The Society of Actuaries Retirement 20/20 initiative, with expert input from both Canada and the U.S., identified the necessity to reconstruct pension systems in a manner which maintains a consistent and reasonable sharing of risks, rewards, and responsibilities amongst the four stakeholders – individuals; society; employers, including unions; and the markets. The Total Career Benchmark Model was one of four award winning models which were judged based on the extensive measurement framework of Retirement 20/20.

The TCB Model is a set of tools designed to use modern technology to link individual retirement savings to the Canada Pension Plan without an actual expansion of the CPP. As with the iPod, Blackberry etc, the TCB Model would not have been possible only a few years ago. It is possible now.

Just like other modern tools, aspects of the TCB model will be complex behind the scenes. But once new tools are delivered, all stakeholders will be able to use them effectively. All stakeholders will speak the same language using the self-adjusting, consistent benchmarks under the TCB Model. Individuals and employers can easily compare what they have to what they need – and even more importantly can determine how to accrue what is needed. The skills of the experts within the retirement industry are transferred away from time wasted on the current huge bureaucratic requirements. Instead they are developing creative risk management solutions using the modern TCB tools.

Under TCB, all individuals have the same tax shelter ability to accrue adequate retirement income over a career. They do not suffer any loss, in benefits or value, if they change jobs under any plan. The TCB Model tools are such that individuals and employers will both transfer the risks to the markets in a manner which is cost effective and safe. Societal monitoring will still be needed, but will be greatly simplified due to the increased transparency under TCB.

The CPP link is at the root of a new system which includes a standardized and predictable ‘lifetime’ component and a very flexible ‘personal’ component for each individual. The ‘lifetime’ component covers the critical longevity and inflation aspect whereas the ‘personal’ component enables individuals to tailor other tax sheltered benefits to their own personal needs. Implicit within each of these components is the critical ‘investment risk’ for the contribution streams to cover the ‘lifetime risk’ and the ‘personal risk.’ The investment risk is shared nationally within the ‘lifetime’ component. Within the ‘personal’ component, individuals can choose to share the investment risk or elect to manage their own portfolio.

Under the TCB model, individuals have the equivalent of an individual Defined Benefit pension plan with adjustment features available for both personal and market changes. A plan sponsor – whether employer, union, or self-employed – does not have to take on the governance and fiduciary risk of current plans and basically funds like in a current DC plan. They can use modern TCB tools to develop a plan consistent with their needs and goals with minimal risk. The risks are transferred to financial institutions, including current large pension funds. These ‘annuitization’ funds will provide pension units (strong, small annuities) for country wide age-specific plans (one for each year of birth). Each individual belongs to an age-specific plan from the first time that they submit an income tax return. Tax shelter limits are rearranged, but not increased.

It will be possible to transition all current plans, including the best, to the new system with immediate benefit for some members and no loss for any members.
Building Your ‘Punies’ For Retirement Loonies And Toonies

The building of your pension first of all requires that you accumulate the necessary raw materials which I refer to as Annual Service Factors. In any given year, your service factor raw material determines how many ‘punies’ (Pension Units — which I call punies for consistency with loonies and toonies) you can build (if you have unused factors from previous years, they are still in your materials bucket for future use).

Each punie that you build gives you a pre-defined annual lifetime payout of loonies and toonies. Together with your employer and/or union, you are the primary factory for building your punies. As with most products you need other factories, available under the TCB model, to manufacture the pieces that you need for your punies.

The main portions of the risk and investment management pieces of your punies come from very big factories called Approved Annuitization Funds. The large national factory which provides the main portions of the governance, tracking, and administrative pieces is the pension plan for your year of birth (your Age Specific Plan).

As you use these factories, you have the ability to use the online master architectural and inventory system (your retirement account) which contains two major components:

• Your basic product (the Lifetime Account containing punies which are strong little life-time indexed annuities) which at any time shows you the total punies you have built to date, the unused service factor raw material, the projected future service factors, the projected punies available at retirement through your current plan, the projected punies available from CPP and OAS, and any cash which you have already set aside for future punies.

• Your enhanced product (Personal Account) which at any time shows you the total funds you have set aside, shown both in dollars and punies, to enhance your basic punies at retirement for personal needs and desires such as survivor benefits, early retirement benefits, bridge benefits, healthcare etc. This online system contains all the tools which you need to easily design and construct your retirement plan. If personal needs change, you can redesign and reconstruct your retirement plan. Market designers and builders will be available to help.

