

Guide to the Canadian Pension Satellite Account



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1 Introduction

The financial preparedness of Canadians for retirement has gradually become one of the most relevant economic issues with far-reaching implications for policy-making — from fiscal and social to financial stability and sustainability decisions. Three main factors continue to drive this trend: (i) demographic effects (population aging, low fertility rates and increased life expectancy); (ii) the impact of equity market fluctuations and a low interest-rate environment on pension plan assets; as well as (iii) the trend decline in a relatively low household saving rate.

The effectiveness of pension-related debate, research and analysis, and ultimately the policy-making process, relies heavily on the availability of good quality data on pension stocks and flows. While Canadian pension assets and flows are accounted for within the Canadian System of National Accounts (CSNA), they are not fully articulated within this framework.

The Pension Satellite Account (PSA) aims to supplement the CSNA by providing additional detail on aspects of pension schemes and the movement of pension funds. It presents the values of pension stocks and flows in an integrated stock-flow matrix that parallels the framework of the CSNA, and therefore provides a comprehensive picture of the Canadian pension system. The PSA structure incorporates many aspects of pension schemes, such as contributions, investment income and withdrawals, and realized and unrealized gains and losses which contribute to change in wealth.

The PSA provides users with additional analytical datasets required to better analyze household consumption and saving behaviour in light of a significant shift in the source of funds from current income to dis-saving of accumulated assets. Dis-saving takes the form of the payment of pension benefits (employer-based plans) or withdrawals from pension assets (individual plans). It will allow a deeper understanding of personal wealth and its distribution.

The PSA project first released estimates in June 2008 for the level (or stock) of pension assets. The first full-matrix PSA release in 2009 covered the level of pension assets for the period 1990 to 2008 and the pension flows for the period 1990 to 2007.

2 Objective and scope

The CSNA is a fully integrated set of accounts for each of the main sectors in the economy, which includes various transactions and positions related to pensions.¹ While pension activity and wealth is included in the core CSNA, they do not constitute primary variables nor are they a main use of the national accounts.² As a result, pensions are not fully articulated in the current system.

This gave rise to the need for a satellite account to clearly articulate the pension assets and flows, in light of substantial growth in pension saving and assets and in the face of an ageing population. The PSA can shed light on changes in personal saving and consumption, as well as the impact of market fluctuations on net worth.

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1. In the CSNA framework, the participants in economic activities are grouped into four main institutional sectors: the personal sector (i.e., persons and unincorporated business), the corporate sector, the government sector and the non-resident sector.
 2. The CSNA is broken down into two architectures: the production accounts and the sector accounts. The latter open with two main measures: gross domestic product (GDP) income arising from production and GDP final expenditure on production. The quarterly *Income and Expenditure Accounts* GDP estimates lead into the sector accounts. These aggregates and their components are broken down into sectoral income and outlay accounts and capital accounts. Added to these are quarterly financial transactions by sector (*Financial Flow Accounts*) to complete the flow accounts. Each period is framed by an opening and closing balance sheet (*National Balance Sheet Accounts*).

The structure and intricacies of the Canadian pension system necessitate the PSA. Issues such as the recognition and ownership of pension assets and corresponding liabilities, as well as the nature of pension flows, are critical to the definition and understanding of these indicators of households' financial position and behaviour.

2.1 Pensions in the national accounts framework

In Canada, there is a three-tier system of social programs and saving schemes designed to provide funds for retirement: social security, employer-based pension plans, and individual registered saving plans (RSP) which are tax sheltered to encourage Canadians to accumulate retirement assets.

The CSNA pension treatment reflects to a large extent the most fundamental differences between these three pension tiers.

Social security

In Canada, there are two social security programs providing retirement income to the elderly: (i) the Canada Pension Plan (CPP) and Quebec Pension Plan (QPP); and (ii) the Old Age Security/Guaranteed Income Supplement (OAS/GIS).

In the CSNA framework, the CPP and QPP pension assets are owned by the government sector and are articulated, therefore, in the government sector balance sheet accounts. As a result, there is no liability of government recognized in the personal sector assets for these social programs.

Employee contributions to CPP and QPP are reflected in wages and salaries and employer contributions in supplementary labour income of households. However, in the CSNA, both employee and employer contributions are treated as current transfers remitted to the government from the personal sector, therefore they are not included in the personal saving estimation. Investment income on CPP and QPP assets is part of government revenue, and the plans contribute to overall government saving and surplus/deficit. Benefit payments, i.e., withdrawals, are treated as part of current transfers from the government sector to the personal sector.

For the OAS/GIS pension scheme, benefit payments are treated as current transfers from the government to the personal sector. There are no other explicit entries in the CSNA — no contributions made into the plan, no reserves set aside and no accumulated assets.

Employer-based pension plans

In the case of autonomous employer-based pension plans, the CSNA assigns the pension assets to the personal sector, with the corresponding liability on the corporate sector balance sheet accounts where the invested assets' detail is articulated.

Tax-deductible employee contributions to employer-based pension plans are implicit, being included in wages and salaries. Employer contributions are treated as a labour cost and included in supplementary labour income of households. The autonomous pension plans are treated in the CSNA as collective investment schemes that are consolidated in the current account items of the personal sector. Consequently, contributions to autonomous employer-based plans remain in the personal sector and the investment income earned on the pension assets is counted in household income, and both are reflected in personal saving. Withdrawals, while taxable, are not treated as income but rather as financial flows that are mirrored in personal saving and represent a drawing down of assets or dis-saving.

