STATE OF CONNECTICUT

RETIREMENT SECURITY BOARD

CO-CHAIRS: STATE COMPTROLLER KEVIN LEMBO & STATE TREASURER DENISE L. NAPPIER

REPORT TO LEGISLATURE

CONNECTICUT RETIREMENT SECURITY BOARD

JANUARY 1, 2016

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Introduction

The Connecticut Retirement Security Board (CRSB) was created through Public Act 14-217 (the Act) to address the growing retirement crisis in Connecticut. The Board's mission is to submit evidence based recommendations to the Legislature on the creation of a retirement program (the Program) to offer private sector workers in Connecticut (the State) currently without access to workplace savings. The CRSB must report its recommendations to the Governor and the General Assembly by January 1, 2016. The market feasibility study should determine whether the goals and design features of the plan, as described in section 185 of the Act, may be accomplished, and recommend methods by which such goals and design features should be accomplished. To assist in developing the study, the CRSB retained Boston College Center for Retirement Research (CRR); Finn, Dixon & Herling (Finn Dixon); Groom Law Group (Groom); and Mercer Investment Consulting, Inc. (Mercer), as well as Oliver Wyman as a subcontractor through Mercer. In addition to retaining expert professionals, the CRSB has received substantial and valuable public feedback and input from the academic and business communities. You can find all of the Board's agendas, minutes, speaker presentations, and other materials at www.osc.ct.gov/crsb.

Executive Summary

The fundamental finding is that the Program is financially feasible under a range of market scenarios and plan designs at a 6% default contribution rate. The financial analysis concludes that the Program needs approximately $1 billion in assets to reach a breakeven point, the point at which the Program becomes self-sustaining. At a 6% default contribution rate and auto-enrollment, the Program should reach the $1 billion estimated minimum sustainability threshold at the end of year 2. Further, with a 6% default contribution rate and auto-enrollment, the Program is expected to repay estimated upfront costs and cover ongoing annual expenses between years 3 and 5. At a 3% default contribution rate the Program's financial viability becomes less certain and the payback period is longer. The other significant finding was that offering an annually pre-determined guarantee was feasible, but not desirable from either a cost-benefit perspective or the participants' perspective.

The remainder of this summary outlines the CRSB's recommendations to the Legislature with regard to the minimum statutory design elements and CRSB's proposed design elements. In some cases the CRSB recommends that final design elements be delegated to the entity/agency established to implement the program. We refer to this entity/agency throughout as the "implementing Board".

Program Account Structure, Governance and Enforcement

The Act required the CRSB to recommend a program design that promotes transparency and accountability. Further the program design must ensure that any participant assets held be used for the purpose of distributing individual retirement savings balances to the participants and paying the operational, administrative and investment costs associated with the plan. Finally, the Act specifically asked the CRSB review the feasibility of Individual Retirement Accounts (IRAs) and account portability.

Program Account Structure

- The CRSB finds that Individual Retirement Accounts (IRAs) are feasible and suitable legal structures for the program, particularly with regard to account portability. The CRSB recommends offering both traditional and Roth IRAs, with a traditional IRA being the default account type if a participant does not choose; however, the CRSB further recommends that the Legislature give the implementing Board the authority to make the final decision with regard to the default account type and the timing and feasibility of offering each type.

- The CRSB recommends that the implementing Board be authorized to determine whether the IRAs be offered through a third party or by the implementing Board itself. The CRSB recommends that the implementing Board determine the final methodology for complying with custody rules governing IRA accounts.

- The CRSB recommends that the implementing Board be given discretion to modify the Program structure to comply with final U.S. Department of Labor regulations that could impact the Program.

Governance and Enforcement

The CRSB recommends:

- The Legislature create an implementing Board that oversees an independent entity responsible for managing the Program and that has the authority to hire staff and contract with third parties.

- The implementing Board be instructed to operate with a maximum of transparency and report to the Legislature annually.

- The Board members be appointed based on their knowledge of the issues affecting participating employees and qualified employers.

- The Board have the authority to establish an Advisory Committee with members representing employees and employers participating in the Program.

- The Board and staff be required to act in the best interests of participants in the Program, and that standards of care be enforceable by the Attorney General.