In any given year, a 1,000 punies will provide a deferred annual indexed pension equal to that year’s YMPE (which is $47,200 in 2010 increasing to $48,300 in 2011; 10 punies equals one per cent of the YMPE; 20 punies equals two per cent of the YMPE ...). The punies you are building through your career begin paying you an annual pension ($47.20 per punie in 2010) at the normal retirement age of the CPP (currently age 65 and called the Canadian Retirement Age in the TCB model). From the time your first punie is built, each punie you have accumulated will grow each year at the same rate as the YMPE (yearly maximum pensionable earnings) for the Canada Pension Plan. After the Canadian Retirement Age, your punies will increase annually at the same rate as CPP retirement benefits. Both the Personal and Lifetime Accounts will have annual and lifetime tax shelter limits based on the number and/or value of punies in any given year.

Suppose at the start of 2010 you are 20 years away from the Canadian Retirement Age of 65. Your current year’s service factor is expected to be 1.5 (based on your salary of $70,800 divided by the YMPE of $47,200). To this point in your career, you have accumulated 350 Pension Units which will pay an annual deferred pension amount of $16,520 (350 times $47.20 based on the 2010 YMPE). Your Retirement Account shows that you can expect about 360 Pension Units from the combined CPP and OAS. If you do not anticipate future promotions and would like to have a lifetime pension equal to 70 per cent of your current income, you should aim for 1,050 Pension Units (because 10 units equals one per cent of the YMPE and your current salary equals 1.5 times the YMPE. Your 70 per cent target is 10 times 70 times 1.5 which equals 1,050). Your employer funds a 10-unit plan which gives you 15 punies per year (where 15 punies equal your service factor of 1.5 times 10) resulting in 300 punies.
Your projected benefits are, therefore, equal to 1,010 punies (the 350 you already have plus the projected 300 from your employer plan plus the 360 from the CPP and OAS). You are within 40 units of your target and can simply purchase two extra punies per year, preferably by payroll deduction, until you retire.

Your Retirement Account will also show you how much each punie is worth and what you can expect it to cost going forward. Your punies are shown to have a worth factor of $370 at the beginning of 2010 meaning your 350 punies are worth $129,500. By the beginning of 2011, your punies will have increased in number to 367 (equals 350 plus 15 from your employer plan plus the two you purchased). The deferred pension amount will have increased to $17,726 (367 times $48.30 based on the 2011 YMPE of $48,300). The deferred pension value will have increased to $144,965 (367 times the 2011 worth factor of $395 for your punies). At the beginning of 2011 your projected target pension is $50,715 (1,050 punies at $48.30 each) including CPP and OAS benefits. This target amount is in 2011 dollars and will increase each year as your punies grow in step with the YMPE.

An Overview Of Our Pension System In 2060

Welcome to your first discussion of Canada’s pension system as an interested student. You have heard your parents talking about their ‘punies.’ Anyone who likes loonies and toonies better learn about ‘punies.’ ‘Punies’ are what gives you a lifelong stream of loonies and toonies when you retire. ‘Punies’ are linked to the Canada Pension Plan by using the Yearly Maximum Pensionable Earnings (YMPE) as a benchmark for retirement both during the accrual and the payout phase. Just like loonies and toonies, ‘punies’ are small but strong. One thousand ‘punies’ accumulated over a career is sufficient to pay a pension equal to the YMPE when you retire. The number of ‘punies’ which you should aim for will depend on both your income and personal situation.

Many of you have already filed your first income tax return and are now members, and mutual owners, of your own age specific plan with everyone born the same year as you. Every year from now until you are 70, you are credited with a service factor which restates your income as a multiple of the YMPE. This factor determines how many ‘punies’ you can accumulate, each year, and over your career.

There are three phases to your accumulation of ‘punies.’ Those in the industry call the phases PIP, PAP, and POP. PIP is the Phase-In period during which you can earn service factors and accumulate cash in both your lifetime and your personal account. Then you move to the pension accrual phase where you start to accumulate ‘punies’ and begin targeting your pension. Any cash you have in your retirement accounts can then be converted to ‘punies’ if you wish. When you reach the age at which full CPP benefits begin, you are entering the phase out period. During POP, your ‘punies’ start paying you loonies and toonies – but during this phase you can still be accumulating service factors and buying more ‘punies’ as long as you haven’t reached the career maximum.

In any one year the maximum number of ‘punies’ you can accumulate in your lifetime account is 20 times your annual service factor to a maximum of 60 ‘punies.’ This equals two per cent of your income to a maximum of three times the YMPE. Over all three phases the maximum total career number of ‘punies’ you can accumulate is equal to the smallest of 2,400 or 800 times the average of your best five consecutive service factors to a maximum of three. That means that over your career it is possible to replace as much as 80 per cent of your best five years of income as long as you have service factors for at least 40 years.

