030

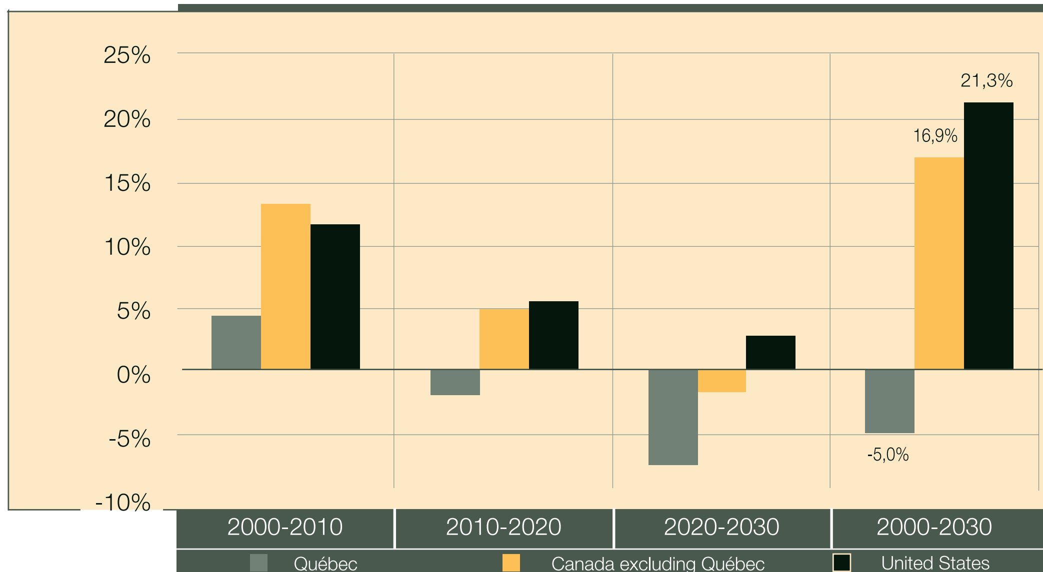


In a later chapter, it will be shown that several countries have responded to that reality by implementing very specific mechanisms. As a result, the age at which a person becomes entitled to a retirement pension through a public plan takes into account the increase in life expectancy in the population. Other countries have opted for a transformation of the labour market aimed at maintaining persons in employment until they reach a more advanced age.

2.2 ECONOMIC GROWTH, LABOUR MARKET AND PRODUCTIVITY

Public pension plans are funded by member contributions. The income level of public pension plans therefore depends on the number of workers and their average employment earnings. For that reason, the evolution of economic growth is an indicator of the capacity of pension plans to fulfil their commitments. The rate at which the gross domestic product (GDP) grows depends mainly on two factors: the growth rate of the labour force and the rate of increase in productivity.

Figure 2.3 Variation in the working-age population (20 to 64 years)



Sources: Actuarial Report on the Québec Pension Plan as at 31 December 2000.
Statistics Canada: *Demographic projections*, 2001.
United Nations. *World Population Prospects: The 2002 Revision.*

The first factor—growth of the working population—is heading toward a decrease over the coming decades in most developed countries. Table 2.3 shows that after reaching a peak during the period from 2010 to 2015, the proportion of employed persons among the general population will generally decrease in industrialized countries. This is a consequence of the demographic transition and the aging of the populations in Western European countries, as well as in Canada, the United States and Japan. Italy's situation gives cause for concern in this regard with a 31% proportion of employed persons in 2030. In contrast, the United States and Japan will continue to maintain a proportion of employed persons of over 50% until 2030. Mexico, which is also shown in the table, shows that for countries in transition with a younger population, the rate of employed persons will continue to increase for a long time yet to come.

Table 2.3 Part of the employed population within the total population

Country	2000	Peak and year of reaching peak	2030
Québec	47%	51% (2010)	45%
Canada	47%	49% (2010)	44%
Germany	45%	49% (2015)	43%
United States	50%	53% (2010)	52%
Finland	42%	-	35%
France	40%	42% (2010)	37%
Italy	36%	38% (2010)	31%
Japan	53%	-	50%
Mexico	41%	-	50%
Netherlands	48%	54% (2015)	49%
United Kingdom	46%	-	43%
Sweden	46%	-	41%

Source: OECD (2000) and Actuarial Report of the Québec Pension Plan as at 31 December 2000.

With regard to the productivity growth rate, the situation is hardly encouraging. In 2003, the Régie des rentes du Québec conducted an inquiry with five social security institutions. The inquiry was based on actuarial assumptions concerning the main demographic and economic variables used in the context of long-term projections for public pension plans. It dealt with, among other things, the projected rates of wage increases. The report's results in relation to that variable are presented in Table 2.4.

Table 2.4 Real rates of wage increases (1993-2030)

Period	United States	Finland	France	Japan	United Kingdom	Québec
1993-2002	1,40%	1,59%	1,30%	0,70%	1,50%	-0,40%
2003-2010	1,30%	1,75%	1,70%	1,00%	1,54%	1,00%
2011-2020	1,00%	1,75%	1,60%	1,00%	1,54%	1,20%
2021-2030	1,10%	1,75%	1,60%	1,00%	1,54%	1,20%

In the long-term, for most industrialized countries, the real wage increase is between 1,0% and 1,75%. The total payroll subject to social security contributions cannot undergo a strong increase based solely on wage increases. This is especially true if the population of workers increases more slowly than at present; in fact, in certain cases, there will be a decrease. This situation applies generally to all the countries studied.

2.3 SUMMARY: THE DEMOGRAPHIC AND ECONOMIC ISSUES

Most countries are facing similar demographic realities. However, the situation in the United States is different in that its fertility rate is higher than that of the other industrialized countries, which, in the long term, will lead to more favourable dependency ratios.

Over the coming decades, the labour force will undergo changes such as stagnation in the number of workers, and even a decrease in the case of certain societies, including Québec. An increase in productivity could, in part, compensate for the decreased number of workers; however, it will not eliminate the increased pressure with which contributors to pension plans will have to cope.

Lastly, Québec's situation gives particular cause for concern because of the rapid aging of its population. Over the next three decades, the population will pass quickly from working age to retirement age.

CHAPTER 3

GENERAL STRUCTURE OF SYSTEMS OF FINANCIAL SECURITY AT RETIREMENT

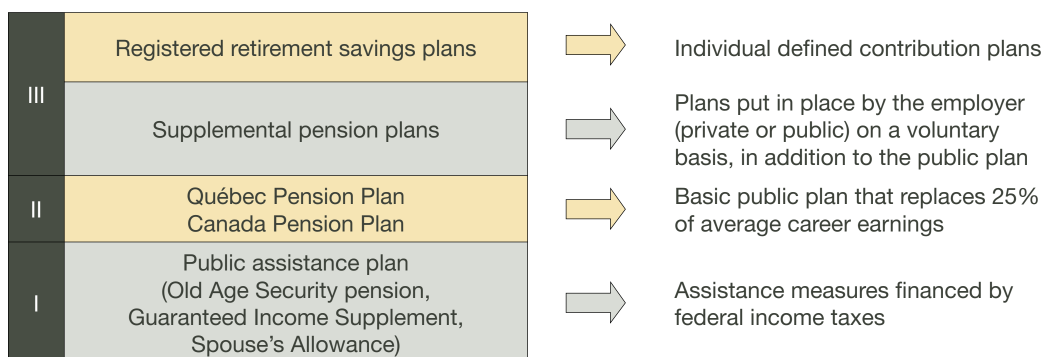
This chapter presents a brief description of the retirement systems in the countries studied. The various plans that make up the system of financial security at retirement are examined within the context of the particular system in question. A detailed analysis of plan provisions will be presented in Chapter 4.

3.1 QUÉBEC AND CANADA

The *Old Age Security Act* represents the first tier of the retirement system in Québec and Canada. It provides for three measures: the Old Age Security (OAS) pension, the Guaranteed Income Supplement (GIS) and the Spouse's Allowance. The OAS pension is a flat-rate allowance that is indexed annually according to changes in the Consumer Price Index. It is paid to all Canadians aged 65 years and over who meet certain residency requirements.

The Guaranteed Income Supplement is intended for seniors with low income who receive the OAS pension. The benefit varies according to income and family situation, and is indexed on a quarterly basis to inflation. The GIS constitutes a form of assistance that is smaller when the person or the couple is able to meet their own needs in a different manner. For each dollar of income coming from a source other than the OAS, the GIS amount decreases by 0,50 $.

The Spouse's Allowance is paid to certain persons aged 60 to 64 years, and it stops once the beneficiary reaches age 65. To qualify for the program, a person must have a spouse aged 65 or over who receives the OAS, or be a surviving spouse. The Spouse's Allowance varies according to income and family situation.



The Québec Pension Plan, like its Canadian counterpart, the Canada Pension Plan, is a public plan based on contributions that are paid equally by employers and workers. This second tier covers all workers whose annual earnings are greater than 3 500 $. In 2003, the contribution rate was 9,9% of pensionable earnings, divided equally between the employer and the worker. The self-employed worker pays both parts. The retirement pension is equivalent to 25% of the average earnings over the period of the contributor's entire career.

The third tier of the system is made up of supplemental pension plans and registered retirement savings plans (RRSPs). Supplemental pension plans are generally established by the employer on a voluntary basis.

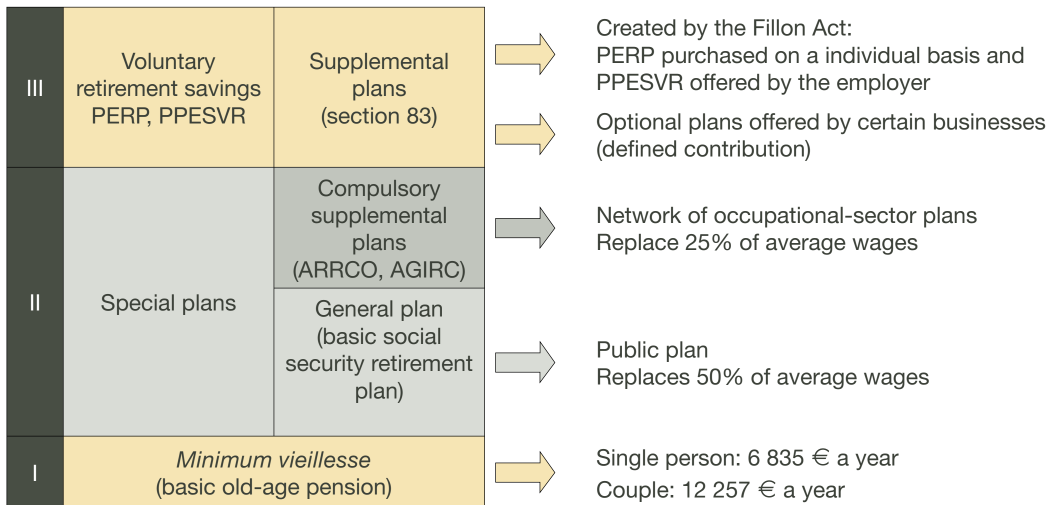
RRSPs are individual plans whose rules are set by the *Income Tax Act*. The amounts paid into an RRSP are deductible from taxable income up to 18% of the preceding year's income. The calculation also takes into account other amounts acquired in a supplemental pension plan. Unlike a supplemental pension plan, RRSPs are not locked-in: the funds can be withdrawn at any time prior to retirement age.

3.2 FRANCE

The French assistance plan is a basic old-age pension, called *Minimum vieillesse* and provides benefits to seniors who are not already pension beneficiaries or who collect a pension that is insufficient. A single person receives 6 835 € a year and a couple receives 12 257 € a year, granted conditionally on resources starting at age 65.

Underlying the French retirement system is a general plan with a replacement rate that can reach 50% of wages after 40 years of participation. Retirement can begin as of age 60, provided the person has accumulated 40 years of contributions. However, if the person has not accumulated 40 years of participation, the pension is reduced significantly: the replacement rate can go down to just 25% for a retirement at age 60. The replacement rate is applied to the average wage for the 20 best years. It should be pointed out that as of 2008, the average wage will be calculated on the best 25 years. The 2003 reform provided for a gradual increase in the number of years required to receive a full pension. The number of years required will therefore increase from 40 to 41 years between 2008 and 2012; subsequently, it should follow the trend of life expectancy.

In addition to the general plan, private sector workers must participate in a national network of supplemental pension plans. The architecture of these plans varies depending on sector of activity. The two main associations are the ARRCO (*Association des régimes de retraite complémentaires*) and the AGIRC (*Association générale des institutions de retraite des cadres*). The plans are pay-as-you-go plans. Worker and employer contributions are translated into points. The worker accumulates points up to the time of retirement, at which time the pension is determined by multiplying the number of accumulated points by the value of a point at the payment date. The replacement rate offered by the supplemental pension plans varies depending on wages, since it is coordinated with the general plan and only covers wages up to a certain cut-off point. By combining the pension under the general plan with that of the supplemental plan, the average worker receives about 75% of final earnings.



Civil servants and workers in State-owned businesses are covered by several special plans. They are ordinarily more generous than private sector plans.

Under the general plan for workers and farm workers, and under the equivalent plans for craftsmen and merchants, a minimum was introduced for a complete career of 40 years. Minimum pensions also exist in supplemental pension plans for supervisory workers

(AGIRC) and non-supervisory workers (ARRCO). These minimal pensions are granted regardless of the pension resources.

In France, the important role played by the compulsory pay-as-you-go systems leaves little room for the development of voluntary, individual or sectorial plans, although they are nevertheless the focus of tax incentive initiatives. There are supplemental plans, group defined contribution plans (also called section 83 plans), which propose two options. The first option allows the business to contribute for one or more groups of workers. The amounts paid by the business are deductible from its earning and exempted from social contributions, up to a ceiling amount. For beneficiaries, the contributions are deductible from their taxable wages up to 8% of the gross annual wage, within the limits of eight times the social security ceiling. The second option, introduced by the Fillon Act in 2003, allows workers to contribute on a personal basis. This law opens the way for two new types of contracts for creating voluntary retirement savings: voluntary partnership worker savings plans for retirement (PPESVR, that is, *plans partenariaux d'épargne salariale volontaire pour la retraite*) and individual retirement savings plans (*PERP, that is, plans d'épargne retraite populaire*).

The PPESVR is a group savings system that offers workers the possibility of creating, with the assistance of the business, a securities portfolio. It is funded through voluntary member contributions and by an optional business contribution. The PPESVR is established through a collective labour agreement. Plan payouts are normally in the form of a pension. The agreement entered into between the social partners instituting the plan can also provide for a capital payment, allowing the investor to choose between withdrawing from the plan with a life annuity or with capital. For beneficiaries, the premiums paid into the savings plan for retirement are, within certain limits, tax-deductible.

The PERP is an individual savings plan that is purchased through participation in an insurance contract between an association responsible for monitoring the PERP, the individual retirement savings group (GERP) and a management agency that can be an insurance company, a trust or a mutual. The invested savings yield a pension payment starting at retirement age, except in certain cases, such as disability and unemployment. In the event of death, the vested pension benefits can be paid to a designated beneficiary (by default, the spouse) in the form of a life annuity or education pension.

The contributions paid into the PERP are tax-deductible on income up to 10% of net taxable income, taking into account participation in a PPESVR and contributions to professional pension plans for workers and non-workers.

3.3 ITALY

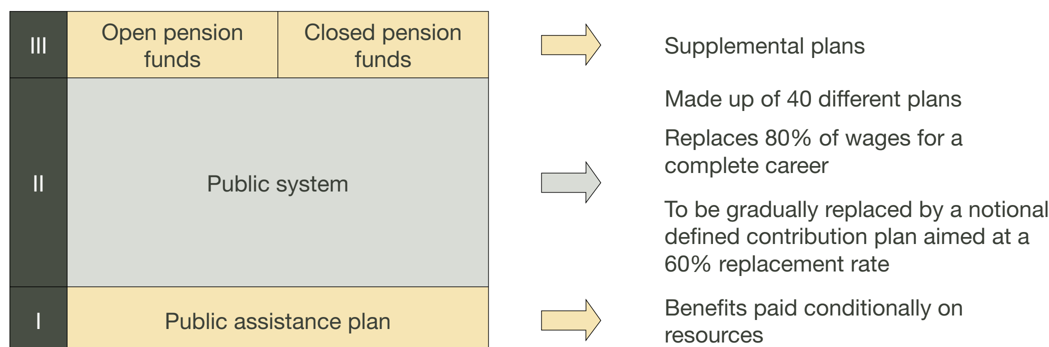
Firstly, the public assistance plan pays benefits to seniors aged 65 or over who reside in Italy and whose resources do not exceed a certain cut-off point. The amounts paid are 4 667 € a year for a single person and 9 334 € for a couple.

Then, the public system, which is funded on a pay-as-you-go basis, provides a pension that can reach 80% of wages. The contribution rate is 32,7% of wages.

The public system is divided into approximately 40 different plans. The reforms of the 1990s gradually brought consistency to the basic rules. Most are governed by the national social security institute (INPS), amounting to two-thirds of pension expenditures and covering the majority of private-sector workers and self-employed persons. In addition, the eleven occupational-sector funds, made up of a total of 243 000 contributors are added to that. Moreover, the GIAS (*Gestione Interventi privee e di Sostegno*), financed by the State budget, is responsible for paying social assistance and solidarity benefits.

Lastly, there are two types of supplemental plans, namely:

- "closed" pension funds, implemented in accordance with collective agreements or by large corporations. They are limited to one business;
- "open" pension funds, which are interfirm plans administered by financial institutions such as banks or insurance companies.



3.3.1 The new system

The Dini reform of 1996 brought about fundamental changes to the system, making it a notional defined contribution plan (see box).

The notional defined contribution plan
Under a notional defined contribution plan, each contributor is the holder of an individual account that is credited "virtually" with retirement contributions paid over the course of the working career. In Italy, these contributions are accrued annually according to a rate of return equal to the moving average of growth rates of the GDP over the last five years. Upon calculating the pension, the "virtual" capital that has accrued is converted into a pension by applying a conversion factor based on age of retirement. The conversion rates were determined to take into account life expectancy as of the age at which retirement begins.

A long period of transition is anticipated. The two systems for calculating retirement benefits will coexist for about 30 years. Since 1 January 1996, the retirement system has included three categories of insured persons, which are defined according to the length of their previous contributory period:

- the new system of individual accounts will cover new entrants to the labour market. The first pensions in this new category will become payable, at the earliest, in 2031 for a period of insurance of 35 years and 2036 for 40 years;
- insured persons with 18 years of credited contributions will continue to be covered under the old system. They will be able to receive the totality of their pension according to the rules of the old system until 2018;
- insured persons with less than 18 years of credited contributions will be covered under a hybrid system made up of the two methods for calculating retirement pensions. The benefits acquired up to 31 December 1995 will be established according to the principle of compensation, and benefits acquired after that date are calculated according to the new legislation. Pay-outs under this category will take place between 2014 and 2036.

3.4 NETHERLANDS

The Dutch public assistance plan, the *National Assistance Act* (ABW) pays tapering benefits, based on the minimum wage, in accordance with income and wealth. The maximum monthly benefit for a single person over age 65 is 844 €. For a couple where both members are over age 65, it is 1 188 €.

The pension system's basic pension is the National Old Age Pension (AOW), operated by the government, which grants flat-rate benefits to all residents over age 65. The plan is funded by contributions collected on wages at a rate set by law to be 17,90%. The full pension is paid to any person who resides in the Netherlands from age 15 to 65 and who, during that period, made contributions each year based on employment earnings. Pension entitlement increases according to the length of insurance between 15 and 65 years of age (2% per year for 50 years).

The amount of basic pension is related to the minimum wage and in turn depends on average wages. The basic pension for a single person is currently close to 950 € a month, and for a couple, it is 1 308 € a month (with each person individually receiving 654 € a month). When one person in the couple is under age 65, that person is eligible for a supplemental allowance of up to 50% of the net minimum wage of 622 €. Any employment earnings are subtracted from that allowance. The supplemental allowance will no longer exist for persons who reach age 65 on or after 1 January 2015.

Tier	Plan		Characteristics
IV	Individual plans	⇨	Have tax advantages
III	Supplemental plans that are almost compulsory	⇨	Cover 91% of workers Generally defined benefits
II	Basic flat-rate benefit	⇨	Represents 35% of average wages for a single person and 49% for a couple
I	Public assistance plan	⇨	Tapering benefits based on minimum wage, according to income and patrimony

Other than the basic benefit, sectorial pension plans are more developed than anywhere else in Europe, thanks to collective agreements that guarantee mandatory coverage of 91% of workers. Those plans are entirely funded, including those plans intended for civil servants and teachers. They are usually defined benefit plans. Only 4% of workers receive benefits from a defined contribution plan.

For the purposes of managing those plans, it is possible for an employer to enter into a individual or group supplemental insurance contract. Such contracts, which can be made with life insurance companies, must meet certain conditions. It is also possible to establish a business pension fund or join a pension fund through a professional association. Such funds are subject to government control regarding certain points, such as capital investments or the insured payment of benefits.

Upon request from union and employer organizations, the government can prescribe procedures related to retirement for certain occupational sectors. There are also special pension funds for persons who exercise professions such as physicians, accountants or lawyers.

The last tier—that of individual pensions—is facilitated by tax measures. Contributions are deductible up to the cut-off point required to accrue pension benefits equivalent to 70% of the end-of career wage.

3.5 SWEDEN

3.5.1 The former public retirement system

Prior to 1999, the Swedish public retirement system was divided into two parts. On the one hand, the national social security system paid a universal lump-sum pension (*Folkpension* or FP) to all Swedish residents, regardless of their previous occupational activity. In order to benefit from the FP, the person had to have resided for 40 years in Sweden or have worked for at least 30 years. On the other hand, the compulsory supplemental public pay-as-you-go plan (ATP plan) paid contributory supplemental pensions that were wage-related. A base amount is used to convert wages into points. Eligible income regarding the ATP plan was between 1,0 and 7,5 times the base amount. For a full career of 30 years of employment, the pension was equal to 60% of the point average for the 15 best years of earnings multiplied by the base amount. A person with no or very low ATP benefits also received a maximum pension supplement of 55,5% of the base amount, adjusted according to means, as well as a housing allowance that was also subject to means testing.

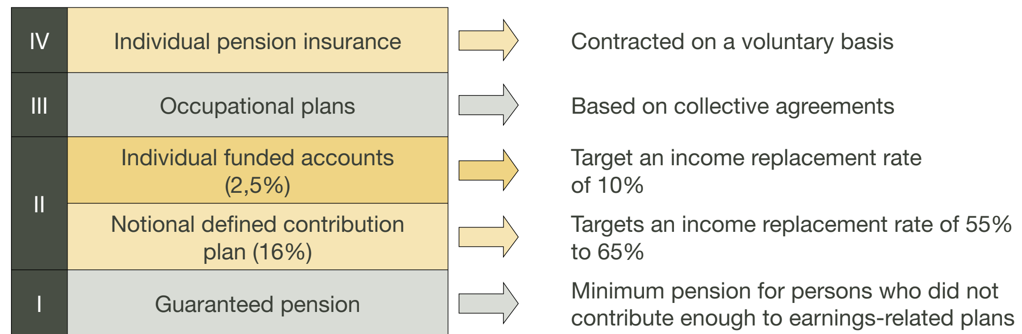
Normal retirement age was set at 65 years. It could be pushed back to 70 years or taken early at 60 years, with an actuarial adjustment of the pension of 6% for each year prior to age 65 or for each additional year after age 65.