- The Board follow procurement standards and contracting requirements that are considered best practices in the State.

- The enabling legislation provide that (i) qualifying employers must comply with the requirements of the Program and (ii) withheld contributions must be received by the Program in a timely manner. This legislation must include definitions of employers, employees, and eligible compensation.

- The legislation include specific enforcement mechanisms and remedies.

Program Model

The CRSB focused on the policy goals of increasing retirement security through a low cost pre-funded retirement savings program that requires a minimal amount of financial sophistication. The CRSB strongly recommends automatic enrollment of employees with an option to opt out. Further, CRSB strongly recommends a default contribution rate of 6% of earnings with an employee option to reduce or increase their level of contribution.

The CRSB further recommends:

- The Program have one investment option aligned with the individual's targeted retirement date. The CRSB does not recommend giving investment choice, but recommends giving the implementing Board the ability to amend and evolve the investment program over time.

- Mandatory annuitization for 50% of a participant's accumulated account balance and the remaining 50% be defaulted into an annuity if the participant does not actively elect what to do with the funds. The Board will provide further recommendations on annuitization in its implementation plan.

- The implementing Board investigate the feasibility of offering nonprofit annuities via establishment of a captive insurance company.

- The default contribution rate be 6%.

- The implementing Board make decisions regarding the administration, operations, processes for enrolling participants and processes for crediting participant accounts during implementation.

- The Program have a mandate to provide financial education to eligible employees and support in retirement planning. The CRSB recommends that the Legislature give the implementing Board and its staff discretion to determine how these services will be delivered and paid for.

- The CRSB, after thorough investigation and deliberation, does not recommend an annually pre-determined guaranteed rate of return, as it has concluded that the cost-benefit does not support the desirability of this option.

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Approach

In conducting this study, the CRSB separated the analysis into five core areas of work:

- market analysis,
- review of the statutory Program design,
- analysis of alternative Program design elements,
- financial assessment of the statutory and recommended program designs, and
- legal analysis.

Market Analysis

CRR led an investigation into how workers and employers in Connecticut would react to the proposed state-sponsored retirement savings program. This research needed to answer two key questions about workers: 1) at what rate would workers opt out of the Program? and 2) how would program features affect the opt-out rate? The market research also sought to answer several questions about employers in Connecticut: 1) to what extent would employers support the Program?; 2) what factors drive this support or opposition?; and 3) what practical barriers exist to employers' participation in the Program? Prior to its market research, the CRR explored several issues related to program design and provided the State with this analysis in a series of background memos which are provided in full in this report. After the background research, the CRR conducted the market research using an on-line enrollment experiment for workers and a series of focus groups and a telephone survey for employers. The CRR has provided a separate report with significant detail on their methodologies and findings. This report is available in Appendix A.

Program Design: Statutory and Proposed

Mercer led the program design assessment in collaboration with CRR. The CRSB determined that to meet the Legislature's objectives, at a minimum the CRSB had to review the Program design elements laid out in the Act. The CRSB expected that the CRSB might find some elements as not recommendable and / or there may be preferable approaches for achieving the same policy goals. Consequently, the Program design analysis focused first on the required statutory elements. The CRSB then considered the alternatives. Mercer's Program design analysis specifically considered structuring and administering the Program based on the results of the CRR market analysis. This work included the types of entities best positioned to administer the Program, the key operational functions required to administer the Program for participants and employers, assessing default contribution levels, approaches for investment including what options to offer participants, distribution options at retirement, and how to guarantee a rate of return as prescribed by the statute.

Financial Analysis

Oliver Wyman with input from CRR and Mercer conducted the financial feasibility analysis. The financial feasibility work considered whether the likely participation rates would be sufficient to maintain a self-sustaining program that covers all expenses, as required by statute. This analysis considered the funding level required for implementing the Program design and whether the Program design would be feasible without incurring debts or liabilities to the State. The financial analysis considered how an annually predetermined guaranteed rate of return could be set and the cost and structure of insurance necessary to guarantee the stated rate of return.