The CSNA treatment of government unfunded employer-based pension plans is consistent with that of the funded employer-based pension plans. The unfunded pension liabilities are classified as liabilities of the government sector and as assets of the personal sector in the national balance sheet accounts³.

Individual registered savings plans

The individual registered savings plans (RSP) pension assets are owned by the personal sector. As such, the personal sector balance sheet account estimates include accumulated net inflows (contributions and investment income less withdrawals) as well as capital gains and losses on these investments.

In the CSNA, contributions to individual plans are made out of current gross income, most of them arising from wages and salaries. Contributions are not explicitly recorded in the system as part of current outlays, so that they are implicitly included in estimates of personal saving. Investment income on these plans' assets earned in the current period also contributes to personal saving. Withdrawals that are used as a source of funds for personal consumption expenditure in a given period are reflected in that period's expenditure, and thus serve to reduce personal saving (i.e., represent dis-saving).

2.2 The scope of the PSA

Generally, sources of funds in retirement can include:

- Social security, which includes government transfers, the OAS/GIS, as well as the CPP and the QPP.
- Pension income from employer-based pension plans including both defined benefit and defined contribution plans. Pension plans of public servants including government consolidated revenue arrangements are included in this category.
- Individual registered saving plans such as registered retirement saving plans and locked-in retirement accounts as well as assets held in payout vehicles such as registered retirement income funds, life income funds or annuities.
- Investment income earned on non-registered assets other than those in the retirement schemes, including interest, rent, and dividends.
- Liquidation of unregistered financial assets or non-financial assets.
- Labour income, income from employment (wages and salaries).

The PSA covers the three tiers of the Canadian pension system: social security, employer-based pension plans, and voluntary individual RSPs. Given that its focus is strictly on pensions, the PSA does not identify all the possible sources of funds that could be used for retirement, such as homeowner equity, intra-family transfers of assets or income, or personal savings held outside pension saving vehicles.

The PSA does not take into account the use that is being made of these pension vehicles or the timing of withdrawals of funds earmarked for retirement. Any drawing down of accumulated pension assets prior to retirement are included as pension withdrawals.

3. The treatment of government unfunded pension liabilities (UPL) in the national accounts framework has been subject to much debate over the years. Strictly speaking, this type of government pension liabilities is defined as 'unfunded' as there are no invested assets. In the past, the Canadian national accounts' treatment was to exclude UPL. More specifically, UPL was excluded from the CSNA government balance sheet and household sector assets, which was consistent with the view that for each liability there must be an asset. In 2000, the CSNA treatment was revised to include a full accounting for UPL. This decision was based on several important considerations: the recognition of these liabilities in official government public accounts, the need to eliminate the asymmetry between the treatment of funded and unfunded schemes and its effects on the national accounts' components as well as the need to more accurately state government gross and net debt in the CSNA. Notably, this revision preceded the recognition of UPL in SNA2008.

3 Structure

The PSA is a set of accounts presented in an integrated stock-flow matrix form that closely resembles the CSNA framework. The concepts, definitions and accounting rules used in the PSA are consistent with and follow the conventions of the CSNA. This makes for coherent data and allows national accountants and analysts to easily integrate the PSA data with that of the CSNA in conducting analysis. The availability of these data may also facilitate cross-country comparisons.

The PSA stock-flow structure includes wealth positions (stocks of assets) at market values, inflows and outlays of funds, and other changes in wealth position. More specifically, the components of wealth change are:

- Inflows of contributions and investment income as well as outflows in the form of withdrawals (which include payments of pension benefits) both of which are used to fund financial transactions or investment activity; and,
- Revaluations of investments and other changes in assets.

By definition, in a closed stock-flow matrix, the revaluations and other changes in assets comprise all changes in the wealth position not explained by contributions, investment income and withdrawals. This includes capital gains and losses, including those arising from exchange rate adjustments. For the purposes of the PSA, administration costs and other miscellaneous expenses and revenues are also included in other changes in assets.⁴

The PSA presents data for each of the three tiers of the pension system: (i) social security, (ii) employer-based pension plans, and (iii) voluntary individual RSPs. The basic matrix structure of the PSA is presented in the Appendix.

The institutional dimension of the PSA presentation has been mainly defined by data availability. The breakdown of the three tiers into further detail was provided where data supported it and reflects a mixture of detail by program and by institutional dimension. In the current format, social security is broken down into CPP, QPP and OAS/GIS. Employer-based pension plans are presented as trustee plans (private and public sectors), unfunded government plans, and other plans.

The detail available for individual RSPs includes deposit-type registered retirement saving plans (RRSP) in banks and life insurance products, RRSP investments in mutual funds and segregated funds, and other. This last category includes monies in locked-in retirement accounts (LIRA), locked-in life income funds (LRIF), life income funds (LIF), registered retirement income funds (RRIF), payout annuities from life insurance companies and self-directed RRSPs not included elsewhere. The data available for the development of flow estimates did not support an equivalent breakdown of individual RSPs and therefore only total flows for the third tier level are provided.