3.5.2 The new retirement system

A new system was introduced in 1999. Cohorts born before 1938 are covered under the old system. Insured cohorts born between 1938 and 1953 will be covered under both the old and the new systems, with an increasing portion under the new system according to a preset distribution schedule. The generation born in 1954 will be the first cohort to have their pensions fully calculated according to the new system upon reaching the minimum age of retirement of 61 years in 2015.

In the first tier, the new system guarantees a base amount for persons who were unable to build up a sufficient pension through their work. The “guaranteed pension”, which is financed through the national budget, is paid starting at the earliest at age 65 to persons born in or after 1938, who can substantiate 40 years of residence in Sweden. At the full rate, the pension represents 2,13 times the base amount for a single person and 1,90 times the base amount for a married person. The pension is calculated by partially deducting the other pensions, for example, a widow’s pension or foreign pensions. However, supplemental occupational or private pensions are not taken into account.

In the second tier, the wage-related pension is funded by a contribution rate of 18,5%. Of this amount, 16% goes to the pay-as-you funding and is recorded in notional individual accounts. The capital is recalculated each year according to an index equal to the average of the last three years of the average real rate of income growth, to which is added the inflation rate for the last 12 months.



The other 2,5% goes to the funded element of the system and is invested in one or more funds chosen by workers. Some are created by unions in order to collect funds from their members. The funds can also be invested in Swedish mutuals or foreign group investment agencies authorized to carry out activities of a fund under the Swedish law on mutuals. Investments are monitored by a government agency that is financed by deductions from payments made to insured persons.

The wage-related retirement plan is separate from the State budget. It is supposed to be fully funded through contributions, which must be maintained at a fixed 18,5%. Upon retiring, the notional retirement capital supplying the pay-as-you-go funds and the capital accrued under the insurance plan are converted into a pension. The amount of this pension depends on average life expectancy according to the most recent figures. There is no ceiling for the period of insurance, nor is there a legal retirement age any longer, which may provide an incentive to workers to remain employed longer. Nevertheless, the minimum age is set at 61 years.

The following tier is made up of important sectorial pension plans based on collective agreements and which involve 91% of workers. The contributions are between 2% and 5% of salaries. Originally, these pensions were part of defined benefit plans, but they have been increasingly transformed into defined contribution plans.

The last tier is an individual insurance pension, which is contracted voluntarily and is tax-deductible. In 2000, it represented approximately 5% of total pension expenditures.

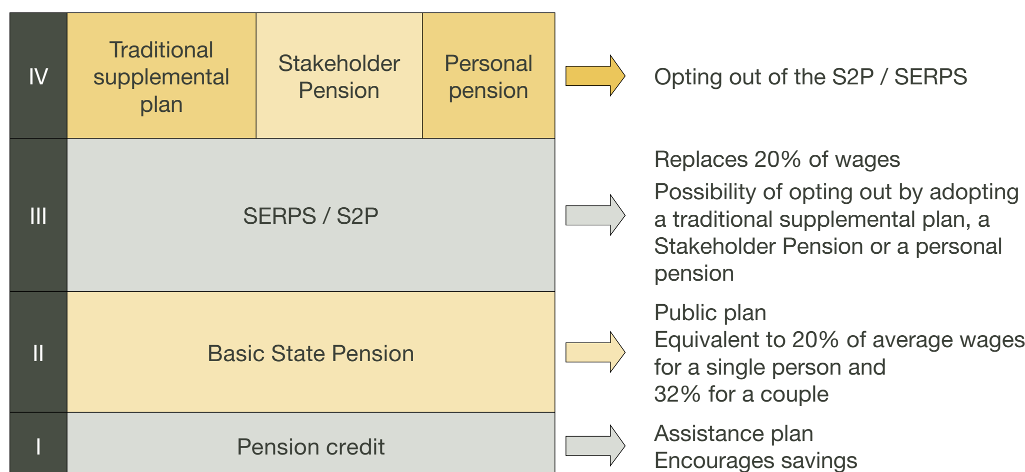
3.6 UNITED KINGDOM

In the United Kingdom, the guaranteed minimum income—a system funded by income taxes—offers assistance adjusted to means for persons over age 60. The Minimum Income Guarantee (MIG) was established in 1999. However, in its initial form, the MIG discouraged participation in pension plans. It did not recognize the efforts of individual savings since persons with low income saw their MIG reduced by one pound sterling (1 £) for each pound sterling of income that exceeded the Basic State Pension. In October 2003, the MIG was therefore replaced by the Pension Credit. The Pension Credit offers benefits to a larger number of low-income persons who have accrued benefits under a supplemental pension plan or who have personal savings. For retirees without resources other than the basic pension, the creation of the Pension Credit does not change anything—those retirees will benefit from a income supplement allowing them to achieve a guaranteed level of income equivalent to the MIG. For the others having savings income, overall income, including benefits, will be increased. The cost of the Pension Credit is estimated to be 2 billion £ a year. It should affect almost half of the retired population.

The public pension system is made up of several components funded by contributions related to salaries:

- a Basic State Pension whose amount is proportional to the number of years of contribution, and
- a pension related to earnings that replaces about 20% of average wages (State Second Pension, which has replaced the State Earnings-Related Pension Scheme since April 2002).

Self-employed workers have access to the first component, the Basic State Pension, but not the State Second Pension.



Businesses can opt out of application of the State Second Pension by establishing a supplemental pension plan that is at least equivalent. The employer and the workers then benefit from a reduction in contributions to the public pension plan. Since 1988, it has also been possible to opt out of the public plan on an individual basis, by means of savings plans called Personal Pension Plans. Nearly 60% of workers opt out of application of the State Second Pension on an individual or group basis.

The businesses that do not opt out of application of the State Second Pension can offer a supplemental plan, called “contracted-in” plans, whose benefits are added to the State Second Pension.

Professional plans are mostly defined benefit plans, calculated on the basis of years of service and final wages. However, defined contribution plans are becoming more common. In 2001, 83% of business pension funds were defined benefit plans (Salary-Related Scheme), as opposed to 17% that were defined contribution plans (Money Purchase Scheme).

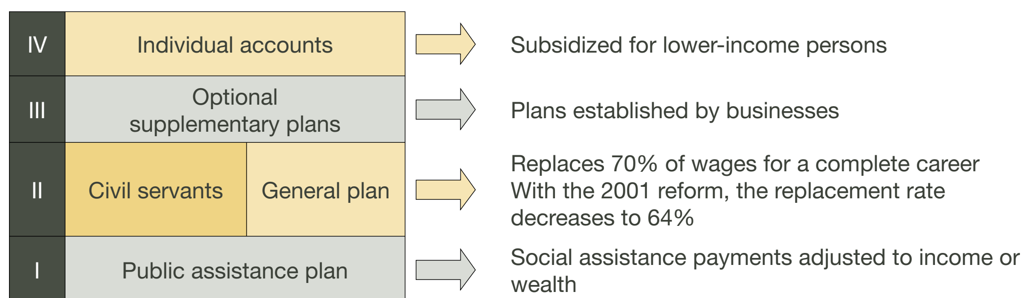
To boost the appeal of private pensions, the Stakeholder Pensions were introduced in April 2001. They offer an inexpensive supplement to the Basic State Pension and can be funded through redirecting a portion of contributions to the public plan in order to replace the State Second Pension or to create an additional pension in addition to public pensions. Stakeholder Pensions are available to all workers, although they are mostly intended for lower-income workers in small to medium-size businesses. The contributions to those plans benefit from simplified taxation methods.

3.7 GERMANY

The German social assistance plan provides about 7 500 € a year to seniors, paid conditionally on the beneficiary's income and wealth and those of his or her spouse.

The general plan covers the totality of workers, except for civil servants, who are covered under a separate plan. Self-employed workers can choose whether to participate. The benefit for an entire career represents about 70% of the career net earnings for an average worker with 45 years of service.[5] The 2001 reform is gradually decreasing the replacement rate to 64%. The amount of the pension depends on the number of years of participation and the contributions paid. The system is based on points, and the number of points obtained each year is equal to the worker's wages divided by the average wage of the insured persons.

The normal retirement age was raised to 65 years as a result of the reform. However, there are still several situations in which the pension can be paid out in advance, without application of an early retirement factor or with a smaller early retirement factor.



Supplemental plans have traditionally played a minor role in Germany. The typical plan is a defined benefits plan, but an increase in defined contribution plans has been observed. Professional plans also exist for public sector officials who are not civil servants. The 2001 reform encourages the development of funded private plans, by means of tax assistance, in such a way as to compensate for the pension reduction under the public plan.

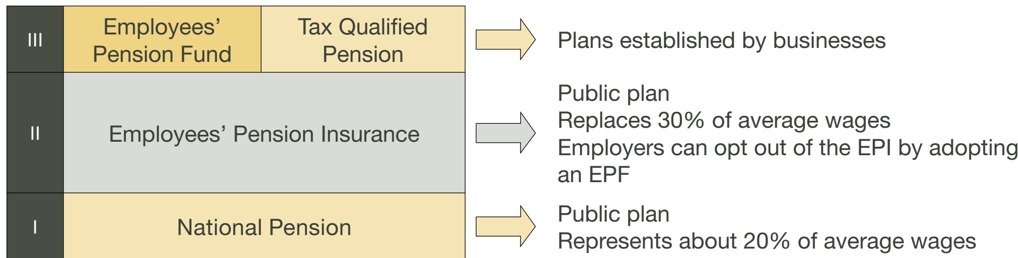
The Riester reform came into effect in January 2002. A new optional funded retirement-savings plan (individual or group within a business) benefits from government assistance. That assistance is in the form of a direct subsidy for lower wages and tax exemption for more well-off households. The assistance depends on family status and number of children. The contribution rate that opens the way for maximum assistance from the State will be progressively increased from 2002 to 2008 in order to reach 4% of gross wages. In order to benefit from tax assistance, the investments must meet several criteria. Firstly, withdrawals are not allowed until age 59 or upon retirement, and must be in the form of a life annuity. The investments must guarantee that the nominal value of the contributions will be maintained. Furthermore, under certain conditions, the private retirement-savings contract can be used for the purchase of a home for the insured individual's personal use.

[5] The replacement rate is defined as being the pension for a retiree with 45 years of contribution, divided by the average income of the current population of workers. This measure is different from the concept of replacement rate in relation to career end earnings.

3.8 JAPAN

The public Japanese system includes a National Pension (basic flat-rate pension) in which all workers participate. The National Pension is integrated into one of the following plans, according to the category of workers:

- For private sector workers: the Employees' Pension Insurance;
- For civil servants: the Mutual Aid Pension;
- For self-employed workers: the National Pension (optional) higher than that offered to other workers.



Employers with more than 500 workers can opt out of the Employees' Pension Insurance (EPI) by offering the Employees' Pension Fund (EPF), whose benefits must be 30% higher than those of the public plan.

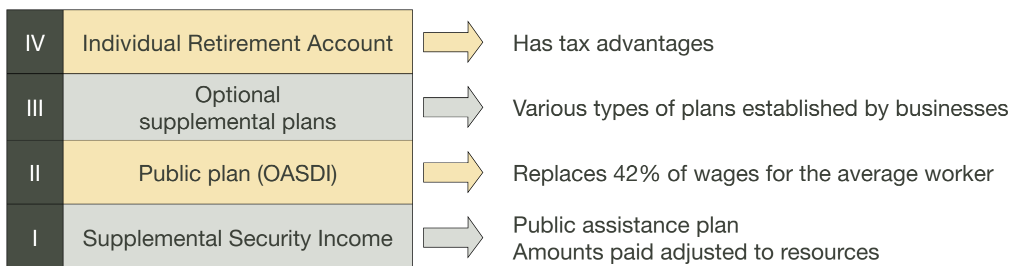
Businesses with 15 workers or more can offer a Tax-Qualified Pension Plan, a means for providing an end-of-service compensation while profiting from favourable taxation.

The 2001 reform allows for businesses to establish defined contribution pension plans that had not previously been allowed.

3.9 UNITED STATES

The Supplemental Security Income plan pays benefits to persons over age 65 whose assets are less than 2 000 $ for a single person or less than 3 000 $ for a couple. The benefit is 552 $ a month for a single person and 829 $ for a couple. States can also pay a supplemental amount.

The basic plan—the Old-Age, Survivors and Disability Insurance (OASDI)—provides a pension calculated on the average indexed monthly career earnings. For a worker who had average career earnings at the level of the average national average, the OASDI pension at 65 years (unreduced) represents about 42% of the average indexed career wage. Supplements are added to that amount for a dependent spouse and dependent children.



The supplemental plans are optional and subject to various rules in terms of participation, vesting, funding, investments, benefits and amendments, in accordance with the *Employees Retirement Income Security Act* (ERISA).

Various types of plans have been developed over the years:

- Defined contribution 401(k)[6] plans into which the employer pays a contribution in relation with the contribution paid by the worker: non-protected plan under the PBGC (Pension Benefit Guaranty Corporation), although benefiting from favourable tax treatment;
- Individual Retirement Accounts (IRAs): capital accumulation plan benefiting from tax advantages;
- Simplified Employee Pensions (SEP): one or more traditional IRAs to which the employer (or self-employed person) contributes;
- Savings Incentive Match Plans for Workers of Small Employers (SIMPLE): defined contribution plans administered by a financial institution.

In his 2004 Budget Speech, President Bush announced his plan to create new retirement-savings instruments in order to regroup the different existing plans and make tax treatment of the various instruments more consistent.

3.10 SYSTEMS BASED ON INDIVIDUAL FUNDED ACCOUNTS

There is currently a trend toward individual funded accounts. This chapter examines the systems of three different countries that are somewhat indicative of this approach.

3.10.1 Australia

The Australian system is a 3-tier system. In the first tier, the Age Pension is a universal assistance program funded by income taxes, and for which the payment of benefits is related to income and wealth. Eligibility is based on age, residence, income and property, although it is independent of employment history. It is funded through the government's general revenues. The basic benefit is a flat-rate amount and the individual benefit varies according to the beneficiary's income, as well as the person's marital status.

In the second tier is the Superannuation Guarantee, which was established in 1992. Under this program, employers are obligated to pay contributions for their workers into a fund of their choice. The employer's contribution amounts to 9% of wages. The contributions are paid into individual accounts within superannuation funds. Coverage does not extend to self-employed workers and very low-income workers. The benefit can be paid in the form of a lump sum or a life annuity, although the tax measures encourage the latter option.

The third tier is called Voluntary Superannuation and is made up of various voluntary retirement savings schemes. They include business plans, personal savings plans or other forms of long-term savings based on investments or home acquisition.

3.10.2 Chili

In 1981, the reform of the Chilean pension plan was intended to replace the former public pay-as-you-go system (defined benefits system). That system, faced with daunting financial difficulties, was replaced by a funded system (defined contribution system) based on individual retirement-savings accounts, managed by private companies, the *Administradoras de Fondos de Pensiones* (AFP).

When a person retires, three possibilities are available: the person can purchase a life annuity from an insurance company, make scheduled monthly withdrawals from an account or choose a combination of both. Regardless of the option, the retiree can withdraw in a lump sum any surplus remaining after the purchase of a pension equivalent to 70% of his or her average wage of the last ten years and at least 120% of the minimum pension.

The funds are subject to government regulation. Workers can choose the AFP in which they want to participate. There is no group affiliation or restriction as to mobility between competing funds. Since 1 January 1983, participation in the new system is compulsory

[6] Plan named after a section of the tax code.

for any person working for the first time. In order to take into account contributions already paid by workers under the former plan, the State issued special "validation" or "recognition" vouchers. Their value is considered to be an interest-bearing asset up to retirement, which will be converted into a pension upon retirement, as is the case with the rest of the individual account.

The State guarantees a minimum pension. The beneficiaries must have contributed to the plan for at least 20 years. That minimum is applied to retirees who have used up their capital in the case of withdrawals in instalments, or when the income is less than the minimum pension in the case of a life annuity.

3.10.3 Singapore

Singapore's compulsory system resembles a contingency fund. It is a defined contribution plan based on the concept of individual accounts, but in which the funds are centralized. The Central Provident Fund (CPF) manages four types of individual accounts:

- The Ordinary Account allows for financing the purchase of a home. It is so commonly resorted to that the State is trying to reduce its use. The Ordinary Account also allows for certain approved investments, such as the purchase of insurance, the payment of education fees and transfers to the Parent's Retirement plan for adding a retirement account for a family member, under certain conditions. This account is related to non-negotiable government securities, whose yield corresponds to a set borrowing rate. The assets are managed by the Singapore Investment Corporation, which absorbs the difference between the actual yield and the expected yield, this assuming the risk related to investment;
- The Special Account is oriented toward retirement since the amounts are locked-in;
- The Medisave Account is used to pay for hospital fees, medical treatments and private insurance plan premiums;
- The Retirement Account allows a participant to withdraw, as of age 55, the savings from his or her Ordinary Account and Special Account, although only after a certain amount (Minimum Sum Scheme) has been put aside to finance a life annuity that would begin at age 62. In July 2003, the amount required was 80 000 $, including at least 40 000 $ in cash, the rest of which could be in real estate. Married couples can choose a combined account equivalent to 1,5 times the required minimum. The minimum amount can be invested in three ways: purchase of a life annuity with a participating insurance company, deposit it in a participating bank or leave it in the contingency fund.

Persons with equivalent private plans and certain public sector workers are excluded from compulsory participation. Self-employed workers must contribute to the Medisave account and can contribute on a voluntary basis to the other accounts.

3.11 **SUMMARY: THE PRIMARY MODELS OF PENSION ORGANIZATION**

The plans analyzed in this chapter can be grouped together according to the following characteristics:

- General universal plan and compulsory supplemental plans (France, Netherlands);
- General universal plan and optional supplemental plans (Québec, United States, Germany). In certain countries, a variant of this system exists whereby the employers or individuals can opt out of the general plan by adopting a supplemental plan that is at least equivalent (United Kingdom, Japan);
- Notional defined contribution plan (Sweden, Italy);
- Individual funded accounts (Australia, Chili, Singapore).

However, differences remain in terms of the levels of benefits between the systems of a same group. Those differences will be the focus of the next chapter. We will see that despite different arrangements regarding retirement, there remains a certain similarity in the results obtained by the various systems.

CHAPTER 4

CHARACTERISTICS OF PENSION PLANS

This chapter provides a comparison of current provisions of the systems of the countries studied. Workers' coverage, replacement rates, retirement age and indexation measures will be given particular attention. We will see how the plans in these countries, of which several have undergone reforms over the past years, will influence the standards of living for future retirees. This will enable us to compare the extent of the redistribution between retirees of various income levels. In addition, we will be able to see how compulsory or optional participation in some plans can have an impact on the income security of future retirees.

4.1 COVERAGE

4.1.1 Coverage by the public plan

The countries studied all offer broad coverage by means of the public plan. Workers usually have complete coverage. For self-employed workers, the situation varies from country to country. The arrangements for the collection of contributions in industrialized countries are generally well developed. As a result, avoiding payment of social security contributions is relatively rare, although undeclared work and tax evasion remain concerns.

In **France**, the general plan and the supplemental plans cover all workers. A basic plan and three main supplemental plans (ARRCO, AGIRC and IRCANTEC) cover 70% of workers in the private sector. Various plans cover civil servants, who make up 20% of workers. Plans for non-wage earners and self-employed workers cover 10% of workers.

In **Germany**, the general system related to income covers about 85% of workers. The general plan covers all workers in the private sector and public enterprises. Civil servants (7% of the labour force) participate in a separate plan. Self-employed workers (9% of the labour force) may participate in the general plan or insure themselves, which one-third of self-employed workers choose to do.

In the **United Kingdom**, all workers are covered under the Basic State Pension. In the second tier, workers and employers have a choice between:

- participating in the State Second Pension (35% of workers); or
- opt out of the S2P in order to participate in an equivalent supplemental plan (40% of workers); or
- opt out of the S2P in order to participate in a personal pension plan (25% of workers).

In **Italy**, all workers are covered by the general plan which became, in 1996, a notional defined contribution plan for newcomers to the labour market. In the **Netherlands**, the basic plan covers the whole population in accordance with the number of years of residence. In **Sweden**, all workers aged 16 and over, without a maximum age limit, are covered by the general plan.

Although there is broad coverage in all countries, provisions exist that may exclude coverage for a portion of the working population or a part of workers' earnings. The basic exemption under the Québec Pension Plan, for example, excludes coverage for a portion of part-time workers who earn less than 3 500 $ a year. Likewise, the existence of a pensionable ceiling could result in excluding coverage for a part of workers' earnings (see Section 4.3).

Certain categories of non-wage earners may be excluded from participating in the public plan, in particular if participation is voluntary. This is the case with self-employed workers in certain countries. Self-employed workers represent about 10% of the labour force in the countries studied. Italy is unique, however, since about 24% of workers are self-employed workers (see Table 4.1).

Table 4.1 Percentage of part-time work and self-employment in total employment

Country	Part-time work (%)		Self-employment (%)	
	1992	2002	1991	2001
Canada	18,7	18,7	9,2	9,7
France	12,6	13,7	12,3	8,8
Germany	12,3	18,8	8,2	9,9
Italy	10,0	11,9	23,8	23,6
Japan	20,4	25,1	13,5	10,8
Netherlands	27,3	33,9	9,5	10,8
Sweden	15,0	13,8	8,8	9,7
United Kingdom	21,5	23,0	12,9	11,2
United States	14,4	13,4	8,6	7,2

Source: OECD. 2003. Database on Full-time / Part-time Employment, *Annual Labour Force Statistics: 1982-2002* (OECD, Paris).

In Québec, self-employed workers are obligated to be covered by the Québec Pension Plan. In addition, they are entitled, like all Canadian residents, to the Old Age Security pension. In most other industrialized countries, self-employed workers must participate in at least one compulsory plan. However, when the compulsory system is a two-tier system, it is common to have self-employed workers covered only by the basic plan. This is the case in Japan and the United Kingdom (see Table 4.2).