Legal Analysis

Finn Dixon & Herling LLP and Groom Law Group, Chartered were retained to identify and advise on legal issues arising from and related to the market feasibility study and proposed implementation plan, as well as the development of the legal structure of the Program. The legal team was charged with informing the Board of any developments at the U.S. Department of Labor as they relate to the proposed Program and advising on whether the Program would be subject to the Employee Retirement Income Security Act of 1974. The legal team was also charged with ensuring that the plan accounts meet the requirements for favorable federal income tax treatment ordinarily accorded to Individual Retirement Accounts.

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Program Account Structure

Statutory Design Elements

The Act required that the CRSB consider the following points in evaluating the Program's account structure:

- Plan[1] portability through maintenance of individual retirement accounts for each plan participant;
- Low administrative costs that shall be limited to an annual, predetermined percentage of the total plan balance; and
- Ensuring that the plan participants and the individual retirement accounts qualify for the favorable federal income tax treatment ordinarily accorded to individual retirement accounts under the Internal Revenue Code.

CRSB Conclusions and Recommendations

Functionally and legally IRAs meet the Act's requirements for holding participants' assets for their sole benefit and providing portability. From a financial feasibility perspective, IRAs can be low cost. Based on interviews and data collected in the financial feasibility study, most IRA providers are likely to want to participate in the State's Program at a modest cost, subject to a minimum contract term, i.e. five to seven years. Experience with state 529 plans is consistent with this finding. These observations have led the CRSB to conclude that IRAs are feasible and desirable Program design elements, so the CRSB recommends using IRAs.

The Act did not specify what kind of IRA nor have they required the CRSB to specify a type. Because the Program is envisaged as an auto-enroll with opt-out approach, there are likely to be many passive participants, i.e., people who do not make an active decision to participate; so the Legislature will need to specify a default IRA account type or require the implementing Board to specify a default during the implementation phase. IRAs can be either pre-tax (conventional or traditional) or post-tax (Roth). The tax deductibility, withdrawal allowances and restrictions, and penalties differ between the two types of IRAs. The CRR market survey found no significant differences in opt-out rates between the two options.

Recommendation:

The CRSB has found that Individual Retirement Accounts (IRAs) are feasible and suitable structures for constituting the program, particularly with regard to account portability. The CRSB recommends offering traditional and Roth IRAs, with a traditional IRA being the default account type if a participant does not choose; however, the CRSB further

[1] The statutes refer to "plan" portability; however, the statute also requires the Program use IRAs, which are accounts not "plans". Throughout this report, we refer to the Program or IRA instead of plans.

recommends that the Legislature give the implementing Board the authority to make the final decision with regard to the default account type, because ultimately access to accumulated savings may be important for the participants. The implementing Board should also be delegated the authority to determine the actual accounts to be offered, inasmuch as requirements may change over time, additional options may become available, and ease of implementation may favor phasing in the availability of options.

The remainder of this section covers a general comparison of traditional and Roth IRAs, outlining the critical differences that the CRSB considered in deciding whether and what recommendation to make to the Legislature. The section then presents results from the market survey and broader research, which were also factored into the recommendation.

Comparing Traditional and Roth IRAs

Market Survey and Research

The CRR tested whether the tax status of the IRA would have an impact on employee opt-out rates. The conclusion showed no significant differences in opt-out rates between the two options. The Board recommends a Traditional IRA as a default over a Roth IRA, because the Roth IRA adds administrative complexity. With a Roth IRA, the program would need to determine which participants were eligible for a Roth on a tax basis, and those employees that are auto-enrolled may be penalized if they were ineligible for a Roth.

EXHIBIT 3.1: TRADITIONAL VS. ROTH IRA

	Traditional	Roth
Income limits	None	Single: \$116k – 131k[2] Married, filing joint: \$183k – 193k Married, filing separate: \$0 - \$10,000
Contribution limits	\$5,500 (<50 years old) \$6,500 (50 + years old) \$0 (70 ½ + years old)	\$5,500 (<50 years old) \$6,500 (50 + years old)
Tax deductibility	Contributions for federal and state taxes fully deductible for single filers with a modified AGI of \$61k or less or married filers with a modified AGI of \$98k or less. The deduction is phased out for higher income earners. The deduction may also be limited if the participant's spouse participates in an employer-provided plan. Withdrawals taxed as ordinary income.	Contributions are made with post-tax income, so contributions are not deductible. Earnings and contributions are generally tax free after 59 ½ and 5 years after first contribution.
Withdrawal restrictions	Typically a 10% penalty plus taxes for withdrawals before 59 ½.[3]	No restrictions or penalties on withdrawing contributions before 59 ½, but earnings attract taxes and are subject to a 10% penalty (unless an exception is available).