4. A lack of detailed data precluded the consistent partitioning of administration costs and miscellaneous expenses and revenues from the revaluations and other changes in assets account.

4 Methodology by type of pension plan

4.1 Tier 1 - Social security

In Canada, there are two social security programs providing retirement income to the elderly.

Established in 1966, the CPP and QPP are mandatory, publicly administered, defined benefit pension plans, and comprise one component of social security in Canada. These publicly managed plans are contributory, earnings-related social insurance programs. The purpose of the CPP and QPP is to provide workers and their families with basic level retirement income as well as some financial protection in case of disability or death. The employee and employer each pay half of the contributions. For the self-employed, the workers pay both portions.

The second component is the OAS/GIS program which provides a minimum income guarantee for seniors. It is a non-contributory plan and benefits are paid out of government general revenue.

4.1.1 Canada Pension Plan and Quebec Pension Plan

Asset values for the CPP are taken from the CSNA *National Balance Sheet Accounts* (NBSA). The CPP NBSA estimates are mainly based on the quarterly financial statements and annual reports of the Canada Pension Plan Investment Board (CPPIB). They also draw on information published in the *Public Accounts of Canada* and the CPP monthly reports provided by Human Resources and Skills Development Canada (HRSDC).

The NBSA is also the source for QPP assets. The QPP NBSA estimates are mainly based on the financial statements and annual reports from the Caisse de dépôt du Québec and the Régie des rentes du Québec.

The data source for contributions, investment income and withdrawals for the CPP and QPP is the *National Income and Expenditure Accounts* (NIEA) government sector accounts. In the NIEA, the estimates of CPP financial flows are based on information from the Government of Canada balance sheets as provided in the *Public Accounts of Canada* supplemented by monthly reports provided by Public Works and Government Services Canada (PWGSC) and Canada Revenue Agency (CRA).

Contributions to the CPP and QPP are included in contributions to social insurance, which can be found under the current transfer heading of the government income and outlay accounts. Investment income from the CPP and QPP is embedded in total investment income in the government income and outlay accounts. Withdrawals are included in transfers to persons in the government income and outlay accounts.

The derivation of revaluations and other changes account estimates is based on a variety of sources, including data on realized and unrealized gains and losses, as well as on portfolio composition, available in the CPP and QPP reports (e.g., financial statements, annual reports). These estimates are further confronted against relevant market indicators as well as against results from NBSA institutional sectors with similar characteristics.

4.1.2 Old Age Security and Guaranteed Income Supplement

The OAS and GIS programs, referred to as pay-as-you-go programs, are transfers from the government sector to persons. Therefore there are no accumulated assets associated with OAS/GIS and no contributions. Benefit payments are made out of general government revenue. As there is no wealth position, there is no investment income or revaluations and other changes in assets for these programs.

Withdrawal estimates for OAS/GIS are based on the NIEA estimates of current transfers to persons in the federal government sector. The source for this information is the *Public Accounts of Canada* supplemented by monthly reports provided by the PWGSC and CRA.

Some provinces provide additional transfers to recipients of OAS/GIS. Estimates for the provincial top-up programs for the OAS/GIS are available from the provincial public accounts on a fiscal year basis and are included in the OAS/GIS withdrawal estimates.

4.2 Tier 2 - Employer-based pension plans

Employer-based plans, often referred to as employer-sponsored plans, cover a variety of arrangements in both the public and private sectors. These plans are established by either employers or unions to provide employees with a regular income at retirement, or, in rare cases, are co-sponsored. Employer-based plans typically pool funds from employers and employees, and are funded (based on the invested assets criterion) to a very large extent.

Several main types of arrangements are generally distinguished in the employer-based pension plan universe: autonomous versus non-autonomous plans, funded versus unfunded plans and defined-benefit versus defined-contribution plans.

An autonomous (or registered) pension plan is an employer-sponsored plan registered with the CRA and most commonly also with one of the pension regulatory authorities.⁵ The purpose of such plans is to provide employees with a regular income at retirement. According to the provisions of the *Income Tax Act*, an autonomous pension plan must be funded according to the terms of one of the following funding arrangements: a trust agreement, an insurance company contract or an arrangement administered by the federal or a provincial government.

Autonomous pension plans, representing employees in both the private and public sectors, hold the majority of the assets in employer-based plans in Canada. A trustee pension plan is one in which the plan sponsor (employer or union) chooses a trustee to be responsible for investing the plan's assets or for choosing an investor for the plan's assets. The contract between the plan sponsor and the trustee describes the trustee's authority and responsibilities for investing and administering plan assets. Contracts with insurance companies account for the bulk of the remainder of autonomous employer-based pension plans.

Large defined-benefit trustee pension plans fall under legislation which requires that the fund be managed by an independent trustee and actuarial evaluations be done every five years in order to determine if the plan is underfunded (actuarial deficit) or overfunded (actuarial surplus). If the pension is sponsored by the employer, any actuarial surpluses are generally run down by contribution holidays for the employer and, in some case, employees, while deficits are made up by large lump-sum employer contributions to the plan.