Table 4.2 Coverage of self-employed workers by the public pension plan

Country	Coverage
Québec	- Compulsory under the Québec Pension Plan - Automatic for the Old Age Security pension (for residents)
Germany	- Optional in the general plan, except for artists, craftspeople and journalists, for whom participation is compulsory - Certain professions (physicians, lawyers, etc.) must contribute to a special plan
Italy	- Special plan for self-employed workers
Japan	- Compulsory under the basic plan (National Pension) - Optional plan in addition to the basic pension (National Pension Fund)
Netherlands	- The professional occupations have their own respective plan
Sweden	- Compulsory under the former and the new program
United Kingdom	- Compulsory under the basic plan (Basic State Pension) if earnings exceed a cut-off point, otherwise optional - No contributions to the plan related to earnings (S2P) - Possibility of contributing to the Stakeholder Pension
United States	- Compulsory in the general plan (OASDI), unless earnings are lower than a cut-off point
France	- The independent occupations plan (Régime des professions indépendantes) regroups craftspeople, manufacturers, merchants and professional occupations

Sources: *Social Security Programs Throughout the World 2002*, Mercer: *2003/2004 Worldwide Benefit & Employment Guidelines (Western Europe)* and Scherer (2001), EUROPA - MISSOC - Comparative Tables on Social Protection in the Member States (2002).

4.1.2 Coverage by supplementary plans

Some countries have chosen to make the implementation of a supplemental plan compulsory—or almost—on the part of employers. Another approach consists of preserving the voluntary character of supplemental plans and adopting measures for broadening coverage. Granting tax advantages or simplifying regulations are tools that can encourage extending plans sponsored by business.

In **Québec**, about 40% of workers are protected by a supplemental pension plan. This proportion increases to 53% if group RRSPs are also taken into account. The rate of participation varies greatly according to sector of activity: almost all workers in the public sector participate in such a plan, whereas this is the case for only one-third of private-sector workers. Within the private sector, there are significant disparities: in large corporations, half the workers participate in a supplemental pension plan, but in small to medium-sized businesses, only 5-10% of workers participate.

The countries with the greatest coverage by supplemental plans are **France**, the **Netherlands** and **Sweden**, where more than 90% of workers are covered. In the Netherlands and Sweden, supplemental plans are the result of collective negotiations between social partners. In practice, collective negotiations result in such plans being compulsory for employers and workers. In France, employers must participate in a national network of supplemental pension plans. These plans are funded on a pay-as-you-go basis. A system of compensation exists whereby plans with a surplus subsidize plans with a deficit.

In **Germany**, the **United States**, **Japan** and the **United Kingdom**, the coverage rate for supplemental plans is weaker and varies between 40% and 50%. In these countries, employers are not obligated to establish a supplemental plan. In Japan and the United Kingdom, however, it becomes obligatory if the employer decides to opt out of the public pension plan. The United Kingdom is unique since workers are also authorized to withdraw from the supplemental plan, provided they contribute to a personal pension plan. Japan and the United Kingdom recently adopted measures to encourage the creation of new defined contribution supplemental plans.

Italy is the country with the lowest rate of coverage. This is largely explained by the absence of tax advantages up to the mid-1990s, generous benefits under the public plan and an inadequate regulatory framework with regard to private plans. Until the adoption of new legislative provisions and new tax measures in the mid-1990s, the supplemental plans were reserved for only a very small fraction of the working population. Given the anticipated decrease in the replacement rate of public pensions in that country, efforts are underway to reinforce tax incentives favouring supplemental plans.

Table 4.3 Coverage by supplemental plans

Country	Rate of coverage (in percentage of the labour force)
Germany	46%
Québec	53%
United States	45%
France	100%
Italy	5%
Japan	50%
Netherlands	91%
United Kingdom	46%
Sweden	90%

Source: OECD. 2001. *Ageing and Income – Financial resources and retirement in 9 OECD countries* (OECD, Paris). For Québec and France: authors' calculations. Data for Québec include the participation in group RRSPs. By excluding group RRSPs, the rate of coverage drops to 40% in Québec.

4.1.3 Individual retirement savings plans

In parallel to group plans, a number of countries offer individual retirement savings tools that benefit from the same tax advantages as supplemental plans. This approach has existed in Canada for several years. Other countries have more recently adopted similar measures.

In addition to its notional defined contribution plan, **Sweden** has set up a plan based on individual funded accounts into which 2,5% of wages is paid. This plan is also compulsory.

Since 2002, **Germany** has encouraged payment of contributions into individual retirement savings plans. These plans benefit from the same tax advantages and are even subsidized for persons with low income. The amounts must in all cases be used for obtaining a retirement income. To date, despite advantageous tax measures and the publicity surrounding this new savings vehicle, only 10% of the eligible population pays contributions to such plans.

In the **United Kingdom**, individuals can opt out of the public defined benefit pension plan (S2P) in order to participate in either a supplemental plan or a personal pension plan. About 25% of workers have chosen the personal plan (see box).

Personal plans in the United Kingdom
In the United Kingdom, the possibility of opting for a personal plan was introduced in 1988. A large number of workers was therefore encouraged to transfer benefits from supplemental pension plans into personal plans, at a time when stock yields were appealing and following a lot of pressure from financial institutions. Due to a lack of information, decreased rates of return and substantial transfer fees that were imposed on workers, considerable amounts were lost by them over the course of the first years of the transition. The government had to intervene in order to impose stricter rules in terms of information and administration fees.

In **Japan**, **France** and **Italy**, individual retirement savings tools are not widely developed.

In **Québec**, amounts that are deposited are not locked-in for retirement purposes and can be withdrawn at any time. In 2002 in Québec, 1 517 000 people contributed to an RRSP with total deposits of 6,3 billion dollars. They represent 43% of the workers covered under the Québec Pension Plan.

4.1.4 Portability in case of change in employment

Under the Québec Pension Plan, benefits are fully vested and transferable for all employment held (complete portability). As for supplemental plans, the most effective tool for allowing the transfer of retirement benefits is a transfer agreement between two plans. This agreement is used in cases of plans with a large number of members. In addition, innovative tools were developed in Québec and adopted by other Canadian provinces. They include the locked-in retirement account (LIRA) and the life income fund (LIF), both of which are individual tools facilitating the transfer of benefits in the event of worker mobility.

In the **United States** and the **United Kingdom**, the process of transferring benefits from supplemental plans is not developed as it is in Québec. Retirement benefits therefore generally remain with the former employer. On the other hand, in **France**, supplemental plans are organized into a network which allows recognition and transfer of contributions paid regardless of the employer. In the **Netherlands**, the supplemental plans are regrouped into national associations, which is also conducive to establishing transfer measures.

4.2 INCOME REPLACEMENT RATES

In the analysis that follows, it is important to keep in mind that we are dealing here with the whole group of compulsory plans. Some countries, such as the Netherlands and France, have compulsory supplemental plans, in which case the total replacement rate appears much higher than in most of the other countries. In Québec and the United States, for example, the supplemental pension plans sponsored by employers only cover approximately 50% of the labour force. A large proportion of workers could therefore find themselves at retirement with a replacement rate that is lower than the generally accepted standard of 70% of previous income. This illustrates why it is necessary to broaden the coverage offered under the supplemental plans and promote individual saving in those countries, in order to prevent future retirees from having to turn to assistance programs in large measure.

In **Québec** (and in Canada), the Old Age Security pension is a flat-rate amount. It therefore represents a percentage of income that decreases as income increases. The pension under the Québec Pension Plan increases with income, but reaches a ceiling when the income reaches the maximum pensionable earnings (40 500 $ in 2004). The Guaranteed Income Supplement is paid to persons with low income. It therefore represents a very high percentage of former income in cases where income is very low, but it disappears rapidly when the person is entitled to a pension from a private plan or investment income. Overall, a person's total income comes from compulsory plans and reaches almost 80% of former income for a person who earned half of the average wage over the course of his or her career. The replacement rate decreases rapidly to 43% of income for the average worker and represents less than 18% of former income for a person who earned twice the average wage over the course of his or her career.

In **Germany**, the pension formula under the social security plan is progressive, which ensures a higher rate of income replacement for low-income workers, that is, 50% of replacement for a worker who earns half the average wage. The average worker can count on a replacement rate of about 40%. Due to the insurable ceiling, the replacement rate starts to decrease when the wage reaches 1,75 times the average wage.

In **Italy**, the notional defined contribution plan, established in 1996, is aimed at a long-term replacement rate of 60%. The rate is the same for all wage levels since the pension is calculated by direct conversion of contributions accrued by the member and the same contribution rate applies to everyone.

Sweden's plan is comparable to Italy's plan, although its objective is to attain income replacement that is slightly higher than 65% of income. In addition, Sweden has instituted a minimum benefit for persons who were unable to accumulate sufficient savings in their individual account. It involves a higher replacement rate for persons who received a wage that was lower than the average wage. The replacement rate therefore reaches nearly 100% of former income for a person who earned 50% of the average wage.

Japan has a system that includes two compulsory plans: a flat-rate benefit (National Pension) and an earnings-related pension (Employees' Pension Insurance). The flat-rate benefit represents a decreasing percentage of income as income increases. However, the earnings-related plan replaces about 30% of wages up to the insurable ceiling that represents 170% of the average wage. Overall, the replacement rate is progressive and sits at 72% for a person who earned half the average wage, 53% for the average worker and 38% for a person who earned twice the average wage.

In the **Netherlands**, the flat-rate benefit represents a percentage that decreases with increased wages, whereas the compulsory supplemental plans pay benefits equal to the difference between 70% of wages and the basic flat-rate benefit. As a result, all the

workers get a replacement rate upon retirement that is 70% of their former income when the two components are added together.

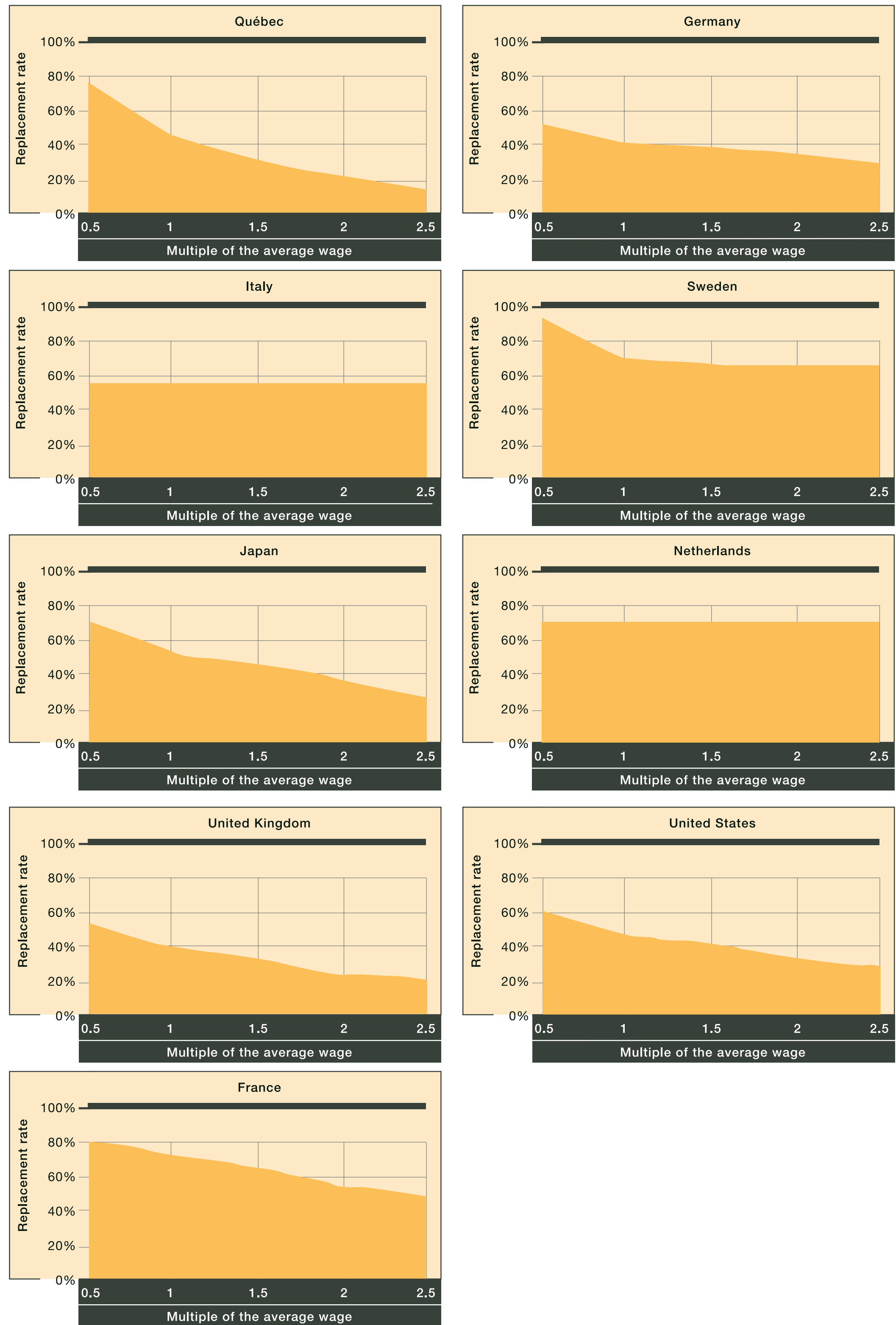
The **United Kingdom** is a country where the replacement rate offered by the compulsory pension plans is relatively weak. The basic flat-rate pension (Basic Pension) represents about 15% of the wage for the average worker and the pension related to earnings (State Second Pension) replaces an additional 20%, for an overall replacement rate of 35% for the average worker. The insurable ceiling is equal to 1,5 times the average wage, which brings the replacement rate down to 22% for a person who earns twice the average wage.

In the **United States**, the benefits under the Old Age, Survivors and Disability Insurance programs are calculated according to a formula which gives greater weight to low income, so that the replacement rate decreases as income increases. The replacement rate is 57% for a person who earns half the average wage. It is 45% for the average worker and continues to decline to 33% of the replacement rate for a person who earns twice the average wage. For the average worker, the U.S. system is comparable to the Québec system because of the combination of the Old Age Security pension and the pension under the Québec Pension Plan.

France, like the Netherlands, relies on a network of compulsory supplemental pension plans that result in very high replacement rates compared to what is offered in the other countries. The general plan offers a replacement rate of 50% of wages for the average worker. With the insurable ceiling that applies to the general plan, the replacement rate gradually decreases for persons who earn more than 1,5 times the average wage. In addition to the general plan, the supplemental plans pay a pension equivalent to 25% of wages for the worker. The average worker can therefore count on a combined pension at retirement (general plan and supplemental plan) equal to 75% of his or her former wages. The replacement rate is still 54% when wages are equal to twice the average wage.

In Figure 4.1, countries that have compulsory systems that foster the most redistribution are seen to be those with the highest replacement rate for low-income workers and whose drop-off is the most abrupt for higher income workers. That is the case with systems inspired by Beveridge (United Kingdom, Canada and United States). On the other hand, the plans inspired by Bismarck are seen as continuing to be generous up to a higher level of income (Germany, France, and Italy). In Figure 4.1, the white area above the curve represents the place that optional private plans may occupy.

Figure 4.1 Income replacement rate under compulsory plans



Source of data: Whitehouse, Edward. 2001. *Pension Systems in 15 Countries Compared*: *The Value of Entitlements* (OECD, Paris), Table 10.

4.3 MAXIMUM PENSIONABLE EARNINGS

As shown in the preceding section, the level of the maximum pensionable earnings under the general pension plan has a determining effect on the protection offered to workers. In Québec and Canada the maximum pensionable earnings is lower than in the other countries included in the comparison study (see Table 4.4).

Table 4.4 Maximum pensionable earnings under the public plan, as a ratio of the average wage (2002)

Country	Average wage (in a domestic currency)	Maximum pensionable earnings (in domestic currency)	Ratio
Québec	33 649	39 900	1,19
Canada	38 568	39 900	1,03
France	21 884	Basic: 28 224 Supplemental: 84 672	Basic: 1,29 Supplemental: 3,87
Germany	33 226	54 000	1,63
Italy	21 466	76 443	3,56
Japan	4 254 270	7 440 000	1,75
Netherlands	30 919	Basic: 27 847 Supplemental: none	Basic: 1,20 Supplemental: none
Sweden	241 766	Basic: 290 250 Supplemental: 1 161 000	Base: 1,20 Supplemental: 4,80
United Kingdom	19 708	29 900	1,52
United States	32 188	84 900	2,64

Source: OECD. 2002. *Taxing Wages* (OECD, Paris).

Especially with regard to **Québec**, the maximum pensionable earnings (MPE) should start at the level of the average wage. In fact, it is set based on the overall average wage for Canada. Since 1966, wages in Québec have increased more slowly than in the rest of Canada, such that the MPE is now 1,19 times the average wage in Québec and only 1,03 times the average wage for Canada as a whole. This has enabled Québec to see the proportion of its total payroll covered under the Québec Pension Plan gradually increase over time. This proportion remains nevertheless well below what is found in most other industrialized countries.

France, the **Netherlands** and **Sweden** have compulsory (or nearly compulsory) supplemental plans, wherein the pensionable maximum taken into account is that of the supplemental plans. Therefore, in those three countries, the pensionable maximums represent at least four times the average wage.

4.4 RETIREMENT AGE

The normal retirement age in most of the countries studied is 65 years. As of that age, a full pension is paid. There are exceptions, however: in Japan, the official retirement age is still 60 years. In the United Kingdom, Germany and under the former Italian system, women can still take their retirement at age 60 and benefit from a full pension. However, those countries have taken measures for increasing the age progressively to 65 years for men and women alike. In **Japan**, that change is set to be in place by 2025 for men and 2030 for women.

In the **United Kingdom**, starting in 2020, women will be able to retire at age 65, and in Italy, the principle of uniformity regarding retirement age between men and women is integrated into the new system. In **Germany**, there are still a number of situations remaining where workers can retire with a full pension before reaching age 65; for example, if they have contributed enough, are unemployed or disabled. Such exceptions will be removed in 2011. On the whole, for the countries studied, only the **United States** has decided to increase the age at which it is possible to receive a full pension beyond 65 years. That age will gradually be raised to 67 years in 2027. In **France**, the legal retirement age of 65 years only applies to those persons who have not accumulated 40 years of service when they reach age 60. The usual retirement age is therefore 60 years.

It is important to distinguish between normal retirement age and the actual age at which people generally retire. In Québec, for example, despite a normal retirement age of 65 years, people generally retire from the labour market at age 60. More often, contributors to the Québec Pension Plan apply for their pension to start, on average, at age 61.

Table 4.5 Normal retirement age and age of withdrawal from the labour market

Country	Normal retirement age	Age of withdrawal from the labour market
Québec	65 years	Men: 61,1 Women: 59,4
Germany	65 years	Men: 60,5 Women: 60,8
United States	65 years (increasing gradually in order to reach 67 years in 2027)	Men: 65,1 Women: 64,2
France	65 years (60 years with 40 years of contribution)	Men: 59,3 Women: 59,8
Italy	Former system: Men: 65 years Women: 60 years New system: Starting at 57 years for men and women	Men: 59,3 Women: 58,4
Japan	60 years (increasing gradually to 65 years in 2025 for men and 2030 for women)	Men: 69,1 Women: 66,0
Netherlands	65 years	Men: 61,6 Women: 60,1
United Kingdom	Men: 65 years Women: 60 years (increasing gradually to 65 years in 2020)	Men: 62,0 Women: 61,2
Sweden	Starting at 61 years	Men: 63,3 Women: 61,8

Sources: *Social Security Programs Throughout the World 2002*, Mercer: *2003/2004 Worldwide Benefit & Employment Guidelines* (Western Europe) and Scherer (2001).

Table 4.6 Conditions regarding early retirement

Country	Early retirement: conditions regarding age
Québec	- At 60 years
Germany	- Workers born before 1937 can apply for their retirement at 63 years with 35 years of contribution. They can also apply for their pension at 60 years after 24 months of "old age part-time employment", provided they have 15 years of contribution. - Persons born before 1937 who have 15 years of contribution can apply for their pension at 60 years if they have been unemployed for at least 52 weeks during the last 18 months. - Women born before 1 January 1952 can apply for their pension at age 60, provided they have more than 10 years of contribution after age 40 and 15 years in total. - Disabled persons are entitled to a retirement pension as of age 63 (early retirement at age 60).
United States	- At 62 years
France	- Since January 2004, persons who started to work at ages 14, 15 or 16 can, if they worked a minimum of 40 to 42 years, retire at 56 to 59 years of age.
Italy	- At age 57 with 35 years of contribution. - In the case of businesses that suffers an economic crisis, early retirement is possible at most 5 years before normal retirement age. - Special conditions for young workers (14 to 19 years) and workers carrying out heavy work.
Japan	- At 60 years
Netherlands	- At 61 years
United Kingdom	- No early retirement
Sweden	- At 61 years

Sources: *Social Security Programs Throughout the World 2002*, Mercer: *2003/2004 Worldwide Benefit & Employment Guidelines* (Western Europe) and Scherer (2001), EUROPA - MISSOC - Comparative Tables on Social Protection in the Member States (2002).

Specific measures regarding phased retirement exist in **Québec**, **Germany** and **France** (see Table 4.7).

Germany introduced several options for partial retirement in the 1990s. Since 1992, it has been possible to take a third, half or two-thirds of the retirement pension before age 65, while still working part-time. In 1997, another program for early retirement was made available to all workers over age 55. Moreover, the German parliament recently passed legislation giving all workers the right to request that their full-time employment be transformed into part-time employment.

In **Japan**, the situation of older workers is quite different than in the other countries. A partial pension can be paid to persons who work part- or full-time after having left their former business, which makes up for—in the case of older workers—the reduction in wages.

The other countries do not provide for specific measures for phased retirement. However, the fact that certain countries allow for both a retirement income and employment earnings without applying an earnings test can be seen as one way of encouraging phased retirement.

Table 4.7 Conditions regarding phased retirement

Country	Phased retirement measures
Québec	- Workers from 55 to 70 years, provided there is an agreement with the employer that allows for reducing work time and continued contributions, as though the worker had not stopped working. - The retirement pension can be applied for as of age 60 with a permanent actuarial reduction of 0,5% a month for each month before reaching age 65.
Germany	- At age 55, and with a work reduction of at least 50%. - The employer completes the income up to a minimum equal to 70% of the worker's former net wage.
United States	- No phased retirement.
France	- The insured person who reaches age 60 and who justifies the length of insurance needed to obtain a full pension (40 years) can apply to receiving part of his or her pension: - A rate of 30% for a part-time activity including between 80% and 60% of the length of full-time work; - A rate of 50% for a part-time activity of less than 60% and at least equal to 40% of the length of full-time work; - A rate of 70% for a part-time activity of less than 40% and at least equal to 20% of the length of full-time work. - Paying out of the phased retirement will be carried out provisionally, and not definitively. Therefore, the periods during which the work was carried out part-time can be taken into account and improve the initial amount of the pension. A definitive pay-out will be carried out upon leaving the arrangement.
Italy	- No phased retirement.
Japan	- Partial pension for people who leave their workplace of origin.
Netherlands	- No phased retirement.
United Kingdom	- No phased retirement.
Sweden	- The former phased retirement system was removed.

Sources: *Social Security Programs Throughout the World 2002*, Mercer: *2003/2004 Worldwide Benefit & Employment Guidelines* (Western Europe) and Scherer (2001), EUROPA - MISSOC - Comparative Tables on Social Protection in the Member States (2002).