[2] The bottom of the range reflects the income point at which the contributor must begin to phase out contributions. For purpose of this illustration, all dollar limits are based on calendar year 2015 limitations.

[3] Exceptions do exist. For example, withdrawals due to disability, death, long-term unemployment expenses, certain major medical expenses, first-time home purchase or to pay for an education can be exempt from the penalty.

	Traditional	**Roth**
Withdrawal requirements	Required minimum distributions (RMD) at age 70 ½.	No requirements until after death of the participant.
Ability to consolidate assets into the Program	Participants can roll traditional 401(k) and other pre-tax balances into the account.	Participants can roll Roth 401(k) or Roth IRA assets into the account.
Ability to move assets to other retirement plans	Participants can roll to another traditional IRA or an employer provider retirement plan (*e.g.,* 401(k) plan).	Participants can roll to another Roth IRA. Assets cannot be rolled into an employer provider retirement plan.
Saver's Credit for eligible contributions[4]	The amount of the credit is 50%, 20% or 10% of the Traditional or Roth IRA contributions up to $2,000 ($4,000 if married filing jointly), depending on participant's adjusted gross income assuming it is less than $30,750 for 2016 ($61,500 if married filing jointly)	

Illustrating the Income Tax Effects

To put the tax benefit in context, consider an example of a person earning $43,000 annually. For comparison, assume contribution rates to an IRA of 3% and 6%. Exhibit 2 below shows the tax calculations.

EXHIBIT 3.2: TAX DEDUCTION IMPACT ON NET INCOME

Traditional IRA			**Roth IRA**				
Salary	$43,000	$43,000	Salary	$43,000	$43,000		
Contributions	3%	6%	Tax Owed	$9,030	$9,030		
Contributions	$1,290	$2,580	Net of Taxes Salary	$33,970	$33,970		
Taxable Salary	$41,710	$40,420	Contributions	3%	6%	**Differential in Take-home Pay**	
Tax Owed	$8,759	$8,488	Contributions	$1,290	$2,580	**3%**	**6%**
Take-home Pay	**$32,950**	**$31,931**	**Take-home Pay**	**$32,680**	**$31,390**	**$270 (0.63%)**	**$541 (1.26%)**

Tax calculation assumes single, 1 personal exemption, 0 dependents, and 1 standard deduction.

With a conventional IRA, take-home pay is $270 per annum greater than with a Roth IRA at a 3% contribution rate. In terms of percentages, this amount equals to approximately 63 basis points. At a 6% contribution rate, the differential increases to $541 per annum or 126 basis points. In a program where fee sensitivities are expected to be a significant factor, this incremental difference can have a real impact on the participants' overall savings experience. Notably, the wealth accumulation is the same under the pre- and post-tax models, so in a conventional IRA the participant is better off in terms of take-home pay and indifferent to the wealth accumulation in terms of the overall balance. To provide context around the importance of tax benefits using the 2010 census data, approximately 43.7% of Connecticut workers are not covered by a qualified plan.