There are other types of employer-based plans which are not subject to pension regulations and may have their own acts regulating their operations. In Canada, legislation permits unfunded pension plans that is, no invested assets only in the government sector. These plans are viewed as non-autonomous and cover the employees of the federal government as well as certain provincial government administrations.

Among employer-based plans, there are also deferred profit sharing plans (DPSP), an arrangement whereby the employer's contribution to the plan is a percentage of the employer's profits. The trustee under a DPSP is usually a Canadian trust or life insurance company. Employer contributions, up to certain limits, are tax deductible for the employer. Since 1991, employee contributions to DPSPs have no longer been permitted. In contrast with registered pension plans, DPSPs allow for the payout of lump sums upon retirement.

In the past, Canadian government annuities also provided a means of saving for retirement and individuals were able to contribute towards the purchase of a government annuity either on their own or through their employers as part of a pension plan. In 1975, an act of parliament formally ended the sale of government annuities. Employers could still register new employees under group contracts until 1979. However, since many Canadians still have annuity contracts and certificates, the federal government continues to administer assets and payments for those certificates currently being paid out and for those due to mature over the next twenty to thirty years. Although not strictly an employer-based pension plan, Canadian government annuities are included in the second tier of the PSA as it is not possible to separate assets or withdrawals by individuals who had purchased these annuities through their employers versus those who had done so on their own behalf.

5. All contributions by employees are income tax deductible and no tax accrues on the pension plan investment income or capital gains. The tax accrues only when pension benefits are paid.

An important dimension for the second tier pension plans is the distinction between defined-benefit and defined-contribution plans which requires data at the member level because different members can be offered different pension conditions within the same plan. Furthermore, within the same pension fund, many plans with various pension arrangements also co-exist. Unfortunately, our currently-available data sources did not allow a consistent separate estimation of defined-benefit and defined-contribution pension plans.

4.2.1 Trusteed pension plans

The PSA estimates for trusteed pension plans (TPP) assets are based on the NBSA market value estimates of TPP net financial liabilities. The NBSA estimates, in turn, are derived from the two main surveys of trusteed pension funds, both administered by Statistics Canada: the *Quarterly Survey of Trusteed Pension Funds* and the biennial *Census of Trusteed Pension Funds*. Both are surveying funds, not plans. Many large corporations have separate pension plans for various parts of their operations, such as different geographic units, subsidiary or affiliated companies or different classes of employees. In many cases the contributions generated by these separate plans are consolidated in one fund. Consequently, there is a considerable difference in the number of plans and funds.

The NBSA estimates, and therefore the PSA estimates, may not always be equal to the survey estimates for the TPP assets because of adjustments made in the NBSA to align the estimates with other relevant financial statistics on sources and disposition of funds, as well as adjustments for TPP assets placed in segregated funds.

The breakdown into public and private sector TPP is not available directly from the NBSA estimates. The fourth quarter estimates of the *Quarterly Survey of Trusteed Pension Funds* for the public and private sectors are used to derive the sector estimates. The ratios calculated from the published gross assets by sector are applied to the total NBSA market value of TPP net financial liabilities to estimate public sector and private sector TPP assets.

The public-private sector boundary differs somewhat from that used in the rest of the CSNA. There are numerous government business enterprises that are classified in the business sector in the CSNA (private sector) whose employees are covered under the public service pension plan. In the PSA, they are thus included under public sector trusteed plans although their employers belong to the private sector in the CSNA.

Contribution estimates for TPP are derived using the Statistics Canada's annual *Pension Plans in Canada* survey as it is the most complete source of information for this variable.

For TPP investment income and withdrawals, the estimates are based on data from the *Quarterly Survey of Trusteed Pension Funds*.

The derivation of revaluations and other changes account estimates is based on a variety of sources, including survey data on realized and unrealized gains and losses as well as on portfolio composition. These estimates are further confronted against relevant market indicators as well as with results from NBSA institutional investors' sectors with similar characteristics.

4.2.2 Government consolidated revenue arrangements

The government consolidated revenue arrangements PSA component covers non-autonomous unfunded government pension plans. Non-autonomous government plans record a pension liability (typically, at both accumulated and actuarial value) and book interest on these liabilities.

In Canada only governments are allowed, by law, to operate unfunded pension plans and only the federal government and certain provincial governments have been doing so. Over time, a number of government plans have been converted from unfunded non-autonomous plans to funded autonomous plans.

Although no tradable assets exist for government consolidated revenue arrangements, the PSA provides an estimate of pension assets for this type of plan based on the market value of pension liabilities reported in the public accounts of employer governments. In the PSA these liabilities are shown as being owed by the employer government to individuals. This treatment is consistent with the CSNA approach.

These liabilities include obligations for both pensions and life insurance. Although it would be possible to remove the life insurance (or what is sometimes called death benefits) portion from the assets and the contributions, no estimate has been developed for the corresponding investment income and withdrawals. As the life insurance portion is a very small proportion of the total (around 1%), it was decided that no further data development would be done to remove the life insurance portion of all flows and that, to be consistent, the life insurance portion would remain included in all the PSA components.

Employer and employee contributions to these unfunded public sector plans are derived from the NIEA personal sector estimates of income from wages, salaries and supplementary labour income.

The investment income of government consolidated revenue arrangements is the interest booked on the associated liabilities. The investment income estimation is based on the NIEA estimates of investment income, a component of the income of the personal sector.