In most countries, a postponed retirement means an increased pension. In some places, however, the adjustment factors are not conducive to postponing retirement. In **Québec**, for example, for the increase resulting from a postponement to be equal to the pension paid at normal retirement age, it has been determined that the adjustment factor should be 0,7% instead of 0,5%. **Germany** has a factor equal to 0,5% of increase per month of postponement. **France** recently introduced an increase for postponed retirement in its 2003 reform. That increase represents only 3% a year, which does not seem very conducive to postponing retirement. The **United States** and the **United Kingdom** apply more neutral rates. In the case of **Sweden** and **Italy** (new system), the notional defined contribution system insures that the value of the postponed pension is equal in value to the pension that would have been paid at normal retirement age.

Table 4.8 Conditions relative to postponed retirement

Country	Postponed retirement measures
Québec	The pension is increased by 0,5% for each month after age 65, maximum age 70.
Germany	The old age pension is increased by 0,5% a month if it starts between 65 and 67 years.
United States	In the case of a postponed pension, between normal retirement age and age 70, the pension is increased by 5,5% to 8% a year (according to the year of birth).
France	Starting at age 60 and since 1 January 2004, work that exceeds the length of insurance needed to obtain a full pension will allow for a 3% increase a year for the basic retirement pension.
Italy	Possible extension up to maximum age 65.
Japan	National pension: the pension is increased if it begins at (or after) age 66.
Netherlands	No postponed pension.
United Kingdom	Maximum extension of 5 years (up to age 70 for men and age 65 for women). Unlimited extension as of 2010. The pension is increased by 7,4% a year.
Sweden	There is no upper age limit. Pension accrues as long as a person has pensionable earnings.

Sources: *Social Security Programs Throughout the World 2002*, Mercer: *2003/2004 Worldwide Benefit & Employment Guidelines* (Western Europe) and Scherer (2001), EUROPA - MISSOC - Comparative Tables on Social Protection in the Member States (2002).

4.5 INDEXATION OF PENSIONS AFTER RETIREMENT

In the analysis of the various systems, the initial level of income replacement is only pertinent if the purchasing power of retirees can be subsequently maintained. Various mechanisms have been adopted regarding the periodic adjustment of pensions. There are also, within a country itself, differences between the indexation of pensions under the public plan and that under supplemental plans. Table 4.9 shows the existing mechanisms.

In **Japan**, over the last few years, the trend has been to reduce the indexation of pensions by going from an adjustment based on wages to an adjustment based on prices. **Sweden** and **Italy** use a single index (the average rate of increase in wages or the economic growth rate) with regard to pension indexation in order to ensure that their notional defined contribution plans are balanced. The indexation mechanisms adopted by both countries are intended to allow retirees to profit from worker productivity increases by limiting indexation if the economy is not prospering. **Germany** changed its indexation method by basing it on the net increase in wages rather than on the gross increase in wages.

Table 4.9 Indexation mechanisms for pensions in payment

Country	Indexation mechanisms
Québec	Public plan: Rate of increase of the CPI Supplemental plans: No (or fractional) increase of the CPI
Germany	Public plan: Rate of net increase in wages Supplemental plans: None
Italy	Public plan: Rate of increase of the GDP Supplemental plans: None
Japan	Public plan: Rate of increase of the CPI Supplemental plans: None
Netherlands	Public plan: Rate of increase of the net minimum wage Supplemental plans: None
Sweden	Public plan: Rate of increase in wages, less 1.6% Supplemental plans: None
United Kingdom	Public plan: Rate of increase of the CPI Supplemental plans: Rate of increase of the CPI (up to an upper limit)
United States	Public plan: Rate of increase of the CPI Supplemental plans: None

4.6 SURVIVORS' BENEFITS

Survivors' benefits—even if they are not paid directly to the contributor of the pension plan—constitute an important part of the income of seniors, who are primarily women.

Payment levels and the conditions for survivors' benefits are comparable in all the countries studied. However, the QPP is different from a number of foreign plans in that the pension is paid regardless of income or resources. In addition, the QPP pension does not stop in the case of remarriage, as is the case on some places. Only Québec, Canada and the Netherlands pay benefits to same-sex spouses.

Table 4.10 Survivors' benefits after retirement

Country	Survivors' benefits after retirement
Québec	QPP: 60% of the retirement pension of the deceased contributor. Allowance for the survivor: paid by the federal government to a surviving spouse aged 60 to 64 years, the allowance is an assistance measure based on the preceding year's income. In the beginning of 2004, the maximum amount is 905 $ a month, which is reduced to 0 when the income exceeds 18 096 $ a year.
Germany	If the insured person dies when he or she is already retired, the full amount is paid to the survivor for three months. The spouse then receives 60% of the pension of the deceased insured person. Adjusted to other income: the pension is reduced by 40% of the income that exceeds an upper limit taking into account the number of children. The education of children is taken into account regarding survivors' benefits. Survivors who have devoted their time to the education of their children receive a supplement in personal payment points that is paid with the widow's or widower's pension. The pension ceases in the case of remarriage and a lump-sum equal to two years of pension is then paid.
United States	The widow or widower is entitled to a full pension upon reaching normal retirement age, according to the year of birth, even if he or she is working. The reductions based on income are the same as for retirement pensions. Possibility of a reduced pension at 60 years, and even 50, if disabled. The divorced former spouse whose marriage lasted at least 10 years is also entitled to benefits, except in the case of remarriage before age 60 (age 50, if disabled). Benefits are increased or decreased according to whether the deceased worker had postponed retirement or taken early retirement.
France	Following the 2003 reform, benefits granted without conditions regarding age, remarriage or length of marriage. The surviving spouse must only meet conditions regarding resources (which are the spouse's or the couple's, depending on the living situation). The new ceiling will be set by decree, in collaboration with surviving spouse's associations.
Italy	60% of the pension paid or accumulated by the insured person, paid to the dependent widow or widower, adjusted to other resources.
Japan	National pension: 804 200 yen a year for the widow only (plus a supplement for children). EPI (Employees' Pension Insurance): 75% of the insured person's retirement pension (plus a supplement for dependents)
Netherlands	Conditionally on income. However, 50% of the minimum wage is not taken into account. The allowance is payable in whole if the person earns a wage equal to or less than 624 € a month. No allowance if the gross income is greater than 2077 € a month. AOW (Dutch Social Security) ceases to be paid in the case of remarriage or cohabitation.
United Kingdom	Allowance for a widowed mother: weekly benefit paid to widows of all ages who have at least one dependent child for whom they receive an allowance for children. This allowance is paid at a flat rate of 77,45 £ a week, with a supplement for each child. Widow's pension: the pension of 77,45 £ a week is granted for one year to widows aged 55 years and over. SERPS (State Earnings-Related Pension Scheme): Between 2002 and 2010, there will be a progressive reduction from 100% to 50% in the transfer of benefits to the spouse upon death.
Sweden	The funded pension may be reversible, if the insured person opted for a joint and survivor pension. The person must exercise the option at the time of applying for a retirement pension. After death, his or her pension will be paid for life to the surviving spouse.

Sources: *Social Security Programs Throughout the World 2002*, Mercer: *2003/2004 Worldwide Benefit & Employment Guidelines* (Western Europe) and Scherer (2001), EUROPA - MISSOC - Comparative Tables on Social Protection in the Member States (2002).

4.7 SUMMARY: THE PROTECTION OFFERED FOR RETIREMENT

4.7.1 Coverage

In Québec, the coverage under the public plans (OAS and QPP) is universal and includes self-employed workers. Some part-time workers may however be excluded from participating in the QPP by reason of the basic exemption.

The coverage under private group plans (SPPs and group RRSPs) is only 53% in Québec. This is a comparable level of coverage to that in the United States, Germany, Japan and the United Kingdom. It is, however, much lower than that in France, Sweden and the Netherlands, where it reaches almost 100%.

Individual retirement savings instruments are widespread and largely used in Québec. They benefit from tax advantages that are well integrated with all the other measures affecting pension plans. However, it is not required that amounts accrued under such individual instruments be used exclusively for retirement, as is the case in Germany and the United Kingdom.

4.7.2 Replacement rate

The combined replacement rate offered by the QPP and the Old Age Security pension is 40% for the average worker. It is among the lowest rates for industrialized countries. It is comparable to the replacement rate under the general plan in the United States and the United Kingdom, although it is much lower than that offered under the general plan in Italy and Sweden. It is also very low if we compare it to the combined pension offered under the basic plan and the compulsory supplemental plans in France and the Netherlands. Less generous public plans often have more redistribution elements, which results in the fact that the replacement rate offered in Québec to persons with low incomes is among the highest rates of the countries studied.

4.7.3 Maximum pensionable earnings (MPE)

The MPE under the Québec Pension Plan, in percentage of the average wage, is the lowest among the countries compared. It represents 119% of the average wage of Québec contributors. A large part of employment earnings is therefore not subject to the plan.

4.7.4 Retirement age

The normal retirement age of 65 years under the QPP is the same as that generally found in the other countries where recent changes aim to gradually reach age 65. However, a number of countries have more generous provisions than Québec with respect to early retirement, which leads to a real retirement age that is lower than the normal age. Under the QPP, the adjustment factors for early retirement and postponed retirement, with the changes proposed in the framework of the public consultation in 2004, make it such that a real retirement age that is different from the normal age has an almost neutral effect on the plan. This is not the case in a number of other countries. The QPP currently has provisions for promoting phased retirement, but they do not appear to have an important impact on the real age for taking retirement.

4.7.5 Indexation of pensions after retirement

Most countries recently changed the indexation method for pensions in payment, so as to reduce the costs related to that provision. As in Québec, indexation is often calculated based on prices rather than on wages. In keeping with their structural reforms, the indexation mechanisms recently adopted by Sweden and Italy aim to let retirees benefit from worker productivity gains, while limiting indexation when the economy performs poorly.

4.7.6 Survivors' benefits

On a number of points, foreign plans differ from the QPP in regard to survivors' benefits. In several countries, survivors' benefits are adjusted to resources or income. They can also cease to be paid in the case of remarriage. Lastly, Japan is the only country where a widower is not entitled to benefits.

APPENDIX 4-1

Provisions regarding the calculation of the retirement pension under the general plan

Country	Calculation of benefits under the public plan
Québec	The pension is equal to 25% of average earnings for which contributions have been paid (earnings adjusted to take into account the average wage increase between the year of payment of contributions and the five-year average preceding retirement).
Germany	Pension formula: PEP x FAC x AR PEP: personal wage points (*persönliche Entgeltpunkte*): the number of points is calculated on the basis of the amount of wage subject to insurance contributions and the value attributed to the non-contributory periods, multiplied by the accessibility factor. The latter takes into account the different periods of time during which pension payments were made in the case of early retirement or renouncing an old age pension after age 65. FAC = 1,0 for a retirement at normal age. The factor is increased by 0,005 for each month after reaching age 65 or decreased by 0,003 for each month before reaching age 65. AR: current pension value (*aktueller Rentenwert*). The current pension value corresponds to the monthly pension collected for a year of insurance by an average worker. It is reassessed every year according to the evolution of net salaries and wages. The pension index is currently equal to 25,86 € in the former Länder (states) and 22,70 € in the new Länder (2003).
United States	The pension is based on insured income over the course of the period after 1950 (or 21 years, whichever occurs last), up to age 62, excluding the five years with the lowest amount of earnings. The maximum number of years taken into account is 35. The actual earnings are first indexed according to the changes in prices and then the average monthly earnings are calculated for the 35 years in which earnings were highest. This is called the average indexed monthly earnings (AIME). The primary insurance amount (PIA) is calculated based on a formula using the AIME: 90% of the first 606 $ of the AIME; + 32% of the AIME over 606 $ and up to 3 653 $; + 15% of the AIME over 3 653 $. The different monthly wage brackets are adjusted yearly according to the national average wage. Higher earnings can replace lower earnings after the pension has begun.
France	Pension formula: Reference wage X t X n/150. Reference wage: in 2003, average annual wage of the best 20 years (increase of one year up to an average of 25 years in 2008) t = rate of pension pay-out. Determined according to the number of years of insurance: full rate of 50% for insured persons with 160 quarters, regardless of the insured person's year of birth. The number of quarters should increase one a year starting in 2009 to reach 41 years in 2012. Decrease of 1,25% per missing quarter in relation to 65 years of age or in relation to the length of insurance needed according to year of birth. The rate of 50% is granted, regardless of length of insurance for certain categories of workers (for example, workers with 50% disability, workers who raised three children, veterans and war casualties) or because the insured person reached age 65 at the time of pension pay-out. n = number of quarters of insurance in the plan taken into account for calculating the pension and which cannot exceed 160. Bonus for children: 10% of the pension for every beneficiary who has at least three children, including children raised for at least nine years before their 16th birthday. The bonus is granted to each parent who is beneficiary of an old age pension.

Italy	**Former system** Under the former defined benefits system, the pension was based on years of service and final average wage. The amount of pension accrued for each year was calculated as follows for each year starting on 1 January 1993: 2% of wages up to a limit of 36 959 €; 1,6% of the wages between the upper limit and 1,33 times the limit; 1,35% of the wages between 1,33 and 1,66 times the limit; 1,1% of the wages between 1,66 and 1,9 times the limit; 0,9% of the wages over 1,9 times the limit. The amount of pensionable earnings is equal to the average of the earnings of the last five years preceding 31 December 1992, plus 50% of the earnings received between 1 January 1993 and 31 December 1995, plus 66% of all subsequent earnings. For workers with more than 15 years of contributions as at 31 December 1992, the average of the earnings is calculated based on the ten preceding years. For workers who will retire in the next ten years, the former five-year period is increased by one year for each 18-month period, up to ten years. All earnings are adjusted according to the cost of living + 1%. **New system** The pension is directly related to contributions paid over the entire career. Each year of contribution is equivalent to a conventional contribution representing 33% of the annual earnings with a ceiling. The amount of contributions is readjusted every year according to the average growth rate of the GDP over the last five years. The amount of the pension is calculated by multiplying the amount of contributions by a variable actuarial coefficient based on age (minimum age: 57 years, maximum age: 65 years). **Mixed system** The participants in the two systems can choose to receive their pension under the new defined contribution system, provided they have at least 15 years of contribution, including at least five years in the new system.
Japan	National pension program: with 40 years of contribution, 804 200 yen a year. EPI: 0,7125% of the average monthly earnings over the whole career indexed by the number of months of coverage. From 60 to 64 years, 1 676 yen a month additional for each month of coverage.
Netherlands	To obtain a full pension, the person must have been insured at least 50 years between age 15 and age 65. The pension is reduced 2% for each year of non contribution. The pension for a single person corresponds to 70% of the minimum net wage; for a single parent, it reaches 90%. Married persons or persons living together as a couple are each entitled to receive a pension representing 50% of the net minimum wage. When one member of the couple has not reached age 65, a special allowance may be granted, representing 50% of the net minimum wage and paid conditionally on income. An amount is also paid as a vacation payment.

United Kingdom	Basic State Pension: Maximum amount of 77,45 £ a week for a single person and 123,80 £ for a couple. Prorata reduction if the number of years credited is less than 90% of working life from age 16 to retirement age. Christmas Bonus: 10 £ and 200 £ in payment for winter heating for every home with a person over age 60. Additional State Pension: State Earnings-Related Pension Scheme (SERPS): 1,25% a year multiplied by earnings indexed as from 1978 (between the lower and upper limits set each year). The growth rate is progressively reduced to 1,00% over a transitional period of ten years for persons who reach State Pension age starting on 6 April 2000. A worker who begins working today will receive, at retirement age, a pension supplementary to the SERPS, equivalent to 20% of the average wages received during the course of one's working life and giving rise to contributions. Starting in April 2002, the State Second Pension replaces the SERPS. It is calculated as follows: a flat-rate amount of £2 878 a year + 10% of earnings between £11 200 and £25 600 a year + 20% of earnings between £25 600 and £30 940 a year.
Sweden	Pay-as-you-go plan: Benefits are calculated on the average income over the entire working life. Each active member is holder of an individual account that is credited annually with paid contributions. The idea of length of insurance disappears since the pension level is directly related to the totality of work contributions, without a limit regarding length. The contributions and payments under a pay-as-you-go system will also be related to economic growth. Thus, the virtual "capital" that is credited to each individual account is subject to yearly indexation equal to the average of the last three years of the rate of real income growth per capita, to which is added the inflation rate for the last 12 months. The retirement system will also be sensitive to demographic evolution. The amount of pension granted will be calculated according to average life expectancy at the time of retirement. Funded plan: the total of the contributions and investment income will be converted into pensions.

Sources: *Social Security Programs Throughout the World 2002*, Mercer: *2003/2004 Worldwide Benefit & Employment Guidelines* (Western Europe) and Scherer (2001), EUROPA - MISSOC - Comparative Tables on Social Protection in the Member States (2002).

CHAPTER 5

ECONOMIC WELL-BEING OF SENIORS

Most international comparative studies, including the last OECD study on retirees' resources,[7] use the concept of "economic well-being" or "standard of living". This concept is broader than the concept of income, because it makes reference to other factors such as consumption, wealth and the value of subsidized goods and services. Given the scope of our subject, our analysis will focus primarily on the income of seniors.

All the data that appear in this chapter come from various international comparative studies, except for those related to Québec, where we have endeavoured, as much as possible, to provide comparable data. Care must nevertheless be taken in interpreting the results. They may differ according to the studies, depending on the data bases or concepts used. The most recent data available for comparison date to the mid-1990s, which means that they do not show the effects of recent reforms undertaken in certain countries.

This chapter is made up of five sections. The first section deals with the income adequacy of seniors, the second with sources of income, the third with poverty and the fourth with income inequalities. Lastly, the fifth section provides an overview of all the indicators of the economic well-being of seniors.

5.1 INCOME ADEQUACY OF SENIORS

The majority of studies use the relative approach for comparing the income adequacy of seniors. Their income is compared with that of other persons in the same country and not with that of seniors in another country or with a cross-national average. In this way, it is hoped to avoid bias caused by the level of domestic production or the cost of living. For example, in the mid-1990s, the average available income of a senior in the United States was about 50% higher than that in Sweden or the United Kingdom. This holds true even once it is adjusted according to purchasing-power parity. This result is similar to the gap in the per capita GDP. The relative approach is therefore preferable to the absolute approach for this type of comparison.

5.1.1 The income concept used in the comparisons

In general, the income used to compare income adequacy, the poverty threshold or income inequalities is an "equivalent disposable income", that is, an income which takes into account taxation and household characteristics.

This income encompasses all types of income, including government transfers, although it excludes capital gains and lump-sum amounts. The disposable income is calculated by subtracting the income tax on income and mandatory contributions.

The disposable income is adjusted in accordance with household size. It is assumed that household income is pooled together and that there are economies of scale to be realized when several people are living in the same home. The family equivalence scale commonly used corresponds to the square root of the number of persons in the household.[8]

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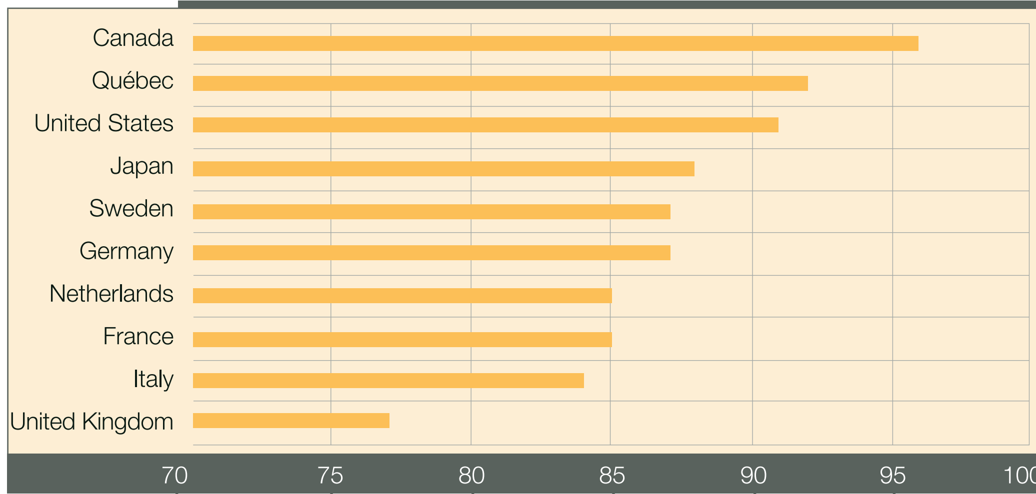
7 *Ageing and Income: Financial Resources and Retirement in 9 OECD Countries*, OECD, 2002. See also Disney and Whitehouse (2002) who analyze the results of a dozen international comparative studies dealing with different aspects of the economic wellbeing of seniors.

8 According to this scale, a weight of 1 is attributed to the first person, 0,4 for the second person and approximately 0,3 to the other persons. Certain studies use a different scale, which does not significantly change the results. The fact that economies of scale are not recognized (example: identical weights to each person) would produce very different results. In order to illustrate how equivalent disposable income is calculated, take a household composed of a couple whose personal disposable income is 30 000 $ for the man and 5 000 $ for the woman According to the methodology described above, each person would be attributed an equivalent disposable income of 24 749 $ (that is, 35 000 $ divided by the square root of 2). In that example, despite a low personal income, the woman living in a couple has a higher equivalent income than a single woman whose person disposable income is 20 000 $. This method is not perfect, but it does allow for taking into account various living situations. Until a more thorough indicator is developed, the equivalent disposable income constitutes the best way of measuring a person's economic well-being.

5.1.2 Comparison with persons of working age

Figure 5.1 compares the income of persons aged 65 or over with that of persons of working age, that is, aged 18 to 64.

Figure 5.1 Average equivalent disposable income for persons aged 65 or over as a % of that of those aged 18 to 64–mid 1990s

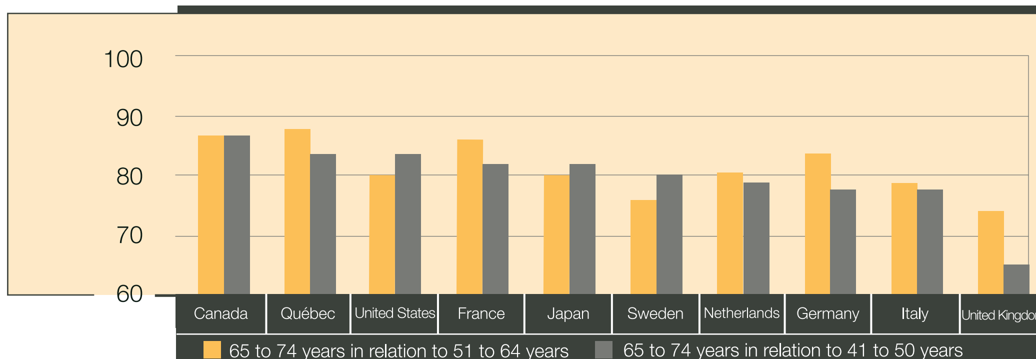


Source: Authors' calculations based on the OECD study (2002) and that of Förster and Pellizzari (2000). All data comes from the OECD questionnaire on the income of households (1999). For Québec, authors' calculations.