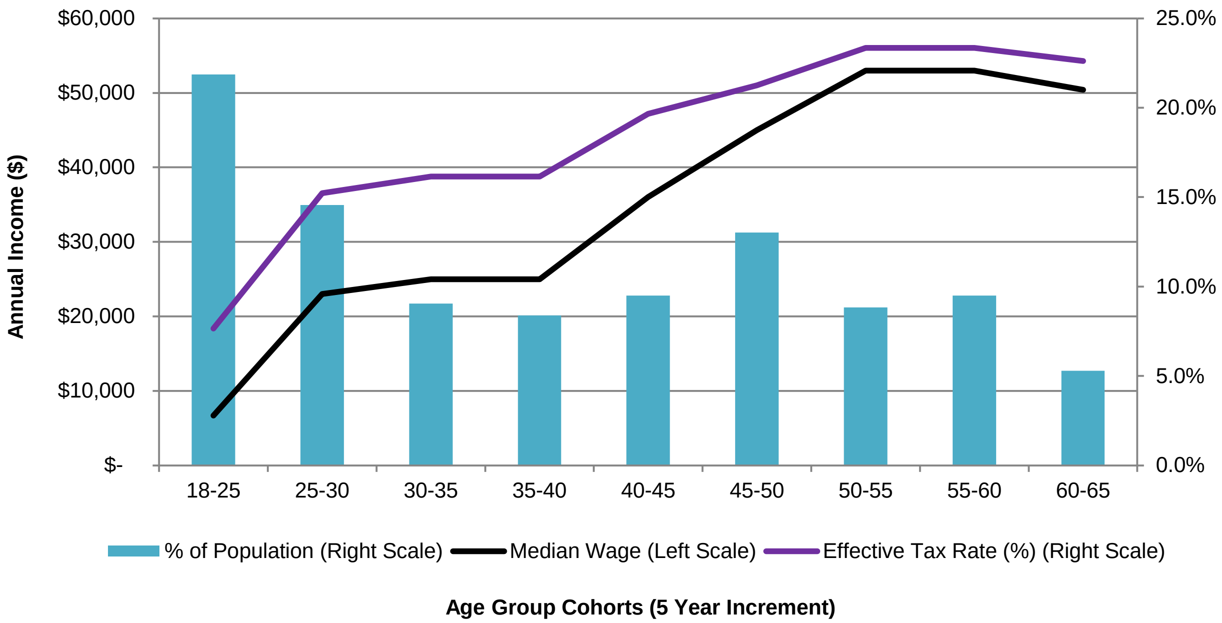
[4] The Savers Credit gives a tax credit to low- and moderate-income taxpayers who are saving for retirement.

Of these workers, about half of them are not required to pay taxes, because their earnings are too low. This statistic implies that the tax benefit could be valued by half the population with the other half being potentially indifferent. We also note that there are differences in the participants' ability to access the accumulated wealth, which may be positive or negative depending on the policy goal(s). These points are discussed in greater detail below.

Tax Rate Changes Over Time

In practice, individuals accumulate pre- and post-tax savings at different tax rates over time. In assessing whether the default should be a traditional or Roth IRA, the target population's age and tax rates should be considered. A younger person in a lower tax bracket is more likely to benefit from a Roth IRA than a middle aged person in the same tax bracket, as the younger person is more likely to have a higher tax bracket at retirement and can draw down the Roth savings generally tax free. A middle aged person in the same lower income tax bracket is less likely to retire in a higher tax bracket and is more likely to benefit from the tax deductions in the immediate term.

EXHIBIT 3.3: MEDIAN WAGE AND TAX RATES ACROSS AGE COHORTS FOR THE CONNECTICUT UNCOVERED POPULATION



Source: US Census Connecticut data and Mercer calculation of uncovered population

Tax rate calculation assumes single, 1 personal exemption, 0 dependents, and 1 standard deduction

For retirees who do not pay tax, there are no significant tax difference at withdrawal between a traditional and Roth IRAs. The tax impact on individuals with some taxes depends on the effective tax rate at the time of withdrawal. To provide context, approximately 10% of retirees nationally are not required to pay taxes because they do not meet the income threshold. The following table illustrates that as tax rates increase, the differences become bigger between the traditional and Roth IRA.

EXHIBIT 3.4: TAX DEDUCTION IMPACT ON NET DISTRIBUTION

	Traditional IRA	Roth IRA
Effective tax rate in retirement	0.00%	0.00%
Withdrawal amount	$1,000	$1,000
Tax owed	$0	$0
Net withdrawal	**$1,000**	**$1,000**
Effective tax rate in retirement	15.00%	15.00%
Withdrawal amount	$1,000	$1,000
Tax owed	$150	$0
Net withdrawal	**$850**	**$1,000**
Effective tax rate in retirement	27.75%	27.75%
Withdrawal amount	$1,000	$1,000
Tax owed	$278	$0
New withdrawal	**$723**	**$1,000**

All other things being equal, young lower income earners that expect income to increase over time should prefer to save via a Roth IRA, as they will have a lower marginal tax rate during the savings years and be able to drawdown savings with their effective tax rate may be higher. Older savers or savers that do not expect to have high effective tax rates in retirement, all other things being equal, should prefer a traditional IRA, to be most tax efficient. Neither of these scenarios considers a person's desire or need to access to accumulated savings, which is also very important.