Pension benefits are treated as intra-sectoral transfers between pension plans and retirees, both classified within the NIEA personal sector.

All data for flows originate from the public accounts of employer governments.

The revaluations and other changes account estimates are assessed against revaluations and other changes account estimates for the other PSA pension plan categories and are further confronted against relevant market indicators.

4.2.3 Other employer-based pension plans

This category includes three additional types of employer-based pension plans: insurance company contracts, government of Canada annuities, and deferred profit sharing plans.

4.2.3.1 Insurance company contracts

Insurance company contracts may take two forms:

- Fully guaranteed insurance company contracts for which all purchased benefits are fully guaranteed. Deferred annuities are purchased yearly, and funds are merged with the general assets of an insurance company.
- Not fully guaranteed insurance company contracts which do not fully insure all benefits. Most often these are deposit administration and segregated fund contracts. In the former type, the principal and interest are guaranteed by the insurer, but there is no guarantee that this will finance all the benefits. In segregated fund arrangements, the monies are invested outside the general funds of the insurance company but there are no guarantees on the investment return, nor are the benefits guaranteed.

Estimates for pension assets covered under the insurance company contracts category are derived from data provided by the Canadian Life and Health Insurance Association (CLHIA). The CLHIA publishes the results of its member survey in the publication *Annuity Business in Canada*.

The PSA estimates for insurance company contracts cover deferred annuities, registered pension plans (still active) and paid-up group annuities.

Contributions to insurance company contracts are based on the CLHIA's estimates of premiums written for the above-mentioned categories as published in the *Annuity Business in Canada*.

There are no data available for withdrawals or investment income for insurance company contracts. The PSA estimates are therefore derived by applying the implicit withdrawal rate (withdrawals over year-end assets) and, respectively, the rate of return (investment income over year-end assets) calculated for the private sector TPP, to the insurance company contracts pension assets estimates.

4.2.3.2 Government of Canada annuities

Government of Canada annuities are included in the NBSA personal sector assets with the corresponding liability on the government sector's balance sheet. However, under the current granularity of the NBSA sector accounts, no estimates of the government of Canada annuities are readily available.

The PSA pension assets for this category are therefore estimates of the corresponding government liability as published in the *Public Accounts of Canada*. Additional sources of data used are monthly statements provided by the PWGSC and CRA.

There are no contributions to government of Canada annuities as the program was terminated in 1975. Although implicitly included under transfers to persons and investment income respectively, withdrawals and investment income are not fully articulated in the NIEA sector accounts. Therefore, the data for these estimates were obtained directly from the *Public Accounts of Canada*.

For all estimates where the main data source is the *Public Accounts of Canada*, an adjustment is applied to rebase the fiscal year estimates to calendar years. Also, for any data point for which the *Public Accounts of Canada* are not yet available, the estimation relies on additional sources of data (e.g., monthly statements provided by the PWGSC and CRA) as well as projections based on average growth rates.

4.2.3.3 Deferred profit sharing plans

Two data sources are used for the derivation of deferred profit sharing plan (DPSP) asset estimates: Statistics Canada's *Survey of Financial Security (SFS)* and CLHIA's *Annuity Business in Canada*. The SFS is an occasional survey that provides data on the net worth (wealth) of Canadian households. The results of two SFS surveys are available for the period covered in the PSA release: 1999 and 2005. The annual CLHIA data on its members' DPSP assets, available from the *Annuity Business in Canada* publication, are used to complete the PSA DPSP asset estimates.⁶ Specifically, the growth rate derived from the CLHIA data is assumed representative for the DPSP universe and consequently used to extrapolate the SFS-based asset benchmarks.

The derivation of contributions to DPSP plans is based on the annual CLHIA data on contributions to DPSP ('premiums' in the *Annuity Business in Canada*) under the assumption that the CLHIA-based contributions-to-assets ratio is representative for the larger DPSP universe. The DPSP asset estimates are then used to complete the calculation of contributions.

There is no source of information on the investment income generated for DPSPs. An estimate is therefore generated based on the assumption that the rate of return of DPSPs is similar to that of other types of employer-based plans. The derivation uses the estimated DPSP assets and an average ratio of investment income to assets calculated for all other types of employer-based plans.

Withdrawals from DPSPs are estimated using CRA tax data, more specifically T4A slips. The following variables are used to obtain total DPSP payouts: i) lump-sum payments which are amounts paid out of a DPSP not eligible for transfer; ii) benefit amounts received; and iii) the amount of annuity paid by an employer to an individual under a DPSP which has been revoked from government registration.

6. However, the insurance industry does not represent the full coverage of DPSP as other types of financial institutions offer this type of product.

The revaluations and other changes account estimates for the other employer-based pension plans category are assessed against the revaluations and other changes account estimates for other PSA pension plan categories and are further confronted against relevant market indicators.

4.3 Tier 3 - Individual registered saving plans

In Canada, to encourage people to save for retirement and share the financial preparedness responsibility with the government and employers, registered retirement savings plans (RRSP) were introduced in 1957. Contributions to RRSPs are tax-sheltered up to an income-based limit and are on a voluntary basis. Withdrawals are allowed but subject to income tax at the time of withdrawal. The RRSP funds will be transferred to a tax-sheltered payout vehicle such as registered retirement income funds (RRIF) or an annuity when the owner turns age 69. This type of plan has gained popularity over the years and currently accounts for one third of total pension assets. Included, although not identified as a separate sub-category, are group RRSPs, which, in fact, are collections of individual RRSPs administered on a group basis.