The ratio of the average equivalent disposable income of seniors to that of working age persons is somewhere between the minimum of 77% in the United Kingdom and a maximum of 96% in Canada. The ratio is 92% in Québec. In the majority of the countries presented here, the ratio reaches or exceeds 85%.

Figure 5.2 compares the disposable income of young retirees aged 65 to 74 in relation to that of pre-retired persons aged 51 to 64 and that of persons aged 41 to 50—the latter representing an age group where persons are primarily in the labour market.

Figure 5.2 Equivalent disposable income of persons aged 65 to 74 as a % of that of persons aged 51 to 64 and that of persons aged 41 to 50



Source: See Figure 5.1.

The ratio of average disposable income for young retirees aged 65 to 74 to that of pre-retired persons aged 51 to 64[9] and persons aged 41 to 50 is around 80%. In the United Kingdom, however, it is around 70%. Canada and Québec have a ratio around 85%. If we consider other factors such as work-related expenses, wealth, property and subsidized services, the ratios shown in Figures 5.1 and 5.2 would be even higher.

Even if there are a number of factors that can influence the level of these ratios, we can still glean the following conclusions:

- Despite the diversity of retirement income security systems, the average standard of living for seniors is essentially the same as that of working-age persons;
- There does not seem to be a significant decrease in standard of living at the time of retirement;
- Canada and Québec are always among the forerunners with respect to indicators of income adequacy of seniors.

These observations were put forward in several international comparative studies, including that of the OECD. In those studies, the standard of living of seniors is mentioned as being essentially the same in the nine countries.[10] This is despite the fact that their sources of income and the degree of generosity of public pensions vary considerably from one country to the next. It is also mentioned that people experience a decrease in their standard of living that is almost nonexistent (or very small) when they go from working life to retirement.

This similarity can primarily be explained by the large degree of substitution between various sources of income for middle and higher-income persons. In addition, the OECD study mentions that family lifestyles must be taken into account in order to establish a coherent picture of the economic well-being of seniors, especially in Italy and Japan. The incidence of seniors living in a household of three persons or more (usually seniors living with their children) is on the order of 55% in Japan, as compared to 15% in Canada, 10% in the United Kingdom and 5% in Scandinavian countries. The OECD study presents the results of a "pseudo-simulation" showing that disposable income would be different if the countries had a lifestyle comparable to that of large households in Japan or small households in Finland. For example, the average disposable income of persons aged 65 to 79 years would increase about 20% in the United Kingdom, if the lifestyle was similar to that in Japan. As a result, the level of equivalent disposable income of seniors will vary according to differences lifestyles.

The OECD study also mentions that wealth must be taken into account, because it may be converted into income. The effect of imputed rents, that is, homes occupied by the owner, must also be taken into account. These effects would be particularly significant in Japan and the United Kingdom, especially with lower-income seniors.

Independently of the success that retirement systems have achieved up to now, the challenge will be to maintain a high level of economic well-being for seniors in the future. On the one hand, this is because of demographic pressure such as lower fertility rates, the increase in life expectancy and the arrival of baby boomers at retirement. On the other hand, pressures must also be taken into account that are felt on the labour market, such as retirement behaviour and the scarcity of manpower. The number of working-age persons in relation to that of retirees will gradually decrease. This will call into question the portion of total resources of the society that are earmarked for seniors.

[9] This ratio must not be interpreted as a replacement rate for employment earnings at the time of retirement because the same group of individuals is not being compared at two different moments. Moreover, the equivalent disposable earnings are calculated based on the income of the whole population for one age group, and not only on workers' earnings.

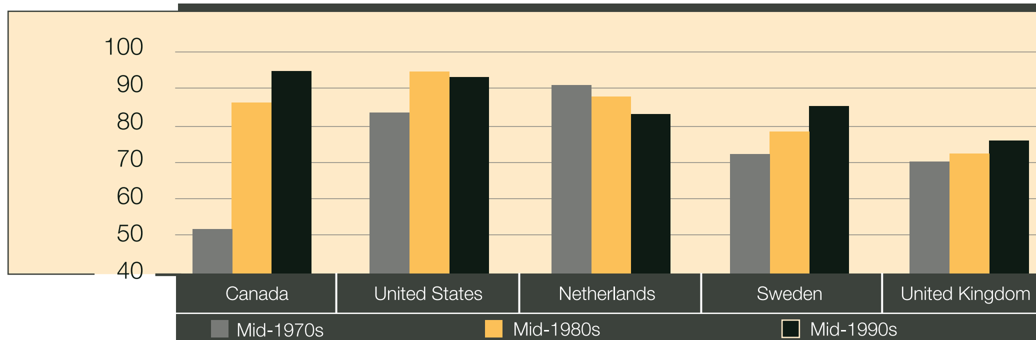
[10] The nine countries are the same as those in the present study, with one exception: Finland replaces France.

We will continue the analysis of factors that influence income adequacy of seniors by examining with more detail the situation in Canada.

5.1.3 Changes in income adequacy: the Canadian example

Figure 5.3 compares the changes in the ratio of the income of persons aged 65 or over to that of working-age persons aged 18 to 64, from the mid-1970s to the mid-1990s.

Figure 5.3 Evolution of average equivalent disposable income of persons aged 65 and over as a % of that of those aged 18 to 64



Source: See Figure 5.1. We have chosen the countries for which data is available for the period in question.

Canada clearly differs from the other countries regarding the income trend for seniors in relation to that of working-age persons. It went from last place in the mid-1970s to first place in the mid-1990s.[11]

That change occurred mainly in the mid-1970s and mid-1980s, when Canada went from a ratio of 53% to 88%. During the same period, the relative situation of seniors changed little in the other countries. Only a slight improvement was noted in the United States and Sweden, stability in the United Kingdom and a slight deterioration in the Netherlands. It is important to point out that, in those countries, the relative income of seniors was already high in the mid-1970s.

For Canada, several factors—including the following main factors—contributed to this result:

- the maturation of public pension plans based on former earnings (Canada and Québec Pension Plans) which are relatively new plans, with the first pensions being paid in 1967. For example, in Québec, the proportion of senior men who are beneficiaries of these plans doubled between 1975 and 1985 (from 40% to 80%), as did the amount of the average retirement pension in real terms after inflation;
- the rise of private pension plans established by employers, often at the request of labour unions. Such plans were developed in the private sector especially during and after World War II, particularly because of tax changes that allowed a deduction for the contributions paid to pension plans after that time. In the networks of health and education in the parapublic sector, the development occurred in the early 1970s. The government promoted such development through taxation rules. Laws were introduced that provided a framework for the plans in the mid-1960s, at the same time that public pension plans were based on former earnings. The effect of supplemental plans on the income of retirees was nevertheless felt, especially starting in the latter half of the 1990s;
- the improvement in the guaranteed minimum for seniors, made up of a flat-rate pension (OAS) and a supplement linked to income (GIS). For example, for a single person, the minimum increased 30% in real terms over the course of that period and the maximum level of OAS increased by 75%;

[11] We were unable to establish comparable data for Québec, although we can infer that the trends were similar.

- the decrease in the employment earnings of men aged 55 to 64. After the 1982 recession, many employers resorted to early retirement measures. Moreover, public pension plans were also adjusted by allowing the possibility to draw a retirement pension as of age 60. For example, in Québec, the proportion of workers among men aged 55 to 64 went from 78% in 1975 to 63% in 1985;
- the stagnation of average disposable income for working-age persons, which basically followed the course of inflation during that period of time;
- more advantageous taxation for seniors, including exemptions for age and pension income.

These examples show the complexity of evaluating the various factors in play in the changes in income adequacy for seniors. In addition, they show how Canada has arrived at this result by a combination of several policies. The maturation of public pension plans was an appreciable factor, if Canada is compared with the other countries, where the pension plans already reached maturity by the mid-1970s.

During the period from 1985 to 1995, improvement continued at a slower pace, although the income of seniors had already reached a higher level in the mid-1980s (88%). In 1995, the standard of living of seniors is comparable to that of working-age persons (96%). It would be difficult to exceed 100% over a long period.

Due to its multi-tier retirement income security system, Canada is well positioned to maintain a high level of income adequacy for seniors in the future. A new phenomenon is the development of individual retirement savings plans (ex: RRSPs) that became prevalent during the 1980s and 90s. They were strongly encouraged by tax incentives and information campaigns with the population. For example, in Québec, the proportion of workers contributing to this type of plan went from under 10% in 1975 to nearly 45% in 1995. The effects of those plans on the income of seniors will be felt over the next 30 years, as the cohorts of workers who contributed more to those plans take their retirement.

5.2 INCOME SOURCES FOR SENIORS

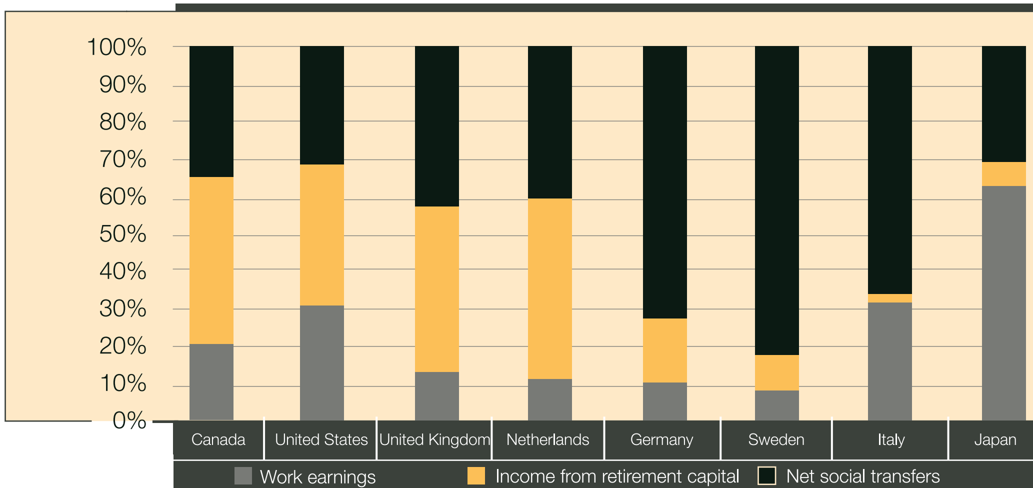
In the preceding section, we saw that seniors benefit on average from an adequate standard of living, despite the diversity of retirement income security systems. In this section, we will try to emphasize the differences which exist between the countries in the makeup of that income.[12]

Figure 5.4 shows the distribution of income available to seniors according to the three main components identified in the OECD report. They are:

- employment earnings;
- income from retirement capital, such as pensions from a private plan, investment income and other private income;
- net social transfers, that is, public pensions and government transfers, less personal income taxes and mandatory contributions.

[12] The analysis of sources of income is made based on equivalent disposable income rather than personal income because there are little data in the international comparative studies on the components of personal income. When data are available, they involve specific groups, such that it is not possible to have an overall portrait of the senior population.

Figure 5.4 **Distribution of average equivalent disposable income for persons aged 65 or over according to source of income—Mid-1990s**



Source: OECD Study (2002). The equivalent disposable income is based on the totality of householdincome (including employment earnings of non-senior members).

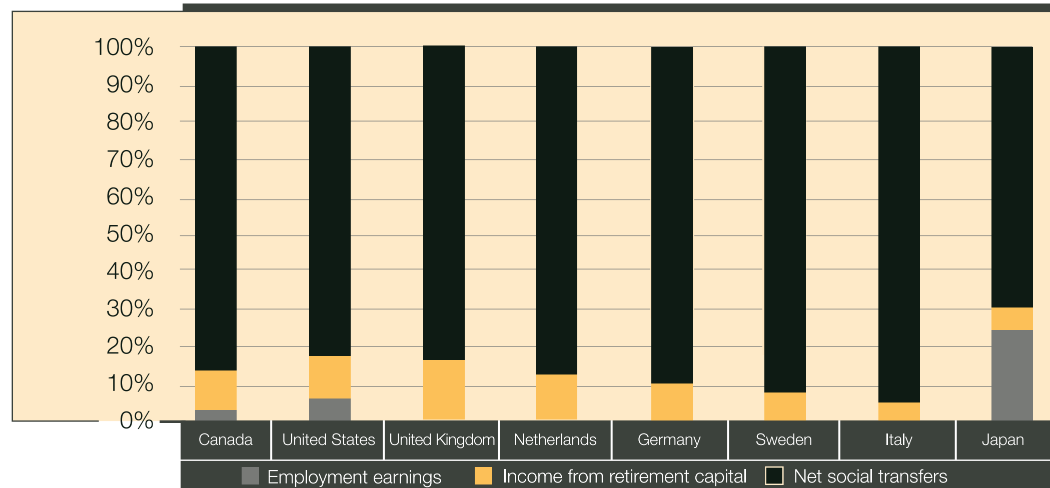
Based on these data, the following conclusions can be drawn:

- the relative portion of income from retirement capital—made up mainly of private plan pensions—is considerable in countries of Anglo-Saxon influence, such as Canada, the United States and the United Kingdom. In these countries, the development of private pension plans, which are several years old, is strongly encouraged by tax incentives. In addition, the portion of investment income (interest and dividends) is considerable in the groups having middle and higher income. The relative portion of income from retirement capital is also considerable in the Netherlands, where private professional plans are compulsory;
- the relative portion of net social transfers is considerable in all the countries if the fact that this portion is calculated after income tax deductions[13] and mandatory contributions are taken into account. This portion is particularly considerable in Sweden, despite high income taxes, as well as in Germany and Italy;
- the relative portion of employment earnings is considerable in the United States and Italy and very high in Japan. However, the reasons differ according to the country in question. In the United States, a small proportion (about 15%) of seniors live in households of three persons or more. On the other hand, a significant proportion of seniors have employment earnings. In Italy, few seniors work, although a significant proportion (about 30%) live in households of three persons or more, which results in seniors being able to profit from their children's employment earnings. Japan is a unique example: a large proportion of seniors (about 55%) live in a household of three persons or more and a large proportion of seniors have employment earnings. For example, if we give the details of the components of personal disposable income for men aged 65 to 74 living in a couple, the relative portion of employment earnings in that personal income is approximately 40% in Japan, 25% in the United States and less than 5% in Italy.

The differences between the countries in terms of the composition of equivalent disposable income for seniors are almost the same in the middle and high income deciles. However, the situation is different in the low-income deciles where the relative portion of net social transfers is very high, regardless of country. In the group of the poorest 30%, that is, the first three income deciles, the share of net social transfers is on average about 90%, except in Japan where it is approximately 70% because of the significance of employment earnings.

[13] It is important to mention that income taxes do not serve only to fund public plans and government transfers for seniors. The level of income taxes will vary greatly from one country to another, depending on the share of public expenditures within the economy.

Figure 5.5 **Distribution of equivalent disposable income for persons aged 65 or over in the first three income deciles – Mid-1990s**



Source: See Figure 5.4

This observation is not surprising because lower-income persons do not generally have the means to accrue a retirement income, regardless of the country. State intervention therefore becomes necessary to ensure an income for them. Moreover, the rules for calculating benefits of last resort can lead to having the underlying rates of high taxation discourage savings and working among persons with low income.

5.3 POVERTY AMONG SENIORS

Other than the objective of ensuring a certain continuity in standard of living at the time of retirement, the other broad objective of retirement income security systems is to minimize the risk of poverty with regard to seniors.

5.3.1 The low-income rate

There are two approaches for defining poverty. On the one hand, there is the normative approach, which consists of establishing the cost of a basket of goods and services that is sufficient for meeting the needs deemed to be essential such as food, housing and clothing. On the other hand, according to the relative approach, the cut-off is defined in function of the income and expenses of the whole population. Certain countries establish thresholds which combine the two approaches.

The majority of international comparative studies do not use the normative approach for comparing the low-income rates because of the difficulty in having comparable thresholds. Instead, the relative approach is often used according to which the threshold is defined as a proportion. The proportion can be 40%, 50% or 60% of the average or median disposable income of the population, adjusted according to household size and equivalent median income.

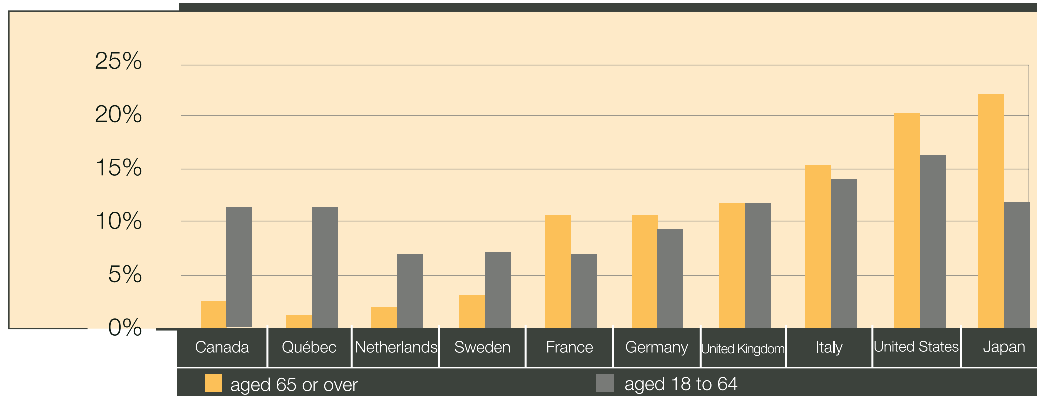
Such measures are not perfect because, as we have seen, several factors can influence the level of equivalent disposable income. Moreover, those concepts do not take into account the impact of wealth and subsidized services. Some point out that owning a home is a form of old age insurance against poverty. A recent study[14] compares the high poverty rate in Australia to the low poverty rate in Finland. The conclusion put forth is that these two countries, while opposite in terms of poverty, are difficult to distinguish once the poverty level is adjusted according to housing costs. However, there is no low-income

[14] *"The Importance of Housing Costs in Cross-National Comparisons of Welfare State Outcomes", Veli-Matti Ritakallio, in International Social Security Review, Volume 56, April 2003.*

measure adjusted according to housing costs for the countries studied here. We have therefore used, as a low-income measure, 50% of median equivalent disposable income[15] for the population, as in the OECD study. This concept is very similar to the post-tax low-income measure (LIM-IAT) established by Statistics Canada and that established for Québec by the Institut de la statistique du Québec.

Figure 5.6 shows the low-income rate for seniors and working-age persons in the mid-1990s.

Figure 5.6 Low-income rate* for the population of seniors and working-age persons in the mid-1990s



* The measure used corresponds to 50% of the median equivalent disposable income of the population.

Source: Förster and Pellizzari (2000) and OECD (2002). For Japan, authors' calculations based on the data from the OECD study. For Québec, authors' calculations.

In Canada and Québec, the low-income rate for the senior population was 2% to 3% in the mid-1990s, which is comparable to the Netherlands and Sweden. It was about 10% in France, Germany and the United Kingdom, 15% in Italy and about 20% in the United States and Japan. Canada's and Québec's effectiveness with regard to minimizing the risk of poverty among seniors is higher than the average of the countries studied. The main factor explaining the low rate in Canada and Québec is the minimum guaranteed cut-off point for seniors aged 65 or over (OAS+GIS). This minimum guaranteed cut-off point exceeds the low-income measure for single persons and couples without children, which are the two main types of senior households. This is also the case in the Netherlands where the minimum pension, which is linked to the minimum salary, exceeds the low-income measure for persons with the required number of years of residence.

The low-income rate for seniors in Canada and Québec is clearly lower than that of the working-age population (between 11% and 12%). The minimum income provided to the latter sector of the population—especially through social assistance programs and benefits for children—is not as high as that provided to seniors. The Netherlands, Sweden and France had the lowest rates for working-age persons, whereas the United States and Italy had the highest such rates. In most of the countries studied, the low-income rate for seniors is higher than that of the working age population, although the situation is different in Canada and Québec, as well as in the Netherlands and Sweden.

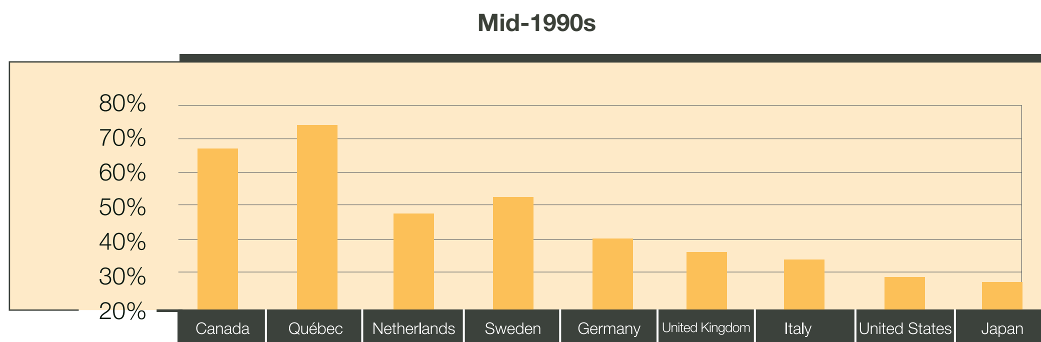
[15] Median income is preferable to mean income, which is used in other studies, because the low-income cut-off will be less affected by a greater disparity in the income distribution.

5.3.2 The situation regarding the lower quintile of income

One criticism often levelled against the low-income rate is that it fails to provide a portrait of the poverty gap[16] or the concentration of the population around the poverty threshold. One country may have a low poverty rate, yet have a large proportion of the population with an income that is just above the threshold. This would mean that a slight increase in the low-income threshold could lead to a strong increase in the poverty rate. We have compared the average equivalent disposable income for seniors in the lower quintile (the poorest 20%) with the average equivalent disposable income for working-age persons in order to come up with a more precise analysis of the effectiveness of countries to stave off poverty.

Figure 5.7 Average equivalent disposable income in the lower quintile of income among persons aged 65 or over (the poorest 20%) as a % of that for the whole working-age population (18 to 64 years)

Mid-1990s



Source: OECD (2002). For Québec, authors' calculations.

Canada and Québec are more effective than the other countries regarding the well-being of the poorest seniors compared to that of the overall working-age population. The average disposable income of the lower quintile of seniors represents about 70% of the average disposable income of working-age persons in Canada. In the Netherlands and Sweden, it is about 50%, in the United States and Japan, it is below 30%. In general, the lower the poverty rate is for seniors, the better the relative situation is for the lower quintile. At about 75%, the rate was higher in Québec than in Canada. Seniors in Québec with low incomes benefit from the same programs as other Canadians; however, the average disposable income for the working age population in Québec is lower than that of the respective Canadian population.

Not only do Canada and Québec have low-income rates (in percentage of population) that are very low for seniors, but those in the poorest quintile benefit from the most advantageous relative situation among the countries studied.