Access to Accumulated Savings

The CRSB's recommendation on a default option must balance targeting asset accumulation and an income replacement ratio for retirement with creating a situation where an individual cannot access capital and potentially incurs high cost debt or experiences significant financial stress as a result. The penalties associated with traditional IRAs may result in a more negative outcome versus not saving in the Program for a portion of the population. In contrast, easy access to accumulated savings in the Program could allow leakage.

Compliance and Operational Issues

As noted above, the IRS restricts Roth IRA contributions to people below specific income levels. While less than 10% of the uncovered population earns more than $116,000[5], the Legislature and Program operations must consider how to handle these individuals. Similarly, if an individual over contributes to a traditional IRA, the person may incur penalties. According to legal counsel, generally, individual IRA owners are solely responsible for ensuring compliance with IRS contribution and deduction rules, and they would be responsible for any associated penalties. Legal counsel has noted that, from an operational standpoint, it would be difficult for the Program to determine whether a potential participant exceeds the contribution limits, particularly when the participant has other tax-favored retirement accounts away from the Program. Consequently, legal counsel has recommended that the Program provide upfront disclosures to warn potential participants about income and deductibility limitations.

It should be noted that a Roth IRA and a traditional IRA have different compliance monitoring possibilities. Because the traditional IRA will typically involve a current year tax return (because of

[5] Based on Mercer's calculation of uncovered State of Connecticut workers from the Current Population Survey, 2014 Annual Social and Economic (ASEC) Supplement.

the tax deduction), there will be multiple compliance points of entry (tax preparers or software providers, IRS compliance checks, volunteer assistance). A Roth IRA has limited current year tax reporting (except insofar as the overall contribution limit over both forms of IRA).

The CRSB considered how to balance access to savings with preventing leakage in taking an overall decision, which lead to the recommendation of offering both options but making the default a traditional IRA. The CRSB believes that giving the implementing Board decision-making authority over the default allows for further refinement over time and when more definitive facts about the participant demographic and legal status of the Program are known.

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Governance and Enforcement

Statutory Design Elements

In the Act, the Legislature required that the CRSB consider the following points related to the Program's governance and enforcement:

- The promotion of transparency and accountability in the management of the retirement funds through oversight, regular reporting to plan participants and ethics review of plan fiduciaries;
- Compliance with all applicable requirements of federal and state laws, rules and regulations;
- A process to determine the eligibility of an employer, employee or any other individual to participate in the plan and to ensure mandatory participation by any qualified employer that does not offer an employer-sponsored retirement plan to its employees;
- Legal enforcement of employer obligations arising under the plan;
- Employer immunity with regard to investment returns, plan design and retirement income paid to plan participants;
- Ensuring that the plan shall continue in existence as long as it holds any deposits or has any obligations and until its existence is terminated by law and upon termination any unclaimed assets shall return to the state;
- Ensuring that any assets held for the plan shall be used for the purpose of distributing individual retirement savings balances to the plan participants and paying the operational, administrative and investment costs associated with the plan; and
- Ensuring that any amounts on deposit to be utilized in the plan (A) shall not constitute property of the state and the plan shall not be construed to be a department, institution or agency of the state, and (B) shall not be commingled with state funds and the state shall have no claim to or against, or interest in, such funds.

CRSB Conclusions and Recommendations

To meet the legislative objectives, the Program's design must include governance structures, processes and controls. Fundamentally, governance is about clearly articulating objectives and implementing a framework of guiding principles, decision-making structures and processes to ensure that key risks are managed and responsibilities are assigned appropriately to efficiently deliver the desired level of control over a program. In practical terms, a governance framework identifies who does what, how and when they do it, and why they need to do it. The framework must be both relevant and proportionate to the objectives and risks associated with the program and each activity. Additionally, to be effective and ensure the Program meets its policy goals, the State must have a credible and empowered enforcement mechanism. The CRSB has provided specific recommendations on how these activities should be accomplished.