Asset information is published for three sub-categories of individual registered savings plans (RSP) as described below. Flow information could only be produced at the aggregate level for the third tier.

The SFS provides benchmarks for pension assets held in individual RSPs for the years 1999 and 2005, excluding payout annuities purchased from life insurance companies. The details of the methodology employed for the estimation of individual RSP pension assets are presented below.

- Up to mid-1990s, an established time series was available for known components of individual RRSPs, including those significant amounts held in deposits and mutual funds. Estimating the growing portion of self-directed RRSPs (relatively quite small in the early 1990s) is more challenging; however, the SFS provided important benchmarks to establish the totals for RRSPs in the late 1990s and mid-2000's.
- For the period 1990 to 1999: The SFS 1999 asset benchmark is projected back to 1990 using the growth rate of a composite indicator, composed of the asset estimates for RRSPs held in deposit-type products, RRSPs held in mutual funds and segregated funds, life income funds (LIF) and RRIFs. Finally, an estimate for payout annuities is then added.
- For the period 1999 to 2005: From 1999 onwards, Ipsos-Reid data covering total RRSPs, RRIFs, and LIFs were available in their *Canadian Financial Monitor* publication.⁷ The implied growth rate of the Ipsos-Reid base total RSPs was used in the extrapolation of the SFS data between 1999 and 2005. The total individual RSP assets estimate is finalized by the addition of an estimate for payout annuities
- For the period 2005 onwards: The SFS 2005 asset benchmark is projected forward by referencing the growth rate of the same indicator for the years 1999 to 2005, that is, the Ipsos-Reid estimate of the assets held in RRSPs, RRIFs, and LIFs. An estimate for payout annuities is then added to obtain a total individual RSP asset estimate.
- For all periods, the estimates are assessed against relevant market information and indicators that shed light on the growth of invested assets from 1990 onwards (e.g., Toronto Stock Exchange (TSX)), as well as confronted against sectors with significant portfolio investment growth.

The flows for individual RSPs are published at the aggregate third tier level only, because of a lack of detailed data for the components.

Contributions are estimated at the aggregate individual RSP level based on CRA data from T1 tax returns. These are the amounts contributed for the tax year to an RRSP and deducted against the current year's income.

Estimates of investment income for the third tier are built from the components. For deposits in RRSP accounts with chartered banks, credit unions and trust and mortgage loan companies, the investment income estimate is derived using the total (RRSP and non-RRSP assets) investment income pro-rated for the estimated RRSP asset

7. Ipsos-Reid launched the *Canadian Financial Monitor* in 1999. The publication is based on data collected on a monthly basis through a self-completed mail survey gathered from an annual sample of over 12,000 households.

component. For total investment income, data from Statistics Canada's *Quarterly Survey of Financial Statements* are used, while the RRSP asset component is derived as the ratio of assets held in RRSPs in these institutions (the PSA asset estimate) and total NBSA asset estimates for these sector accounts.

For RRSPs held in deposit-type products with life insurance companies, a five-year guaranteed investment certificate (GIC) rate is applied to the estimated assets in this category to derive the associated investment income.

To estimate the investment income for RRSPs held in mutual funds, total investment income (excluding capital gains) of total unit holders in mutual funds is multiplied by the ratio of RRSP assets as derived in the PSA to the total assets held in mutual funds. The data source for investment income and assets held in mutual funds is the *Quarterly Survey of Financial Statements*.

To estimate investment income for RRSPs held in segregated fund accounts, a five-year GIC rate is applied to the estimated assets in this category.

Finally, the investment income estimate for the remaining types of individual RSP accounts (including locked-in retirement accounts, locked-in retirement income funds, LIFs, RRIFs, self-directed RRSPs and payout annuities) is derived by applying the average rate of return (the ratio of investment income to assets) for the deposit, mutual fund and segregated fund accounts, to the asset estimate for the other individual RSP category.

Estimates of outflows for individual RSPs are derived directly from CRA tax data and are published at the aggregate third tier level only. Individual RRSP income is extracted from the T1 tax return file.⁸ The RRSP income represents RRSP withdrawals during the tax year. This amount does not include payments from registered income funds. Withdrawals from registered income funds are obtained from T4RIF tax slips and added to the RRSP income to derive the estimate of total third tier withdrawals.

The derivation of revaluations and other changes account estimates is based on a variety of sources, including survey data on gains and losses and investment portfolio composition. These estimates are assessed against the revaluations and other changes account estimates for other PSA pension plan categories and are further confronted against relevant market indicators.

4.3.1 Deposits in RRSP accounts

Deposits in RRSP accounts include assets held in RRSP accounts with chartered banks, credit unions, trust and mortgage loan companies as well as assets held in deposit-type RRSP accounts with life insurance companies.

Estimates of assets held in RRSP accounts with banks, credit unions and trust and mortgage loan companies are obtained from the *Quarterly Survey of Financial Statements*.