Canada achieved that level of effectiveness by mainly aiming its public programs toward low-income persons. A low-income worker, even without a private retirement plan, will receive the following benefits upon retiring: a pension under the compulsory public pension plan (CPP or QPP), a flat-rate pension (OAS) and a supplement (GIS) which will bring his or her income up to well above the low-income cut-off. Moreover, a person in that situation will not pay income tax. The replacement rate of the disposable income will exceed 100% in many cases.

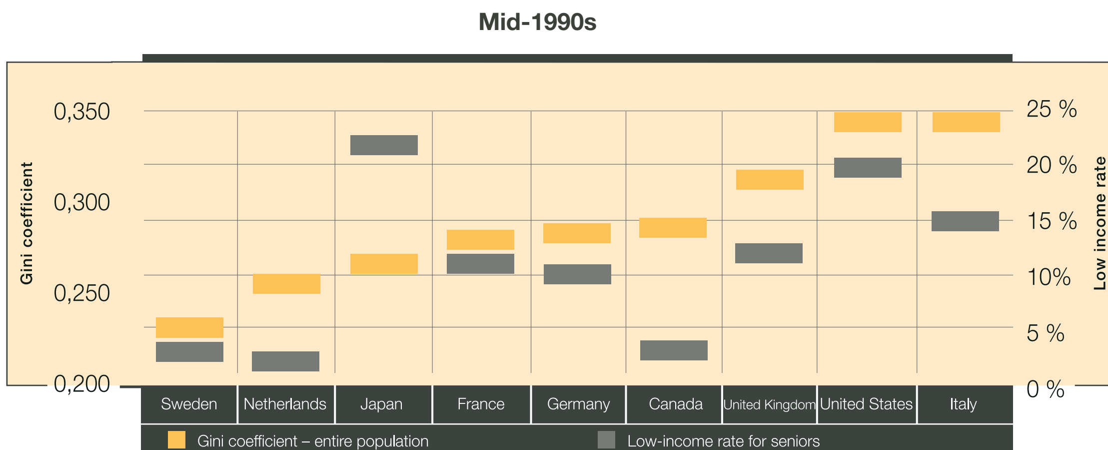
[16] The poverty gap is the difference between the individual's equivalent disposable income and the low-income threshold.

5.3.3 The relation between the low-income rate and income inequalities

In general, there is a relation between the low-income rate and inequalities in income distribution.[17] The countries with more equal distribution (low Gini coefficient), such as Sweden and the Netherlands, have low poverty rates (below 5%). Conversely, the countries with less equal distribution (high Gini coefficient), such as the United States and Italy, have high poverty rates (15% or higher). Likewise, the countries that have a relatively equal distribution, such as France and Germany, have average poverty rates (around 10%). Two countries stand out from the general tendency: Canada and Japan.

In Figure 5.8, we have shown the relation between the low-income rate for seniors and a relatively well-known measure of inequality called the Gini coefficient[18] for the entire population calculated based on the same concept as the average disposable income.

Figure 5.8 Low-income rate for seniors and the Gini coefficient for the entire population



Source: Chart based on data from the study by Förster and Pellizzari (2000).

In Canada, the poverty rate among seniors is low, despite relatively equal income distribution. As previously mentioned, Canada has achieved this performance by, on the one hand, orienting its public programs regarding retirement income security systems toward those with low income while, on the other hand, ensuring seniors have a relatively high minimum guaranteed income compared to working-age persons.

In Japan, the poverty rate among seniors is very high, despite income distribution that is very egalitarian. This observation is surprising, especially given that a large proportion of seniors live in multi-family households and profit from economies of scale and income from other household members. In addition, the proportion of seniors who have employment earnings is clearly higher than in the other countries. Despite that fact, there is a large portion that does not have adequate income. Moreover, as shown in Figure 5.7, Japan comes in last regarding the ratio of average income of the poorest quintile of seniors to the average income of all working-age persons.

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17 See Disney and Whitehouse, June 2002.

18 The Gini coefficient varies between 0 and 1. In a population where everyone has the same income, the Gini coefficient would be 0. In contrast, in a population where just one person has all the income, the coefficient would be 1.

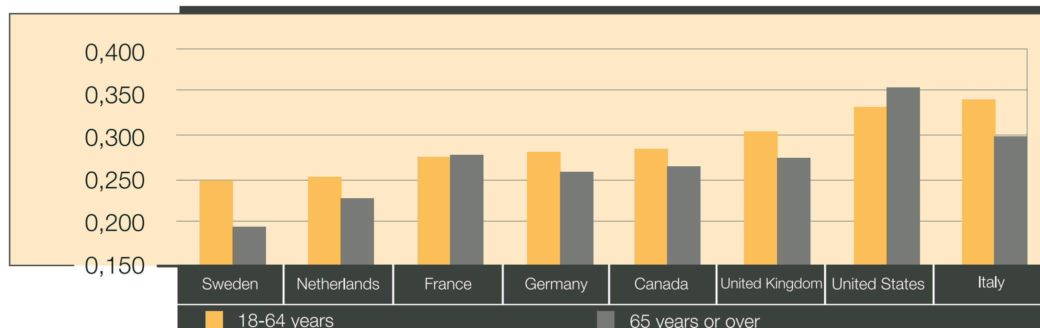
5.4 INCOME INEQUALITIES AMONG SENIORS

This section compares income inequalities among seniors with income inequalities among working-age persons. The objective is to see whether such inequalities improve, worsen or remain basically unchanged once people retire. It should be pointed out that the structure of the retirement income security system influences income inequalities, although a number of other factors also have an impact on such inequalities.

Among the indicators for income inequality, we have focussed on two, which are widely used in international comparative studies. The first is the Gini coefficient and the second is the ratio of the lower income limit for the wealthiest decile (90th percentile) to the upper income limit for the poorest decile (10th percentile), designated by the ratio P_{90}/P_{10}. The first indicator highlights more the inequalities within the overall income distribution, whereas the second one allows for comparing the relative situation of the two opposing groups of the distribution. These indicators are calculated using the same concept as that used in the other sections of this chapter, that is, the equivalent disposable income.

Figure 5.9 shows the Gini coefficient for the mid-1990s for the working-age population aged 18 to 64 and for the population aged 65 or over. The countries are presented in the order of more egalitarian to less egalitarian, according to the degree of inequality noted among the working-age population.

Figure 5.9 Gini coefficient for persons 65 years or over and the working-age population (aged18 to 64) – Mid-1990s

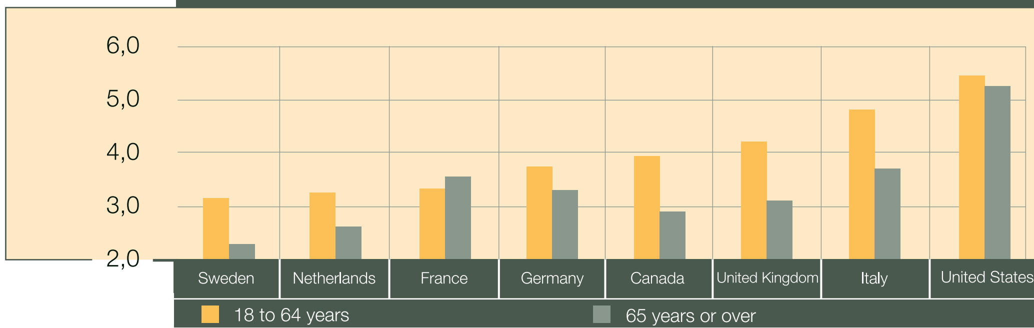


Source: Graph based on data from the study by Förster and Pellizzari (2000). Data for Japan is not available.

In general, the Gini coefficient is lower for seniors aged 65 or over than for working-age persons, suggesting a decrease in the income inequalities upon retirement. Among the more egalitarian countries, Sweden is noted as having the strongest decrease in the Gini coefficient (over 20%). Among the less egalitarian countries, there is a decreased Gini coefficient of 10% in the United Kingdom and Italy. However, there is an increase in the United States. The fact that a greater percentage of seniors work, as compared to other countries presented here, may explain this increase in inequalities in the United States. The situation in Canada is comparable to that in Germany. These countries have relatively egalitarian income distribution, both for working-age persons and seniors. They follow the general tendency regarding decreased income inequalities upon retirement, with a decrease of the Gini coefficient of about 8%.

Figure 5.10 shows the P_{90}/P_{10} ratios for the same population groups.

Figure 5.10 P_{90}/P_{10} ratios for persons aged 65 or over and the working-age population (18 to 64 years) – Mid-1990s



Source: Graph based on data from the study by Förster and Pellizzari (2000). Data for Japan is not available.

Note: The ratio can be understood in the following manner: for example, in the United States, for the working age population, the equivalent disposable income of the 90th percentile is equivalent to 5,3 times the income of the 10th percentile.

In all the countries except France, the P_{90}/P_{10} ratio for seniors aged 65 or over is less than that of working-age persons. This means that the gap between the income of the wealthier and that of the poorer is smaller among the senior population. Although the decrease in the Gini coefficient upon retirement is moderate in Canada (see Figure 5.9), the decrease in the P_{90}/P_{10} ratio is clearly greater. The ratio goes from 3,9 for the working-age population to 2,9 for the senior population, that is, a decrease of about 25%, which constitutes the greatest relative decrease for Sweden and the United Kingdom. The Canadian system of retirement income security is oriented toward a reduction of poverty, although this is more in the form of increasing the income of poorer people, rather than reducing income inequalities.

5.5 OVERVIEW OF ECONOMIC WELL-BEING

In this last section, we will present an overview of the indicators for economic well-being that have been treated in this chapter. However, a number of remarks must be made. Firstly, this section refers to the situation regarding seniors in the mid-1990s and not the future situation of seniors. Secondly, given the aging of the population, the objective of ensuring the economic well-being of seniors can conflict with other objectives, such as that of better balancing the transition from working life to retirement, or ensuring the balance between public and private resources. It is therefore a partial portrait of the numerous challenges facing the various systems of retirement income security.

To make the overview, we took the three objectives used in the OECD study for evaluating the challenge of economic well-being. Two other objectives were added, for which we established classification criteria. Those criteria are purely subjective and were chosen based on the countries compared here. Table 5.1 provides a summary of the objectives to be met and the criteria for classification.

Table 5.1 Objectives regarding economic well-being

OBJECTIVE	EVALUATION INDICATOR	CLASSIFICATION CRITERIA
Objectives and criteria employed in the OECD study		
Maintaining lifestyle at the time of retirement*	Average disposable income for persons aged 65 to 74 as a % of average disposable income for persons aged 51 to 64	More than 70%: Large challenge 70 to 79%: Moderate challenge 80% or more: Small challenge
Population living below the low income cut-off	Percentage of seniors whose income is less than 50% of the mean disposable income	20% or more: Large challenge 10 to 19%: Moderate challenge Less than 10%: Small challenge
Situation of the lower quintile	Average disposable income of the lower quintile for persons aged 65 or over as a % of average disposable income of working-age persons (aged 18 to 64)	Less than 30%: Large challenge 30 to 39%: Moderate challenge 40% or more: Small challenge
Additional objectives and criteria used by the authors		
Income adequacy for seniors	Average disposable income for persons aged 65 or over as a % of average disposable income of working-age persons (aged 18 to 64)	Less than 75%: Large challenge 75 to 84%: Moderate challenge 85% or more: Small challenge
Reduction of income inequalities	Gini coefficient for seniors aged 65 or over	0,30 or more: Large challenge 0,25 to 0,29: Moderate challenge Less than 0,25: Small challenge

Source: OECD 2000 (Table A.19) and criteria established by authors.
* The OECD study uses the term "quasi-replacement rate"; however, we have not used this term in order to avoid confusion with the employment earnings replacement rate at the time of retirement.

Table 5.2 places the countries according to the extent to which objectives have been reached. In terms of the indicators of economic well-being of seniors, Canada and Québec had—in the mid-1990s—performance that was well above average. The OECD study considers that Canada and, consequently, Québec, is the country which has the least difficulty ensuring the economic well-being of retirees and protecting vulnerable categories of persons.

Table 5.2 Economic well-being of seniors (Mid-1990s)

Country	Income adequacy	Maintaining standard of living at the time of retirement	Low-income rate*	Situation of the lower quintile	Income inequalities
Canada					
Québec					n.a.
Netherlands					
Sweden					
Germany					
France				n.a.	
Japan					n.a.
Italy					
United Kingdom					
United States					

Source: OECD (2000) – Table 4.5 and authors' calculations.
*. The data for Germany and Italy differ from that provided in Table 4.5 of the OECD study. They come from the study by Förster and Pellizzari (2000).

5.6 SUMMARY: INCOME-RELATED COMPONENTS OF WELL-BEING

5.6.1 Income adequacy for seniors

- Despite the diversity of retirement income security systems, the standard of living of seniors is essentially equivalent to that of working-age persons;
- The equivalent disposable income of young retirees aged 65 to 74 is about 80% of the disposable income of pre-retirees aged 51 to 64 or that of persons aged 41 to 50 in the labour market. Canada and Québec have a ratio that is about 85%. If other factors are taken into account, such as work-related expenses or wealth, there is not a considerable decrease in standard of living for the average worker at the time of retirement;
- Canada and Québec are always in the lead when it comes to the indicators of income adequacy for seniors;
- Canada stands out from the other countries with regard to the evolution of income for seniors in relation to that for working-age persons. It rose from last place in the 1970s to first place in the mid-1990s.

5.6.2 Income sources for seniors

- The relative portion of income from retirement capital, made up mostly from private pension plans, is considerable in countries of Anglo-Saxon influence, such as Canada, the United States and the United Kingdom. In those countries, the development of private pension plans is encouraged through tax incentives, whereas in the Netherlands, private occupational plans are compulsory;
- The relative portion of net social transfers is significant in all the countries, once tax deductions and compulsory contributions are taken into account. This portion is particularly large in Sweden, Germany and Italy;
- The relative portion of employment earnings is significant in the United States and Italy and it is very high in Japan, but the factors explaining the importance of employment earnings vary according to the countries concerned;
- The relative portion of net social transfers in the low income group is very high, regardless of country, except in Japan, where the importance of employment earnings remains considerable.

5.6.3 Poverty

- The low income rate for seniors in Canada and Québec was around 2% to 3% in the mid-1990s, comparable to countries such as the Netherlands and Sweden. Canada and Québec's performance with respect to reducing the risk of poverty among seniors is greater than the average of the countries studied;
- The low income rate for seniors in Canada and Québec is lower than that of the working-age population whereas, in most of the countries studied, the reverse situation prevails;
- Not only do Canada and Québec have very low rates of low income for seniors (in terms of percentage of the population), but the poorest quintile benefits from the most advantageous relative situation among the countries studied here;
- In general, there is a relation between the low income rate for seniors and inequalities in income distribution: the greater the inequalities, the higher the low income rate. Among the countries studied, Canada is an exception because the poverty rate among seniors is very low despite less egalitarian income distribution (within the working-age population) than that in other countries.

5.6.4 Income inequalities

- In general, the income inequalities are less considerable among seniors aged 65 or over in relation to working-age persons. There is therefore a decrease of income inequality at the time of retirement. With regard to other countries, Canada has relatively egalitarian income distribution, for both working-age persons and seniors;
- The Canadian retirement income security system is more oriented toward reducing poverty among seniors by increasing the income for the poorest, rather than reducing income inequalities.

5.6.5 Overview of economic well-being

- If we compare the nine countries, the OECD considers Canada (and therefore Québec) to be the country that has the least difficulty in providing economic well-being for retirees and protecting vulnerable categories of persons.

CHAPTER 6

COST AND FUNDING OF PENSION PLANS

This chapter proposes a cost comparison of pension plans in the countries studied, as well as the manner in which they are funded. A comparison such as this poses a challenge for the following reasons:

- some programs are financed by the general revenues of governments and the allocations do not explicitly appear as pension-related contributions;
- some countries give wide berth to private plans. Such plans are generally funded through contributions from workers and businesses and properly accounting for them can be difficult;
- the plans covering government workers are funded through contributions paid by civil servants and the government as an employer. There are different ways account for the government's commitments as an employer regarding such plans;
- the tax advantages related to retirement represent a considerable cost for governments, but they are rarely subject to a specific valuation.

The comparison will therefore endeavour, as much as possible, to take into account all the aspects mentioned above.

6.1 PENSION COST

6.1.1 Public pension expenditures in Québec

In Québec, annual expenditures related to the *Old Age Security Act* (Old Age Security pension, Guaranteed Income Supplement and Spouse's Allowance) currently represent 2,9% of the GDP, or 9,3% of the total payroll subject to the Québec Pension Plan. With regard to the Québec Pension Plan, the benefits paid in 2002 totalled 6,7 billion dollars, representing 2,8% of the GDP, or 9,0% of the total payroll subject to contribution.

Table 6.1 ***Old Age Security Act*** **– Benefits paid in Québec in 2002**

Benefit	Expenditures (billions of dollars)	Expenditures as a % of the total payroll subject to the QPP
Old Age Security pension	5,1	6,9%
Guaranteed Income Supplement	1,7	2,2%
Spouse's Allowance	0,1	0,2%
Total	6,9	9,3%

In the future, expenditures related to the *Old Age Security Act* will increase according to both the number of seniors aged 65 or over and inflation. For Canada as a whole, expenditures related to the federal program are projected[19] to be, in 2030, a percentage of the total payroll subject to contribution under the CPP/QPP will be equal to 125% of the current percentage. Given the same increase for Québec, expenditures for the Old Age Security program in Québec will represent, in 2030, 11,1% of the total payroll subject to the QPP. Benefit expenditures under the QPP in percentage of the total payroll subject to contribution will go from 9,0% in 2002 to 11,9% in 2030. The rate of increase for the program's annual expenditures will therefore be less than that of the QPP.[20]

The overall cost of public pensions (Old Age Security and QPP), given as a percentage of the total payroll subject to the QPP, will increase from 18,3% in 2002, to 23,0% in 2030. This is a relatively modest increase, compared to what is expected in most other OECD countries. The main factor explaining the weaker growth in Québec is that the Old Age Security pension is indexed according to the consumer price index. Over long periods, the annual increase in the consumer price index is generally less than that of the average wage.

[19] According to the actuarial report on the Old Age Security program as at 31 December 2000.

[20] While pensions that are currently in payment under the QPP are indexed according to consumer price index, new pensions under the QPP are calculated according to wages and change according to changes in the average wage in Québec.

6.1.2. International comparison of the cost of public pensions

France, Germany and Italy have at present the highest public pension costs and those costs will continue to escalate considerably from now until 2040. In the Netherlands, current costs are quite low, but the increase will be substantial over the coming decades. That increase is due to the presence of a universal plan which covers all residents aged 65 or over, whose benefits are indexed according to salary. Australia, the United States and the United Kingdom have lower costs because they leave greater room for private plans. Sweden has high costs right now, but the recent reform of the pension system will allow for limiting such future increases. Costs will remain stable in Japan, especially due to the increased retirement age that will be applied over the coming years.

Table 6.2 Projected cost of public pensions as a % of GDP (2000-2040)

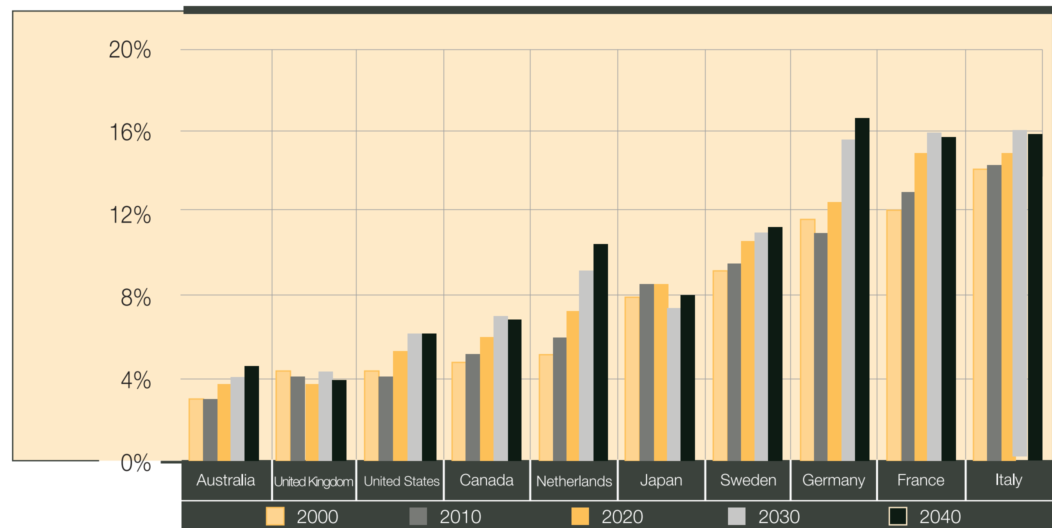
Country	2000	2010	2020	2030	2040
Germany	11,8%	11,2%	12,6%	15,5%	16,6%
Australia	3,0%	3,0%	3,6%	4,2%	4,5%
Canada	4,8%	5,2%	6,1%	7,0%	6,9%
United States	4,4%	4,3%	5,4%	6,2%	6,3%
France	12,1%	13,1%	15,0%	16,0%	15,8%
Italy	14,2%	14,3%	14,9%	15,9%	15,7%
Japan	7,9%	8,6%	8,5%	7,5%	8,2%
Netherlands	5,2%	6,0%	7,3%	9,3%	10,5%
United Kingdom	4,3%	4,1%	3,9%	4,3%	4,1%
Sweden	9,2%	9,7%	10,7%	11,2%	11,3%

Source: OECD: *Fiscal implications of Ageing: Projections of age-related spending*. For Canada, authors' calculations.

Note: Legislative changes adopted after 2000 have not been taken into account in the projections.

The cost of public pensions in Canada is among the lowest of the countries studied (4,8% of the GDP in 2000). This situation contributes to limiting the effect of demographic and economic pressures on public funding and on the contributions of workers and employers. On the other hand, the situation facing a number of European countries gives more cause for concern.

Figure 6.1 **Projected expenses of public pensions in percentage of GDP (2000-2040)**



Source: OECD: *Fiscal implications of Ageing: Projections of age-related spending.*

6.1.3 Tax treatment of retirement-savings

There is a substantial cost associated with pension plans that is often neglected in assessing the overall cost of retirement. It comes from the tax reductions which provide benefits for individuals and businesses that participate in pension plan funding and tax exemptions on amounts received by pensioners.

In general, employer contributions are deductible as business expenses and are not included in the worker's income. Contributions by workers are more often deductible from their income. In this respect, the United States is an exception in that only a worker's contributions to a defined contribution plan are deductible. The contributions to the social security plan and supplemental defined benefit plans are not deductible. Upon withdrawing funds from plans, benefits are normally taxable, even if some countries grant exemptions. The principle tax provisions that involve contributions and benefits under pension plans are presented in Table 6.3.

Pension fund investment income in some countries is subject to specific tax measures involving assets or investment income from plans. Thus, a tax is imposed on pension fund investment income in Australia, Denmark, New Zealand and Sweden. Such measures do not exist in most of the other OECD countries.