Recommendations:

- **The Legislature create an implementing Board that oversees an independent entity responsible for managing the Program and that has the authority to hire staff and contract with third parties.**
- **The implementing Board be instructed to operate with a maximum of transparency and report to the Legislature annually.**
- **The Board members be appointed based on their knowledge of the issues affecting participating employees and qualified employers.**
- **The Board have authority to establish an Advisory Committee with members representing employees and employers participating in the Program.**
- **The Board and staff be required to act in the best interests of participants in the Program, and that standard of care should be enforceable by the Attorney General.**
- **The implementing Board follow procurement standards and contracting requirements that are considered best practices in the State.**
- **The Legislature adopt rules to ensure that (i) qualifying employers comply with the requirements of the Program and (ii) withheld contributions are received by the Program in a timely manner.**
- **The Legislature provide specific guidance and definitions in the statutes to ensure clear guidance for enforcement and specifically adopt a definition of covered employers, number of employees, and eligible compensation.**

Governance

Status and Oversight

CRSB recommends that the Legislature create an independent, perpetual entity to oversee and manage the Program. The independent entity will have its own budget powers, and its ability to set fees and authorize expenditures will be independent of the State's budget and appropriation processes. This approach will ensure that the payment of benefits will not be dependent on future State budgets. However, the independent entity may need to maintain a State connection to satisfy the requirements of the U.S. Department of Labor's proposed rulemaking on state auto-IRA programs.

The Legislature should establish an implementing Board independent from the State to oversee the independent entity, as well as guide the Program's strategic direction as it evolves over time. The implementing Board should have the following responsibilities:

- Devise strategies for achieving objectives and implementing policies;
- Design administration and operational processes, as well as controls to ensure the Program's integrity;

- Design compliance and enforcement protocols and processes to ensure the Program is implemented as intended;
- Implement and monitor the Program's administration and operations;
- Manage and monitor third party contractors; and
- Be accountable for Program performance.

Although the implementing Board would oversee the Program, it should have broad authority to delegate day-to-day responsibilities to staff (*e.g.*, an Executive Director).

The implementing Board should be instructed to operate with a maximum of transparency given the importance of public participation to the feasibility of the Program. It should be required to formally report on the Program to the Legislature at least annually.

Board Composition

The CRSB recommends that the implementing Board have at least five members. The appointed members should include individuals with knowledge of the perspective of participating employees and qualified employers.

It is also advisable to stagger members' terms to allow gradual change over time, which will help preserve institutional knowledge and provide continuity for decision-making. However, the initial Board should be required to serve at least a two year term and be replaced in phases to ensure that the program has the consistency critically necessary during the Program's early days.

It is important to note that the experience relevant for purposes of selecting members (as well as staff and third-party vendors) will likely shift over time. For example, during development and implementation, the Board and staff will be responsible for overseeing complex technical decisions with significant impact on the Program's success. Consequently, it is advisable for the Board and staff to have experience in managing state investment programs, State regulations, State agencies' operations, investments, IRA operations and financial product distribution.

The CRSB further recommends that the Program's stakeholders have the opportunity to directly and formally advise the Board. In that regard, the implementing Board should have the authority to establish an Advisory Committee. Members of the Advisory Committee should be employees and employers participating in the Program, and the Advisory Committee would be responsible for providing feedback to the implementing Board regarding the management of the Program. The implementing Board could also request the Advisory Committee to provide recommendations regarding specific policies and/or issues.

Standards of Care

To ensure that the Program is maintained for the benefit of participants and beneficiaries, the CRSB recommends that Board and staff be held to a high standard of care. Specifically, the implementing Board should be tasked with the responsibility to act in the best interests of participants and the Program, similar to the standard of care for fiduciaries under the federal Employee Retirement Income Security Act of 1974 (ERISA).[6] The responsibility should be enforceable by the Attorney

[6] The implementing Board would also be subject to the applicable restrictions on investments and other transactions under the federal Internal Revenue Code.