Assets held in deposit-type products with life insurance companies are held in general funds (capital guaranteed). Estimates for these assets are obtained from the CLHIA data published in *Annuity Business in Canada*.

4.3.2 Mutual fund investments and segregated funds in RRSP accounts

There is no direct estimate for the market value of assets held in mutual funds in RRSP accounts. A market value time series is constructed by applying a ratio of book value assets in mutual funds in RRSP accounts to total unit holder's book value equity in mutual funds, to the NBSA estimate for total mutual fund equity at market value. The underlying data source for these series is the *Quarterly Survey of Financial Statements*.

8. Withdrawals from RRSPs are considered income from a tax perspective as they are subject to income taxes. However, the CSNA framework (and the PSA context) does not view RRSP withdrawals as income, but as a source of funds from drawing down assets.

Management and overhead fees for mutual funds are included in the revaluations and other changes in assets account.

Assets held in market-based RRSP products with life insurance companies are held in segregated funds. Estimates for these assets are obtained from the CLHIA data in *Annuity Business in Canada*.

4.3.3 Other individual RSPs

Individual RSPs that are not classified as either deposit-type RRSP accounts or mutual and segregated fund RRSP accounts combine to form the other individual RSP category. A relative lack of data precludes the derivation of good-quality estimates for this category at a higher level of detail.

Included in the 'other' category are the following individual RSP types: life income funds (LIF), registered retirement income funds (RRIF), locked-in retirement accounts (LIRA), locked-in retirement income funds (LRIF), self-directed RRSPs and life annuities.

Asset estimates for LIF and RRIF are available from Ipsos-Reid in the *Canadian Financial Monitor* data starting with 1999. For the period 1990 to 1998, the estimates were derived based on CLHIA LIF and RRIF asset estimates which cover, however, only the portion of RRIFs and LIFs administered by life insurance companies. Under the assumption that CLHIA growth rates are representative for the entire RRIF and LIF universe, these growth rates were used to project back the 1999 Ipsos-Reid total asset estimate.

Asset estimates for individual registered payout annuities purchased from life insurance companies are available from CLHIA in its *Annuity Business in Canada*.

Appendix: The basic stock-flow matrix structure of the PSA

	Opening wealth position	Inflows: Contributions, Investment income	Outflows: Withdrawals	Revaluations and other changes in assets	Closing wealth position
	1	2	3	4	5
Social security	Published data	Published data	Published data	Published data	Published data
Canada Pension Plan	Published data	Published data	Published data	Published data	Published data
Quebec Pension Plan	Published data	Published data	Published data	Published data	Published data
Old Age Security benefit payments	Unpublished data	Unpublished data	Published data	Unpublished data	Unpublished data
Employer-based pension plans	Published data	Published data	Published data	Published data	Published data
Trusteed pension plans	Published data	Published data	Published data	Published data	Published data
Trusteed pension plans (public sector)	Published data	Published data	Published data	Published data	Published data
Trusteed pension plans (private sector)	Published data	Published data	Published data	Published data	Published data
Government consolidated revenue arrangements	Published data	Published data	Published data	Published data	Published data
Other employer-based pension plans	Published data	Published data	Published data	Published data	Published data
Insurance company contracts	Published data	Unpublished data	Unpublished data	Unpublished data	Published data
Government of Canada annuities	Published data	Unpublished data	Unpublished data	Unpublished data	Published data
Deferred profit sharing plans	Published data	Unpublished data	Unpublished data	Unpublished data	Published data
Individual registered saving plans	Published data	Published data	Published data	Published data	Published data
Deposits in RRSP accounts	Published data	Unpublished data	Unpublished data	Unpublished data	Published data
Mutual and segregated funds in RRSP accounts	Published data	Unpublished data	Unpublished data	Unpublished data	Published data
Other individual registered saving plans	Published data	Unpublished data	Unpublished data	Unpublished data	Published data

Note: Elements of both National Balance Sheet Accounts (NBSA) (i.e., wealth positions, columns 1 and 5) and Financial Flow Accounts (FFA) (i.e., financial transactions, columns 2 and 3) are easily identifiable in the PSA structure.

Glossary

Annuity: In pension terminology, periodic payments (usually monthly) provided by the terms of a contract for the lifetime of an individual (the annuitant) or the individual and his or her designated beneficiary; may be fixed or varying amount, and may continue for a period after the annuitant's death.

Autonomous pension plans: Pension funds that are separate institutional units established for purposes of providing incomes on retirement for specific groups of employees and which are organised, and directed, by private or public employers or jointly by the employers and their employees.

Deferred profit sharing plan: An arrangement under which an employer may share profits from their business with all or a designated group of employees to provide pensions.

Defined-benefit plan: A pension plan in which the level of pension benefits promised to participating employees is guaranteed; benefits are related by some formula to participants' length of service and salary and are not totally dependent on either the participants' contributions or the assets in the fund. To be distinguished from a defined-contribution plan.

Defined-contribution plan: A plan under which the amount of the employer contribution per plan member and, where applicable, the amount of the employee contribution is specified in advance and the benefits to be received by the pensioner is calculated at the date of retirement based on the accumulated contributions and the return on the investment of the contributions. Also known as money purchase pension plans.