Table 6.3 **Tax treatment of contributions and benefits in various countries**

Country	Type of plan	Contributions	Benefits*
Canada	Old Age Security pension	No contribution	Taxable benefits. In addition, refund of a percentage of benefits when income exceeds 59 790 $
	Québec Pension Plan/ Canada Pension Plan	Deductible contributions	Taxable benefits
	Supplemental pension plans	Completely deductible employer contributions Member contributions deductibles up to 18% of income	Taxable benefits
Germany	Social security	Deductible employer contributions Deductible worker contributions	Pensions taxable on the interest portion only (ex.: 27% at 65 years)
	Occupational plans under a book reserve system	Deductible allowances by employer under the book reserve system	Pensions under the book reserve system completely taxable before age 63. After age 63, 40% exemption
United States	Social security	Deductible employer contributions Non-deductible worker contributions	Non-taxable benefits in general. However, a percentage of benefits paid to persons with higher income is taxable.
	Defined contribution plans (including 401(k) plans)	Deductible employer contributions Deductible member contributions up to a ceiling	Taxable benefits
	Defined benefit plans (including cash balance plans)	Deductible employer contributions Non-deductible worker contributions	Taxable benefits, except for the portion resulting from worker contributions
	Individual Retirement Accounts (IRA) and Simplified Employee Pensions (SEP)	Deductible contributions up to a ceiling	Taxable benefits
France	Social security	Deductible contributions	Taxable benefits
	Supplemental plans	Deductible contributions up to a ceiling	Taxable benefits
Italy	Social security	Deductible contributions	Taxable benefits
	Supplemental plans	Deductible contributions up to 12% of salary	Taxable benefits

Country	Type of plan	Contributions	Benefits*
Japan	Social security	Deductible contributions	Taxable benefits (above an exemption)
	Employees' Pension Funds		Taxable benefits (above an exemption)
	Tax Qualified Pension Plans		Taxable benefits (above an exemption) Special tax on assets from plans with over 500 members
Netherlands	Social security and supplemental plans	Deductible contributions	Taxable benefits
United Kingdom	Social security	Deductible employer contributions Non-deductible worker contributions	Taxable benefits
	Supplemental plans	Deductible employer contributions Deductible member contributions up to 15% of salary	Taxable benefits
Sweden	Social security	Deductible contributions	Taxable benefits
	Supplemental plans	Deductible contributions up to a ceiling	Taxable benefits

* Does not take into account the specific concessions regarding seniors' income shown in Table 6.4.
Source: *2003/2004 Worldwide Benefit & Employment Guidelines – Western Europe* (Mercer, Geneva).

In addition to these general measures, most of the countries grant specific tax concessions to seniors who receive retirement income. Table 6.4 describes some of these measures.

Table 6.4 Tax concessions related to seniors' income

Country	Concession	Parameters
Canada	Age credit	Tax credit of 16% up to an income of 3 600 $, progressively withdrawn at a rate of 15% between 27 000 $ and 51 000 $
	Income from private pension	Tax credit of 16% on the first 1 000 $
	Guaranteed income supplement	Non-taxable
Germany	Income from private pension	40% of the non-taxable benefit up to a cut-off point
	Income from public pension	Portion of non-taxable interest (32% at age 60, 27% at age 65 and 21% at age 70)
Italy	Age credit	Credit of 120 000 ITL (Lira) if pension income only and if not exceeding 18m ITL
	Income from private pension	12,5% of the amount of private pensions is exempt, 40% of individual pension is exempt
Japan	Deduction of income from public pension and tax-qualified pension plans	100% deduction on the first 1m JPY (yen), 25% up to 3,6m JPY, 15% up to 7,2m JPY and 5% above; minimum deduction of 1,4m JPY
	Age deduction	Additional deduction of 0.5m JPY if total income is under 10m JPY
Netherlands	Age deduction	Additional allowance of 500 NLG (Guilder); increased to 2 200 NLG for income below 57 000 NLG
	Deductions for pensioners	Additional allowance for beneficiaries of the basic pension; worth 500 NLG or 3 100 NLG for low-income retirees
Sweden	Age deduction	Varies between 8 700 SKR (Krona) and 56 000 SKR depending on pension income
United Kingdom	Age deduction	Additional deduction between 1 400 GBP (Pound) and 1 600 GBP depending on age; progressively withdrawn at 50% above 17 000 GBP
United States	Age deduction	Additional deduction of 1 000 $ for a single person
	Tax credit	Up to 1 125 $; withdrawn when total income exceeds 17 500 $ or when untaxed public pension exceeds 5 000 $
	Tax reduction on social security income	Between 15% and 50% of social security income is not taxable according to total income

Source: Keenay, Gordon; Whitehouse, Edward. *Financial Resources and Retirement in Nine OECD Countries: The Role of the Tax System* (OECD, Paris). 2003.

Germany chose an original approach during its 2001 reform. The Riester reform was especially intended to develop the private market regarding retirement by means of considerable tax concessions. The contributions to private, supplemental or individual plans are now subsidized. Tax deductions are available to high-income contributors and a direct subsidy is available to low-income contributors. The government grants these tax concessions only in the cases where the selected investment vehicle limits using funds to the purchase of a life annuity at retirement. The tax authorities automatically choose what is more advantageous for an individual—either a direct subsidy or a deduction of contributions. If the person is admissible for a subsidy, it is paid directly into an individual

account. Each spouse in a couple receives his or her own subsidy. An additional subsidy is provided for children. The State subsidy is proportional to the contribution paid by the individual.

In **Italy**, the 1997 reform encouraged the creation of supplemental pension plans. The worker contribution is deductible up to 2% of salary, as well as that of the employer for another 2% of salary. Each pension plan is subject to an annual tax of a flat amount. The benefits are taxable like ordinary income, but only on 87,5% of the payment.

6.1.4 Tax expenses related to retirement

In Canada, the various tax measures have a negative net effect regarding government income. Since the Canadian population is in a savings phase in anticipation of retirement, the cost of tax exemptions is higher than earnings gained from the taxation of benefits. However, this situation may change radically when the baby-boomer generation reaches retirement.

Table 6.5 gives a projection of tax expenses related to retirement in Canada up to 2005. Substantial costs are linked to the deduction of contributions to RRSPs. The non-taxation of investment income from supplemental pension plans and RRSPs also brings about substantial costs.

Table 6.5 Tax expenses related to retirement in Canada

	1998	1999	2000	2001	2002	2003	2004	2005
Age credit	1 350	1 340	1 385	1 365	1 420	1 470	1 525	1 585
Credit for pension income	405	415	425	405	415	425	435	440
Registered retirement savings plans (RRSP)								
Contribution deductions	6 560	6 965	7 155	6 585	7 040	7 585	8 010	8 600
Non-taxation of investment income	6 145	8 820	5 460	5 235	5 445	6 020	7 005	7 615
Taxation on withdrawals	-2 795	-2 665	-3 515	-3 440	-3 700	-4 010	-4 260	-4 605
Net tax expenses	9 910	13 120	9 100	8 380	8 785	9 595	10 755	11 610
Registered pension plans (RPP)								
Contribution deductions	4 490	5 030	4 895	4 440	4 480	4 550	4 515	4 570
Non-taxation of investment income	11 445	17 285	10 420	9 830	9 790	10 325	11 415	11 795
Taxation on withdrawals	-5 985	-6 695	-6 695	-6 485	-6 895	-7 415	-7 790	-8 335
Net tax expenses	9 950	15 620	8 620	7 785	7 375	7 460	8 140	8 030

Source: Department of Finance Canada.

According to a study by the World Bank,[21] Canada has one of the highest percentages of retirement-related tax expenses with respect to total tax expenses (see Table 6.6).

[21] Whitehouse (1999)

Table 6.6 Tax expenses related to retirement (private plans) in percentage of total tax income

Country	
Australia	4,6%
Belgium	0,4%
Canada	8,4%
Finland	1,8%
Germany	0,2%
Ireland	2,7%
Portugal	0,1%
Spain	0,1%
Sweden	1,3%
United Kingdom	3,8%
United States	3,5%

Source: Whitehouse (1999). These data reflect the situation in the early 1990s for most of the countries.

6.2 PENSION PLAN ASSETS

Among industrialized countries, Québec (and Canada) are among the jurisdictions which have the highest funding rate for pension plans. By adding the Québec Pension Plan and the supplemental pension plans together, the accumulated pension plan assets equal about 60% of the GDP for Québec and 83% of the GDP for Canada (data for 2001). This excludes the assets accumulated under registered retirement-savings plans, which represent about 36% of Québec's GDP.

The United States, United Kingdom and Japan also possess substantial assets related to pension plans. In Japan, however, the largest part of this savings comes from the public plan, since the supplemental plans are not subject to the same funding standards as in Québec. It is interesting to note that Italy, Germany and France have little accumulated assets. On the one hand, the public plan in these three countries is funded on a pay-as-you-go basis (that is, on an annual basis for current expenditures). On the other hand, the supplemental plans are either little developed (Italy), funded on a pay-as-you-go basis (France) or funded using book reserves (Germany).

Table 6.7 Assets from pension plans in percentage of GDP (2001)

Country	Public plan	Supplemental plan	Total
Québec	7%	54%	61%
Canada	6%	77%	83%
Netherlands	3%	105%	108%
United States	13%	63%	76%
United Kingdom	0%	66%	66%
Japan	37%	19%	56%
Sweden	33%	4%	37%
Italy	0%	4%	4%
Germany	0%	3%	3%
France	1%	0%	1%

Sources: For Québec: Data compiled by the Régie des rentes du Québec. For Canada: *Canada's retirement income programs: A statistical overview (1990-2000)*, Statistics Canada. For the other countries: OECD, Statistical Databases, *Financial Assets of Institutional Investors (2001).*

6.3 FUNDING ARRANGEMENTS

Pensions are generally funded by means of contributions paid by businesses and workers, or by the government's general revenues. With the exception of the assistance program aimed at low income seniors, most countries fund their pension system using earmarked contributions. Canada constitutes an exception since the Old Age Security pension is funded through the federal government's general revenues.

The rate of contribution to the public pension plan in the other industrialized countries is generally higher than the rate that funds the Québec Pension Plan (see Table 6.8). On the one hand, the rate of income replacement offered by foreign public plans is generally higher than that offered by the QPP. On the other hand, the cost of the public pension in Québec presented in Table 6.8 does not include the expenditures related to the *Old Age Security Act*, which represents overall 9,0% of the total payroll subject to the Québec Pension Plan.

Table 6.8 Rate of contribution to the general pension plan

Country	Contribution rate		
	Worker	Employer	Total
Germany	9,75	9,75	19,50
United States	6,20	6,20	12,40
France[1]	6,55	8,20	14,75
Italy	8,89	23,81	32,70
Japan	8,675	8,675	17,35
Netherlands[2]	17,90	-	17,90
Québec	4,95	4,95	9,90
United Kingdom[3]	11,00	12,80	23,80
Sweden	9,25	9,25	18,50

Notes:
1. General plan only. 1,60% of total earnings must be added to that amount, paid by the employer. An additional contribution of, on average, 9,50% (not included here) is used for funding compulsory supplemental plans.
2. To which 1,25% is added for funding survivors' benefits.
3. To which a contribution of 1,00% is added on the earnings over the pensionable ceiling amount.

In certain cases, despite the fact that earmarked contributions are collected from workers and businesses, the government is often responsible for covering any current deficit. In **Germany**, for example, subsidies from the federal budget covered 37% of pension expenditures in 2002. This percentage should gradually decrease to 31% in 2030. In **Italy**, the deficit from the pension insurance system is currently 0,8% of the GDP, although it should reach 4,5% of the GDP in 2010 and maintain that level until 2030. In **Japan**, the government currently finances one third of the expenditures related to the National Pension. The 2001 Japanese reform provides for a gradual increase in the government's financial contribution, which should reach 50% of the National Pension expenditures by 2006.

6.4 LONG-TERM FUNDING STRATEGIES

6.4.1 Limit imposed on the contribution rate of the public plan

Over the last years, one approach has been observed that consists of establishing mechanisms in order to ensure that the contribution rate does not exceed a certain limit.

In **Japan**, the last actuarial report promotes a gradual increase of contribution rates with respect to the National Pension and the Employees' Pension Insurance in order to reach the final rate in 2025. The rate should remain stable thereafter. In **Germany**, the changes from 2002 are aimed at limiting the final contribution rate to 20% in 2020 and 22% in 2030. The government is responsible for proposing appropriate measures to the Parliament if the 15-year projections indicate that the objective will not be reached. In **Sweden**, the new notional defined contribution plan that came into effect in 1998 sets the contribution rate at 16%. Any discrepancy between projected amounts and reality will have the impact of reducing the retirement pensions rather than increasing the rate of contribution. In the **Netherlands**, the contribution rate is intended to stay no higher than 18,25%. Any deficit in the pension system would be covered by transfers from the reserve funds or the general budget. In **Italy**—as in Sweden—the notional defined contribution plan sets the contribution rate at 32,7% for Italy and 18,5% for Sweden.

Until now, Sweden has demonstrated more care in avoiding increases in taxes and contributions: the contribution rate under the new system is fixed and necessary adjustments can only be made to the level of benefits. Italy has advanced in the same direction with its reformed system, although the impact on paid benefits will only be noticeable after a long period of transition.

6.4.2 Creating reserve funds

The Québec Pension Plan is partially funded, that is, a reserve is maintained for generating a part of the revenues needed for funding plan benefits. This allows for maintaining the contribution rate at a level that is less than the pure pay-as-you-go rate.[22] The current plan reserve, which represents 2,8 times the cash outflows, will increase to 4 times the cash outflows in 2020, before subsequently decreasing. This will help maintain the contribution rate at a constant 9,9% from 2003 to 2050, despite the massive arrival of baby boomers at retirement age. Its relative weight, expressed as the multiple of annual expenditures, will decrease to the extent that the make-up of the population reaches a certain stability. The QPP reserve can be qualified as a conjunctural reserve intended to absorb the shock of the retirement of huge numbers from that generation.

Maintaining such reserves for a public pension plan is not widespread among European countries. Three countries: Germany, the United Kingdom and Italy do not accumulate any reserve. France and the Netherlands have recently created a reserve fund, but it is currently at a modest level.

Japan and the United States have a funding approach which is similar to that of Québec. In those two countries—as in Québec—the reserve is expected to reach the level of almost five times the annual cash outflows between 2015 and 2025, in order to cope with the arrival of the baby boomer generation at retirement.

Here is a more detailed description of the types of projections made by actuaries from four countries in order to measure the financial health of the public pension plans, as well as the adequacy of the reserves that fund them.

United States

The American plan is partially funded with a contribution rate set by law. An actuarial report makes a projection over 75 years of the plan's revenues and expenditures. It compares the income rate and the cost rate in order to measure the plan's state of equilibrium. The income rate is the equivalent of a fixed contribution rate over 75 years. It expresses the revenues from contributions according to a rate set by law and the future investment revenues as a percentage of the total payroll. The cost rate represents the plan's benefits and administration expenses over the next 75 years, as a percentage of the total payroll.

[22] *The analysis of income sources is based on equivalent disposable income rather than on personal income because there is very little data in the international comparative studies on the components of personal income. When data is available, it concerns specific groups, making it impossible to trace an overall portrait of the senior population.*

The difference between the income rate and the cost rate therefore represents the surplus or deficit expressed in percentage of the total payroll. It can be interpreted as the rate of additional contribution that must be paid over 75 years in order for the plan to be balanced. According to the 2003 actuarial report, the current contribution rate of 12,4% would have to be increased to 14,3% for the plan to remain balanced for 75 years. If the rate is not immediately increased, the reserve, which currently represents 2,7 times the plan's cash outflows, will reach 4,7 times the cash outflows in 2015, subsequently decreasing in relative value and becoming eventually nil in 2042.

Japan

Japan maintains a substantial reserve to fund its public pension plans. The reserve represents currently 37% of the GDP. The contribution rate is set at a higher level than the pay-as-you-go rate. It is increased every five years by a fixed percentage until reaching a long-term stable rate, called the final contribution rate. Thus, the contribution to the National Pension, the flat-rate benefit plan, which was 13 090 yen a month in 2002, will increase gradually to 25 200 yen a month as of 2020. The contribution rate to the Employees' Pension Insurance, the wage-related plan, will be 17,35% of pensionable wages, or 13,58% of total wages until 2005. It will gradually increase to 27,8% of pensionable wages, or 21,6% of total wages starting in 2025. As a result, the ratio of the reserve to cash outflows will be stable at around 3,0 for the National Pension for the next 50 years (3,3 in 2002 and 2,8 in 2050). For the Employees' Pension Insurance, the ratio will go from 5,8 in 2002 to 3,0 in 2050.

Sweden

Worker and employer contributions to the new Swedish notional defined contribution plan will not be paid into individual accounts. They will instead be used to maintain a stabilization reserve. The role of this reserve will be to smooth out temporary gaps between the contributions and pensions paid out in the event of unfavourable demographic or economic developments. With regard to demography, risks are associated with increases in life expectancy, the fertility rate, immigration and number of employed persons. Regarding the economy, weak growth or low rates of return are risks which the plan may face. An automatic mechanism for reducing the indexation of pensions and the benefit accrual rate of notional accounts allow for rebalancing the plan if the context becomes unfavourable.

The automatic equilibrating mechanism works as follows. The equilibrium ratio must first be determined:

Equilibrium ratio	=	Assets related to contributions + Stabilization reserve / Accrued liabilities
Assets related to contributions	=	Amount of current contributions (multiplied by) Average time between contribution and payment
Average time between contribution and payment	=	Average age of retirees (minus) Average age of contributors
Accrued liabilities	=	Value of individual accounts of non-retirees (plus) Current value of future pensions of current retirees

If the equilibrium ratio is less than 1,0 the notional accounts and benefits are indexed at a lower rate than that regarding growth of average earnings.

France

The French scheme is funded on a pay-as-you-go basis. A reserve fund has existed since 1999, but it has its own budget, separate from the operations of the pay-as-you-go plans. The existence of the reserve therefore does not affect, at least, not at present, the formula for determining the contribution rate. The reserve fund is fed by the surplus from certain public accounts related to social security and by a fraction of the product of social deductions of 2%. The reserve fund reached 8,4 billion € as at 30 June 2002.

6.5 SUMMARY: PENSION FUNDING

The cost of public pensions in Québec and Canada is among the lowest of industrialized countries.

The Old Age Security pension is funded by the government's general revenues. The Canadian government therefore has considerable latitude in order to review, as needed, some of the plan's parameters in order to cut costs.

Tax expenditures related to retirement in Canada are among the highest of the countries studied. Canada is therefore among the countries that offer the best tax advantages regarding retirement.

Most countries have set an upper limit for the contribution rate that the general pension plan should reach. Some countries, however, have adjustment mechanisms for contributions or benefits that are more coercive than in Québec, such as benefit reductions or pension indexation. Such mechanisms have been established for cases where the contribution rate would increase to a higher level than set out in the objectives. Québec opted for an approach of public consultation.

Québec, Japan and the United States have a similar approach with respect to partial funding of their public pension plans. They aim to reach, in the mid-term, comparable reserve levels. In the other countries studied—with the exception of Sweden—reserves are either modest or non-existent.

CHAPTER 7

STRATEGIES FOR MEETING FUTURE CHALLENGES

Industrialized countries have taken different paths in order to meet the challenge of aging and thus mitigate the inevitable cost increases associated with retirement. Solutions focussed on reducing the extent or amount of benefits or finding new revenue sources. Generally, however, the industrialized countries preferred changing the parameters rather than completely overhauling the system, as observed in South America and Eastern Europe. Along with the changes in public plans, the majority of industrialized countries also established mechanisms for developing the private retirement market. This enabled compensating for the gradual reduction in public plan coverage.

This chapter will illustrate the approaches most commonly used for attaining long-term financial balance for retirement systems. The table in appendix 7.1 provides a brief outline of the major reforms that have affected pension plans throughout the world in the past 20 years.

7.1 RECENT REFORMS

An overview of reforms adopted in some countries over the past years makes it possible to identify the most commonly chosen approaches taken by other countries. It will also enable comparison between their approach and the Québec approach for meeting the future challenges which may arise.

7.1.1 United States

The United States took the lead in raising the retirement age by announcing at the time of the 1983 reform, that the normal retirement age would go up from 65 to 67 years. This increase comes into effect gradually between 2001 and 2027. The reform is joined by a series of other measures, in particular:

- taxing pensions for high-income beneficiaries;
- increasing the contribution rate;
- extending coverage to some federal and non-profit organization workers;
- reviewing survivors' benefits.

7.1.2 France

The 2003 reform was intended to harmonize plan provisions in the public and private sectors, increase the period of contribution and encourage later retirement.

Increasing the number of years of contribution needed to qualify for a full pension

The number of years required to qualify for a full pension will go up from 40 to 41 years between 2008 and 2012. A report will determine, between now and 2008, whether the increase will be applied as of 2008, or whether it will be postponed. Between 2004 and 2008, civil servants must catch up from 37,5 years to 40 years to reach private sector workers. Specific measures will apply to workers who start working very young.

Incentive to stay longer in the labour market

For people who continue to work after age 60, the pension will be increased by 3% for every additional year. In addition, people can collect both a partial retirement pension and employment earnings.

Penalty for early retirement

Private sector workers who take early retirement currently see their pension reduced by 10% for each year of early retirement. Civil servants are not subject to such a penalty. The reform, however, is aimed at establishing an actuarial reduction for civil servants who take an early retirement. It also aims to consolidate the percentage of reduction to about 5% per year of early retirement for all public and private sector workers.

Incentive for retirement-savings

New tax measures will encourage individual savings for retirement.

7.1.3 Japan

The public plan was changed in 2000. The main objective of the reform was to guarantee that the current public pension system could continue to offer what it offers now, while managing to avoid a strong increase in contributions. Without reform, it would have been necessary to double contributions between now and 2025 in order to maintain benefits at their actual level.

National Pension

The amount of the maximum pension under the National Pension increased. In order to ensure the funding stability of the National Pension, the portion of government assistance for the plan went from one third to one half of pension expenditures.

Employees' Pension Insurance (EPI)

The retirement age will progressively be raised from 60 to 65 years, from 2013 and 2025 for men and from 2018 to 2030 for women. Earnings-related pensions under the Employees' Pension Insurance are reduced by 5%. Contributions will be calculated henceforth on total wages, including premiums, rather than net wages. The contribution rate is therefore reduced. Workers aged 65 to 69 years will have to contribute; those who have employment earnings that exceed a fixed amount will have to accept a proportional reduction in their pension.

For the two plans (National Pension and EPI), the pensions for persons who reach age 65 after the month of April 2000, will be indexed according to consumer prices rather than wages.

Private plans

Since the mid-1990s, Japanese financial markets have been deregulated. The intention was to develop the financial environment. Better coverage is also planned for workers in small businesses. Since 2001, the new law has allowed for creating sectorial or individual defined contribution plans. The reform, which is accompanied by tax incentives, aims at encouraging small and medium-size businesses to create sectorial pension plans and to increase the investments on the stock market. Prior to the reform, defined contribution plans were not authorized in Japan.