When you set a pension target there are two very important items to remember about the maximums:

• Your career maximum and targets include ‘punies’ paid out by both the CPP and the OAS
• To reach your maximum possible benefit you will have to use funds from your personal account

Picking a target number of ‘punies’ is easy. Suppose this year your service factor is 2.3 and you decide that you will need 60 per cent of your current income for an adequate pension. Since 10 ‘punies’ equals one per cent of the YMPE, all you have to do is multiply your service factor by 600 to get your target amount of 1,380 ‘punies.’ This will be done for you in your online retirement account.

Your target amount would include more than 360 ‘punies’ from the combined CPP and OAS and any ‘puni-
es’ you accumulate from an employer plan or purchase yourself. Most employers fund their share of employee pensions using ‘A plus B’ type plans. In such a plan, your number of ‘punies’ accrued each year is equal to ‘A’ times your annual service factor plus ‘B’ times the portion of your factor, if any, greater than one. Such a design is to specifically recognize ‘punies’ accumulated within the CPP which is jointly funded by employers and employees. Over the past 40 years, employer plans have evolved to the point where employers provide full funding for ‘punies’ until the cost exceeds five per cent of an employee’s income. For any amount in excess of five per cent of income, the employee and employer share the cost.

*Tom Walker is a personal consulting actuary ([tomwalker.pca@cogeco.ca](mailto:tomwalker.pca@cogeco.ca)).*

### EXHIBIT 1

**Glossary For The Total Career Benchmark Model**

**Age-Specific Plans:** Age-Specific Plans will be the actual pension plans under the TCB model and are the plan governors. There will be Age-Specific Plans for each year of birth (e.g. 1965 Plan) which will merge in stages during the post-retirement phase until finally becoming part of the TOP plan.

**Annual Service Factors:** For each year during the Pension Accrual Period, an Annual Service Factor equal to the individual’s pensionable earnings divided by the YMPE, will be calculated and recorded on the individual’s permanent records.

**Approved Annuitzation Fund:** Approved Annuitization Funds are designated by the government to provide annuity benefits known as Pension Units to plan sponsors for their members and directly to individuals. Under TCB, the largest pension plans, especially the large public sector plans which have very large pools of funds and employ many pension and investment experts, may be permitted to be designated as Approved Annuitzation Funds. Other financial institutions in the market, such as insurers and banks, could also provide Approved Annuitzation Funds. Some Approved Annuitzation Funds may also manage some Age-Specific Plans.

**Centralized Retirement Account System:** This is the national system used to track all individuals’ retirement accounts and tax shelter room.

**Lifetime Worth Factor:** A Lifetime Worth Factor will be established for each age (initially by age in years, but ultimately evolving to a factor specific to the individual’s birth date by month and year) that shows the value of the annual pension benefit provided by one Pension Unit. The assumptions used for these factors will vary by age using sophisticated actuarial techniques.

**Lifetime Account:** The Lifetime Account covers the lifetime risk and includes all employer contributions and all required employee contributions to a sponsored plan. At any time, the Lifetime Account may include both Pension Units and a cash amount. As long as an individual has not exceeded annual or career limits they can, at any time, voluntarily contribute to the Lifetime Account and/or to the Personal Account.

**Pension Unit:** A Pension Unit provides an annual deferred pension, commencing at the Canadian retirement age, equal to YMPE divided by 1,000. After the Canadian retirement age, the Pension Unit is indexed at the same rate as CPP retirement pensions using the CPP Pension Index.

**Personal Account:** The Personal Account is an account in which an individual accumulates funds for the personal risk component of retirement savings. The Personal Account can also be used for other special benefits such as the Home Buyers Plan and the Lifelong Learning Plan which are currently available to people with registered retirement savings plans (RRSPs) and to accumulate funds for post-retirement health risks.
Glossary For The Total Career Benchmark Model

**Personal Risk:** The personal risk component of the TCB model incorporates risks other than the risks included in the lifetime risk component and includes:

- Early Retirement
- Spousal Survivor Benefits
- Bridge Benefits
- Salary Increases greater than YMPE (i.e. average industrial wage) increases
- Cost of Living Increases greater than YMPE increases
- Pension Participation Gaps during the Designated Pension Accrual Period
- Spousal Pension Participation Gaps
- Post-retirement health risk

**Target Career Average Pension:** The Target Career Average Pension commences at the Canadian Retirement Age on a life only basis, without survivor benefits, and is equal to 70 per cent of the individual's career average earnings between age 30 and age 65 (the Designated Pension Accrual Period), including any Annual Service Factors from the Pre-Accrual Period which have been used to purchase Pension Units, indexed in accordance with the annual increase in the YMPE before retirement and the annual increase in the CPP after retirement.

**TOP Plan:** The TOP Plan will be the only Age-Specific Plan which lasts forever. It will be established in a manner that it includes the portion of the population at the upper level of their life expectancy and will be the final plan into which the Age-Specific Plans merge. The entry age level into the TOP Plan will change over time as life expectancy changes.