Funded pension plan: A pension plan that accumulates dedicated assets to cover the plan's liabilities.

Group registered retirement saving plan (RRSP): An employer-sponsored retirement savings plan, similar to an individual RRSP, but administered on a group basis by the employer.

Non-autonomous pension plans: Pension plans that do not constitute separate institutional units. With this type of plan, the employer maintains a special reserve that is segregated from its other reserves. These pension reserves and/or funds are treated as assets that belong to the beneficiaries and not the employer.

Pay-as-you-go plan: An *unfunded* pension plan where no assets are set aside and the benefits are paid for by the employer or other pension sponsor as and when they are paid. Pension arrangements provided by the state in most countries in the world are unfunded, with benefits paid directly from current workers' contributions and taxes.

Pension fund: A portfolio of financial assets, forming an independent legal entity, managed for the purpose of meeting retirement benefit payments as defined by a pension plan. The funding instrument is the legal document that defines the obligation of the funding agency (e.g., trust company, insurance company, pension fund society) with respect to the pension plan. It is defined as the agreement or contractual arrangements under which contributions are held, accumulated and invested. In many cases, the individual fund may be split amongst different investment managers through contractual arrangements with any number of trust companies, insurance companies or investment counsellors. An important distinction exists between pension funds and pension plans. In many cases, several pension plans have their contributions consolidated in one pension fund. Alternatively, a given pension plan with a specific investment strategy may choose to direct its generated contributions to more than one pension fund.

Pension plan: A contract between an employer, group of employers or a union, with employees to provide a lifetime income to retired employees for the service they have provided.

Registered retirement saving plan (RRSP): A savings arrangement available from most major financial institutions that accumulates contributions and investment earnings on a tax-sheltered basis.

Trustee: The fiduciary appointed to oversee the day to day management of property owned by a trust. A trustee can be an individual, an institution, such as a bank or trust company, or a combination of both. A trust is a fiduciary relationship in which individuals (at least three) or a trust company hold title to the assets of the fund in accordance with the trust agreement, for the benefit of the plan members.

Unfunded pension plan: Plan that is financed directly from contributions from the plan sponsor or provider and/or the plan participant. Unfunded pension plans are said to be paid on a current disbursement method (also known as the pay as you go method). Unfunded plans may still have associated reserves to cover immediate expenses or smooth contributions within given time periods.

References

- Cross, Philip and Joe Wilkinson. 2009. "What does the Pension Satellite Account tell about Canada's pension system?" *Canadian Economic Observer*. Vol. 22, no. 11. Statistics Canada, catalogue no. 11-010-XIE. <http://www.statcan.gc.ca/pub/11-010-x/2009011/part-partie3-eng.htm> (accessed June 9, 2010).
- Dong, Lauren, Patrick O'Hagan, Joe Wilkinson, and Karen Wilson. 2006. "The Pension System in Canada: What are its components? How it is treated in the Canadian System of National Accounts? How does this relate to implementation of the SNA93 Update? A proposal for a Pension Satellite Account". 29th General Conference of the International Association for Research in Income and Wealth, Joensuu, Finland. August 20-26. http://www.iariw.org/abstracts/2006/wilson_a.pdf (accessed June 10, 2010).
- Gottlieb, Lois and Bethune Whiston. 2005. *Morneau Sobeco Handbook of Canadian Pension and Benefit Plans* 13th edition. CCH Canadian Limited. Toronto. 478 p.
- Mo, Long, Jacques Légaré and Leroy Stone. 2006. "The diversification and the privatization of the sources of retirement income in Canada." *New Frontiers of Research on Retirement*. Statistics Canada, catalogue no. 75-511-XIE. p. 407-427. <http://www.statcan.gc.ca/pub/75-511-x/75-511-x2006001-eng.pdf> (accessed June 9, 2010).
- Organisation for Economic Co-operation and Economic Development. 2001. *Aging and Income: Financial Resources and Retirement in Nine OECD Countries*, OECD Publishing. Paris. 194 p.
- . 2005. "Aging and pension system reform: implications for financial markets and economic policies." *Financial Market Trends*. Volume 2005, Supplement 1. OECD Publishing. 117 p. <http://www.oecd.org/dataoecd/1/35/35810991.pdf> (accessed June 14, 2010)
- O'Hagan, Patrick. 2005. *Trends in Saving and Net Lending in the National Accounts*. Statistics Canada Catalogue no.13-604-MIE. Ottawa, Ontario. 14 p. Income and Expenditure Accounts Technical Series, no. 49. <http://www.statcan.gc.ca/pub/13-604-m/13-604-m2005049-eng.pdf> (accessed June 9, 2010).
- . 2007. "Canadian SNA Pension Satellite Account". *Organisation for Economic Co-operation and Economic Development Working Party on National Accounts*, Paris. October 3. 30p. www.oecd.org/dataoecd/5/8/20/39449709.ppt (accessed June 14, 2010)
- Statistics Canada. 2003. *A Guide to Statistics Canada Pension and Wealth Surveys*. Statistics Canada Catalogue no.13F0026MIE no. 001. Ottawa, Ontario. 44 p. <http://www.statcan.gc.ca/pub/13f0026m/13f0026m2003001-eng.pdf> (accessed June 9, 2010).