Self-employed workers or workers whose employer does not offer a supplemental pension plan can join an individual defined contribution plan.

7.1.4 Germany

The German retirement system underwent significant changes in 1992 and 2001.

1992 Reform

The primary change resulting from the 1992 reform was having benefits determined according to net wages rather than gross wages. Given the increase in taxes and social contributions over the years, this has meant a reduction in benefits. The second major change resulting from the reform was increasing the normal retirement age. An actuarial adjustment was also introduced with respect to benefits for persons who retire at a different age, especially to reduce the incentive for early retirement.

2001 Reform

On 11 May 2001, a new pension reform was ratified. Called the Reister reform (named for the labour minister who adopted it), the reform is of major importance because it transforms the monolithic German system, designed by Bismarck 120 years ago, into a multi-tier system. The first objective of the Reister reform was to stabilize the rate of contribution to the general plan. The law specifies that the contribution rate cannot exceed 20% between now and 2020, and 22% between now and 2030. The replacement rate of the retirement pension, currently 70% of net wages, will gradually be reduced to 64%.

The reduction in the public pension is intended to be compensated for by higher pensions coming from private plans. To this end, contributions to both group and individual private pension plans will be subsidized. Two series of measures affecting pension plans have been adopted:

- the first concerns business-sponsored plans. The right to convert a part of wages into contributions to a pension plan was introduced in order to benefit from tax advantages. In addition, a new type of plan—Pension Funds—allows small employers to participate in plans managed by financial institutions, similar to simplified pension plans in Québec;
- the second measure concerns individuals. It is now possible to contribute to an individual RRSP-type account which must serve to purchase a retirement annuity. Low-income workers receive a subsidy from the government to assist in paying the contributions. High-income workers benefit from tax deductions.

7.1.5 United Kingdom

Since 1999, several changes have affected the British pension system.

Creation of the Minimum Income Guarantee

In April 1999, the government created the Minimum Income Guarantee, which is an assistance plan for low-income seniors that replaces the former and less generous plan, Income Support.

Replacement of the SERPS by the S2P

In April 2002, the SERPS was replaced by the State Second Pension (S2P). Under the new plan, there is an earnings-related public pension that is more generous for low- and middle-income workers. Moreover, it provides for additional credits for persons with dependent children or disabled persons.

Introduction of the Pension Credit

In April 2003, the government established the Pension Credit, which replaced the Minimum Income Guarantee, in order to better promote savings. Under the new program, an additional benefit is paid to low-income retirees. They must have accumulated credits under a pension plan or by personal savings. The new benefit reduces the real tax rate of 100% that low-income retirees had to bear under the former plan.

Stakeholder Pensions

Stakeholder Pensions are defined contribution pension plans established by employers. Since October 2001, all employers are obligated to establish such plans, except in the following cases:

- there are fewer than five workers;
- the employer sponsors a supplemental pension plan in which all workers can participate who have a minimum of years of service;

- all its workers earn less than 67 £ a week;
- the employer sponsors a Group Personal Pension Scheme, into which it contributes 3% of wages, without charging fees for withdrawals when the worker leaves the company or the plan.

The employer is not obligated to contribute to the Stakeholder Pension Scheme. The plan can receive only worker contributions. However, each worker is free to join the employer's plan. The maximum contribution from the worker is the same as that for the Personal Pension Scheme. The Stakeholder Pension Scheme is administered by an insurance company, bank or trust company. The administration fees must not exceed 1% of the funds annually. Contributions can be interrupted, resumed or changed at any time, without penalty for the participant. No charges can be applied in the case of a transfer. The plan administrators must provide an annual statement to participants attesting to contributions paid, accumulated value, investment income, transfers made and fund performance. The worker's contributions benefit from tax advantages.

7.1.6 Sweden

In Chapter 3, we saw how Sweden changed its general plan into a notional defined contribution plan. The new plan allows the contribution rate to be fixed and benefits to be adjusted as needed, if the demographic or economic situation is less favourable than expected. A detailed description of the new plan can be found in section 4.4.

7.1.7 Italy

Italy followed Sweden's example by adopting a notional defined contribution plan. A detailed description of its new plan can be found in section 4.2.

7.1.8 Finland

The Finnish government adopted a reform that will be in effect as of 2005. Most of the changes are intended to encourage workers to retire later from the labour market.

Retirement age

Retirement age will be flexible between ages 62 and 68. Currently, workers who stop working as from age 55 can receive employment insurance benefits up to age 65. Those provisions will be gradually replaced by a less generous allowance. Earnings-related benefits are currently based on years of service between 23 and 59 years. With the changes in the retirement age, any period of service between 18 and 68 years will be taken into account. The partial pension system currently offered to seniors who wish to continue working will also be less attractive.

Pension formula

The annual pension credit is currently 1,5% a year up to 59 years and 2,5% between 60 and 65 years. The pension credit will be raised for persons over age 52. The earnings-related pension will be calculated in part based on life expectancy at the time of retirement.

7.1.9 Québec

Phased retirement and early retirement

In June 1997, the *Act respecting the Québec Pension Plan* and the *Supplemental Pension Plans Act* were changed with regard to phased retirement and early retirement.

1998 reform of the Québec Pension Plan

The 1998 reform includes the following elements regarding contributions:

- a rapid increase in the contribution rate to reach an equilibrium rate in 2003 (9,9%);
- a freeze regarding the basic exemption;
- payment of contributions by working retirees.

The reform provides the following elements regarding benefits:

- pension calculated on the average MPE for five years, rather than three years;
- a freeze regarding the death benefit;
- a reduced retirement pension for disabled persons who reach age 65.

The changes to benefits represent a global cost decrease of 6% in 2025.

Moreover, the reform provides for the production of an actuarial report every three years and a public consultation every six years.

Use of surpluses from supplemental pension plans

A law adopted in 2000 specified the rules concerning the right of an employer to take a contribution holiday by appropriating a portion of a plan's surplus assets to pay the employer's current service contribution to a supplemental pension plan. The law also improves the situation of workers who change employment and simplifies certain provisions.

7.2 CHANGES UNDER REVIEW

Notwithstanding the progress made by most countries in dealing with the growing costs of pensions, some reforms have not achieved the expected magnitude. Several countries must consider a reform in several stages and some of those countries are examining the possibility of exploring new avenues. The following subsections provide examples of some of the proposals now being studied.

7.2.1 United Kingdom

In December 2002, the British government submitted a working paper on pension reform entitled *Simplicity, security and choice: working and saving for retirement*. Changes were proposed affecting public plans, supplemental pension plans and personal plans.

Public plans

People who postpone the payment of their State Pension[23] will benefit from an additional lump-sum amount. The pension will be increased by at least 10% per year of postponement, in comparison to 7,5% currently. Alternately, an additional lump-sum amount of up to 20,000 £ for a single person or 30,000 £ for a couple will be paid to a person who applies for a State Pension at age 70, instead of age 65.

Self-employed workers can participate in the State Second Pension (S2P).

[23] It is already expected that retirement age for the State Pension will increase from 60 to 65 years for women between 2010 and 2020. It is already 65 years for men. The working paper does not recommend an additional increase in retirement age.

Supplemental pension plans

The changes are especially aimed at encouraging the immediate vesting of supplemental pension plans. There is therefore greater simplicity and flexibility as a result of the following measures:

- simplification of the rules governing supplemental pension plans;
- the introduction of uniform tax rules for all pension plans. Currently, there are eight tax systems affecting pensions and various rules exist within the systems concerning contributions and benefits all pension plans;
- more flexible funding rules, adapted to each plan;
- the simplification of the structure of plans exempted from SERPS (henceforth the S2P);
- consolidation and simplification of the law on pensions with regard to administration and governance.

Several changes affect information and worker protection:

- creation of a new agency for supervising pensions. It will focus its action on plans where there is a risk of fraud, inadequate governance or poor administration;
- establishment of the right of members to be consulted when changes are made to their plan or when it is terminated;
- better protection of members in the case of pension plan termination;
- better information provided to members to enable them to identify any financing problem regarding their plan;
- the possibility for employers to make membership in the pension plan a condition of employment;
- improvement of the information provided by employers to the members of a pension plan.

Among the numerous changes proposed, some concern age:

- abolition of the mandatory retirement age;
- retirement age increased to 65 years for new public service workers;
- possibility of continuing to work after having started to receive a pension from a private plan;
- increase from 50 to 55 years the minimum age for receiving a pension from a private plan.

Personal pensions

Two propositions concern personal pensions:

- the possibility of contributing up to 200,000 £ a year to a personal pension, with a lifetime limit of 1,4 £ million;
- the introduction of new forms of annuities for converting accrued accounts.

Other subjects

Various other changes are also proposed:

- simplification of the measures affecting personal pensions in order to reduce the administrative costs and reduce the cost of financial advice;
- the introduction of legislation to eliminate age discrimination;
- various measures provided to assist senior workers in remaining in or returning to the labour market;
- the establishment of a Commission on Pensions to account for the effectiveness of the current “volunteer” approach of the retirement system.

7.2.2 United States

Option regarding the President's Commission to Strengthen Social Security

The presidential commission presented a report in December 2001 proposing changes to the general American pension plan (OASDI). The report proposes three models that provide for a portion of worker contributions to be paid to optional individual retirement-savings accounts, with the investments being controlled by the account holders.

The first model allows for a worker to voluntarily redirect a portion of his or her contributions to the OASDI into an individual account. On the whole, the model does not require any additional contribution on the part of workers, nor does it specify any change in the structure of OASDI benefits to ensure the long-term viability of the plan. The second model also allows for a worker to voluntarily redirect a portion of his or her contributions from the OASDI into an individual account. Overall, this model does not require an additional contribution on the part of workers; however, to ensure the long-term financial viability of the plan, it reduces the initial pension of new retirees under the OASDI by indexing career earnings in accordance with price, rather than wages. It also increases the benefits under the OASDI payable to low-income workers. The third model establishes optional individual accounts that allow for paying more generous benefits. A basic contribution to an individual account, in addition to current contributions, allows for redirecting a portion of the contribution to the OASDI into the individual account. This model ensures the viability of the OASDI by adding revenues and slowing growth of benefits.

7.2.3 Germany

Since the measures adopted under the Reister reform in 2001 will not be sufficient for ensuring the plan's long-term survival, the Rürup committee was formed in November 2002, whose objective was to stabilize the contribution rate regarding the public plan and, by the same token, ensure adequate income for future retirees.

The reform proposals resulting from the committee's work were published in August 2003. Two major principles were put forward. Firstly, the normal retirement age will be raised from 65 to 67 years. Secondly, the formula for pension indexation will be changed in order to link the level of benefits to changes in the dependency ratio, that is, the relation between the number of seniors and the number of workers.

7.2.4 Italy

The 1996 reform in Italy fundamentally changes the retirement system for the younger generations. However, the transition will occur over a very long period; as a result, the problem of funding the pensions of workers who will soon retire is not resolved. The Italian government plans new changes to the public plan, including raising the retirement age, which would affect people subject to the former plan.

7.2.5 Québec

The public consultation in 2004 proposed a series of changes to the Québec Pension Plan. In particular, the changes allow greater flexibility regarding retirement age and a greater degree of equity between the various categories of beneficiaries.

7.3 SUMMARY: PREFERRED STRATEGIES

The developed countries have therefore adopted various strategies for dealing with the challenges facing the retirement system. The main measures that have been established can be grouped into five large categories.

The first category involves a reduction in public pensions by means of:

- increasing the number of years required for a full pension, such as in the case of **France** following the 2003 reform;
- reducing the income replacement rate. In **Germany**, for example, the rate will go from 70% to 64% over the next few years. In the **United States**, a change was made in the calculation of the average wage used for calculating pension, based on reducing the adjustment factors of former earnings. In **Québec**, the calculation was changed in order to index wages for each year of contribution in terms of the average MPE for the last five years, rather than the last three years;
- reducing pension indexation. In **Germany**, pensions are indexed on net wages, rather than gross wages. **France** will base indexation of benefits on consumer prices for the civil servants plan, whereas private sector plans are already indexed according to consumer prices;

The second category consists of an incentive to work longer by means of:

- raising the normal retirement age. In the **United States**, an increase will be applied between 2001 and 2020 whereby the retirement age will go up from 65 to 67 years. Several other European countries—such as **Sweden** and **Italy**—will also make changes in this regard;
- reducing advantages related to early retirement. In **France**, for example, there will be larger penalties in cases of early retirement;
- granting an increase in the case of postponed retirement. **Québec** (working document) and **France** are more generous toward people who delay their retirement;
- measures that facilitate the combination of retirement income and work income, such as **Sweden**, the **United States** and **Italy**. The consultation document in **Québec** provides for such measures, as well.

The third category involves reinforcing public plan funding by means of:

- an increase in the contribution rate or pensionable wage. In **Japan**, a calendar has been established for increasing the contribution rate up to 2025, in order to achieve long-term rate stability;
- the creation of reserves. **Québec**, the **United States** and **Japan** have long applied a philosophy of partial funding of their public plan. The three countries have a very similar approach with regard to the use of the public pension plan reserve;
- an imposed limit on the contribution rate over a long term. **Canada** has adopted a mechanism according to which an insufficient contribution rate is subject to provincial consultation. **Québec** determines the adequacy of its contribution rate every three years using actuarial valuation and a public consultation takes place every six years. In **Japan**, legislation will require an adjustment in benefits every five years in order to maintain the plan's financial equilibrium.

The fourth category introduces new private mechanisms that promote:

- supplemental pension plans. **Japan**, the **United Kingdom**, the **United States** and **Québec** have chosen such a strategy;
- individual retirement-savings instruments. **Sweden**, for example, has created an individual funded account using a supplemental contribution of 2,5% of wages. **Germany** encourages people to start individual retirement-savings accounts.

The fifth (and last) category concerns reviewing the taxation of pension plans by means of:

- tax incentives on savings. In **Germany**, contributions to private plans are subsidized by granting tax deductions to high-income persons. For a low-income person, a direct subsidy is granted to the contributor. Most countries, including the **United States**, adopt a series of tax measures aimed at encouraging retirement-savings along with pension reform;
- reconciling taxation of different pension plans. In the **United Kingdom**, the working paper presented in 2001 targets taxation uniformity of pension plans. In **Canada**, the maximum contribution to an RRSP takes into account pension credits accrued in supplemental pension plans.

On the other hand, some measures that have been adopted go in the opposite direction from cost reduction and are more in keeping with a concern for equity or a need to support specific groups of the population. Such measures include:

- recognition of the number of years a person had dependent children, for the purposes of calculating pension;
- a review of the notion of spouse allowing the payment of a survivor's pension to, for example, de facto spouses and widows;
- the liberalization of minimum income programs for low-income persons.

APPENDIX 7.1

Overview of the major pension plan reforms in the industrialized countries

1978

United Kingdom

Introduction of SERPS, with possibility of opting out

1981

Latin America

Reform in Chili: Compulsory individual funded accounts

1983

United States

OASDI reform:

- retirement age raised from 65 to 67 years (between 2003 and 2027)
- tax on pensions for high-income persons

1986

United Kingdom

- Changes to SERPS (reduced replacement rate)
- Opting out broadened to include Personal Pensions starting in 1988

1992

Italy

Amato Reform:

- Retirement age raised
- Extension of the reference period
- Increase in required length of contribution
- Reduced replacement rate
- Reduced indexation

1993

France

Reform of the general plan:

- Increase in the number of years needed for a full pension (37,5 to 40)
- Reference wage based on 25 years instead of 10
- Increase based on consumer prices, rather than salaries

Latin America

Peru adopts the Chilean model

1994

Latin America

Argentina and Colombia adopt the Chilean model

1996

Italy

Dini reform: notional defined contribution plan

Latin America

Uruguay adopts the Chilean model

1997

United States
- Certain rules affecting traditional Individual Retirement Accounts
- Introduction of Roth IRAs

Italy
Prodi reform:
- Tighten the conditions for access to a longevity pension
- Increased contributions
- introduction of a system of supplemental plans

Latin America
Bolivia, Mexico and El Salvador adopt the Chilean model

1998

United States
Clinton proposal:
Transfer part of budget surpluses to Social Security to invest in the securities markets

1999

United Kingdom
Establishment of the Minimum Income Guarantee

France
Creation of a reserve fund

Germany
Changes to the public plan:
- changes to the disability pension
- changes to the early retirement age
- demographic factor added to the pension formula

Sweden
Reform involving a shift toward a notional defined benefit plan

Japan
- National Pension: pension increase
- Employees' Pension Insurance: raise retirement age from 60 to 65 years from 2013 to 2025 and reduce pension by 5%
- Review funding rules

2001

United States
- President's commission (three models for individual funded accounts)
- Adoption of the Economic Growth and Tax Reconciliation Act (EGTRA)

United Kingdom
Establishment of Stakeholder Pensions

France
Creation of the retirement orientation council

Japan
Authorization regarding supplemental defined contribution plans

2002

United States
Enron affair and review of rules regarding 401(k) retirement plans

United Kingdom
- Replace the SERPS with the S2P
- Working paper on pensions

Germany
Public plan reform:
- reduce the replacement rate
- reduce indexation
- reduce surviving spouse's pension
- additional credits for dependent children

Introduction of individual funded accounts

Italy
Changes to supplemental plans:
- payment of an employment departure allowance when the retirement pension is drawn
- measures aimed at encouraging late retirement

2003

United Kingdom
Introduction of the Pension Credit

France
Retirement reform:
- increase the number fo years for a full pension
- increase for a postponed retirement
- penalty for early retirement

CONCLUSION

STRENGTHS AND WEAKNESSES OF THE QUÉBEC SYSTEM

The review of the systems of financial security at retirement of several industrialized countries has made it possible to identify the strengths and weaknesses of the Québec system. The strengths, like the weaknesses, are attributable to constitutional, legislative and institutional factors, as well as to equity between seniors.

Legislative and institutional strengths

- Québec has a system that encompasses several components (public and private, compulsory and optional, funded and pay-as-you-go), which makes for diversification of risks;
- Public expenditures for pensions are not very high in Québec, in comparison to other countries;
- The system offers a certain flexibility to both individuals and businesses. Supplemental plans are optional, which allows employers to establish a plan if they wish to and if they have the financial capacity. Likewise, workers who are unable to participate in an SPP through their employer have the possibility of contributing to an RRSP;
- The public plan (QPP) has a funding component, as well as mechanisms for measuring the plan's financial health by means of an actuarial valuation every three years. It can also review, as needed, the plan provisions in order to ensure the plan's sustainability by means of a public consultation every six years;
- An effective law provides the framework for supplemental pension plans by:
    - ensuring plan funding;
    - guaranteeing sound investment management;
    - guaranteeing minimum benefits for members;
    - ensuring independent administration that is competent and capable of bringing together all parties to form a pension committee;
    - Lastly, the Québec system benefits from integrated and coherent taxation with regard to public plans, supplemental pension plans and RRSPs. Such integration encourages saving for retirement.

Strength as a result of fair treatment of seniors

The economic well-being of seniors is addressed:

- Québec is a forerunner among other countries in terms of indicators for income adequacy for seniors;
- The low-income rate for seniors in Canada and Québec was between 2% and 3% in the mid-1990s, which is comparable to that of other countries, such as the Netherlands and Sweden. Canada and Québec have demonstrated better than average performance with regard to reducing the risk of poverty among seniors, in comparison to the countries studied;
- In general, income inequality is not as considerable among seniors aged 65 or older as it is among working-age persons, which shows that there is a decrease of income inequalities at the time of retirement.

Weaknesses of the Québec system

In contrast, the weaknesses of the Québec system reside in its difficulty to meet the needs of certain segments of the population. Such needs stem from demographic and sociological realities of the population. The shortcomings that prevent the system from thoroughly meeting those needs are resumed as follows:

- A significant part of retirement income comes from public sources through the Old Age Security pension financed by the federal government's general revenues. Clear orientations do not exist regarding the future of the program and the Québec government does not have the power to adjust benefits according to its own objectives. The cost of the federal program will continue to increase due to the aging population, which makes for even greater uncertainty as to its future. Lastly, the real cost of the *Old Age Security Act* is not obvious to taxpayers;
- A large number of workers are not covered by supplemental pension plans. In particular, workers in small businesses and self-employed workers generally do not have the possibility of participating in a supplemental pension plan;
- Measures allowing phased retirement are not very effective and recourse to them is not widespread under the Québec Pension Plan and supplemental pension plans;
- Some SPP members can see their benefits reduced following an employer's bankruptcy, if the plan was not completely funded at the time of its termination;
- The income obtained through RRSPs depends on a person's savings habits. The tax advantages granted for RRSPs are particularly favourable for high-income persons. The amounts are not used solely for retirement because locking-in is not compulsory. Moreover, considerable amounts are withdrawn each year from RRSPs by persons who have not reached the normal retirement age. It nevertheless appears that, despite the obvious shortcomings with this savings vehicle, the flexibility offered by an RRSP strongly encourages workers to contribute;
- Survivors' benefits under the Québec Pension Plan have a complex structure and are seen as being unfair in certain cases where it is received along with a retirement pension. In addition, survivors' benefits are not well adapted to the many family models that exist in Québec.

Possible improvements: review of measures adopted by foreign countries

The following measures have been adopted elsewhere in the world and could serve as examples for Québec in the future, in improving certain aspects of its own system. In particular:

- the adoption of mechanisms in order for the system to adapt to the increase in life expectancy of the population (Sweden, Italy);
- coverage for self-employed workers by SPPs (Italy). In Italy, supplemental plans can be established, not only by an employer, group of employers or a labour union, but also by categories of workers (example: accountants, lawyers);
- measures for phased retirement that are better adapted to the labour market (France, Germany and Japan);
- tax measures that facilitate the payment of contributions to individual retirement-savings plans by low-income persons (Germany);
- survivors' benefits that are better targeted (Sweden).

Possible actions aimed at the QPP and supplemental plans

Québec, within the framework of its public consultation on the Québec Pension Plan in 2004, has already identified measures that are in line with some of the possible improvements mentioned above, including:

[24] In 1996, the federal government proposed (but did not adopt) major changes to the law in order to transform the Old Age Security pension into a Seniors Benefit especially intended for low-income seniors.

- the establishment of more flexible mechanisms that are better adapted to the diversity of career profiles regarding the transition from working life to retirement;
- support that is better focussed regarding survivors' benefits;
- greater equity between retirees and disabled persons after age 60.

Moreover, work is underway regarding supplemental pension plans:

- developing new rules for promoting the creation and maintenance of simplified pension plans;
- designing new types of plans (such as member-funded pension plans) to distribute risk differently between employers and workers;
- reviewing provisions concerning phased retirement and reconciliation with tax rules in order to foster greater recourse to such measures.

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Coordination

Pierre Plamondon

Analysis and Preparation

Claire Leroux

Denis Fugère

Collaboration

Martin Bernard

Yann Latulippe

Gilbert Ouellet

Sophie Potvin

Secretariat

Lyne Roy

Marjolaine Duval

Translation

Jill Goldberg

Graphic Design

Patrick Després

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Danièle Boivin

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