General, but enforcement should be limited to prospective changes in policy, rather than monetary damages. There should be no third party right of action, except insofar as participants can enforce the appropriate application of their funds.[7]

The implementing Board should follow procurement standards and contracting requirements that are best practices in the State. It is advisable that the Board require third-party vendors to abide by a best interest standard of care, where appropriate, and agree not to limit potential damages by contract. The Board should also adopt policies and procedures necessary to mitigate actual and perceived conflicts of interests for itself, staff, and third-party vendors.

The CRSB's recommended structure for the Program is intended to ensure that employers participating in the Program are not subject to ERISA. Generally, employers are subject to ERISA, and, in particular, ERISA's fiduciary responsibility provisions if they provide employee benefit plans. An IRA is generally not an employee benefit plan, because the employer's involvement is minimal. The U.S. Department of Labor has proposed regulations that specifically exempt state-run systems such as the Program, from ERISA, provided certain conditions are met. The CRSB's recommendations are intended to be consistent with those regulations.

Enforcement

The CRSB recommends the Legislature adopt rules to ensure that qualifying employers comply with the requirements of the Program. In that regard, the Legislature can penalize employers for failing to enroll employees in the Program as required by State law. The CRSB further recommends that the Legislature put in place rules to ensure that Participant contributions are timely transferred to the Program. In this regard, the State law could model federal law by requiring employers to transmit withheld contributions to the Program within seven business days or a reasonable period of time. Finally, the CRSB recommends the Legislature provide specific guidance and definitions in the statutes to ensure clear guidance for enforcement and specifically adopt a definition of covered employers, eligible employees, and eligible compensation.

Participating Employees

The CRSB recommends that the Program should be made available to all employees, including part-time employees, at the Connecticut location of a business or non-profit organization that offers enrollment in the Program, provided that the employee has worked at that entity for at least 120 days and provided that the employee is not eligible to participate in the employer's pension, 401-k, or similar retirement plan. We recommend the exclusion period of 120 days to avoid the high administrative cost of servicing micro-accounts that could result from auto-enrollment of seasonal workers. The CRSB further recommends that once an employee has become a participant in the Program, the Program would accept contributions from that individual through direct check deposit or through regular bank account transfer arrangements, in addition to payroll deduction. In that way a participant who changes jobs and whose new employer does not offer ongoing contribution to the Program through payroll deduction can nonetheless continue to build the Program account balance to achieve retirement security.

Participating Employers

The CRSB recommends further exploration of expanding the employer mandate so that all businesses and non-profit organizations who are registered to operate in Connecticut are mandated

[7] Pending U.S. Department of Labor regulations could impact, depending on the final structure adopted by the implementing Board, whether other causes of action might need to be preserved.

to auto-enroll all employees, both full-time and part-time, who have been employed for at least 120 days, provided that these employees are not eligible to participate in the employer's pension plan, 401(k), or other equivalent plan for retirement savings, and provided the entity has at least five such participants. An employee would be deemed to be eligible to participate in an employer's retirement plan notwithstanding a delay in eligibility consistent with a plan's eligibility requirements. By framing the employer mandate in these terms, the legislature would provide coverage to the growing ranks of part-time workers, many of whom work multiple part-time jobs. Entities that exclude their part-time workers from receiving retirement benefits would be required to offer the Program to only those excluded workers. Extending coverage to part-time or other employees working for an employer that provides a retirement savings plan but who are ineligible for said savings plan was not covered in the market analysis.

In addition to the employer mandate, the CRSB recommends that the Program should be available to all other Connecticut employers who choose voluntarily to offer the Program to their employees, even though they are not mandated to do so, subject to the U.S. Department of Labor proposed rulemaking requirements and any other changes in federal law.

5

Program Model

Statutory Design Elements

The Legislature directed the CRSB to consider the following Program policy goals and design elements in making its Program recommendations:

- A reduced need for public assistance through a system of prefunded retirement income;
- A minimal need for financial sophistication in plan participants;
- An annually predetermined guaranteed rate of return and the procurement of insurance, as necessary, to guarantee the stated rate of return;
- The provision of an annuitized benefit with options for conversion to lump-sum payout upon retirement, spousal benefit and preretirement death benefits to enable a plan participant to bequeath assets to designated beneficiaries;
- Implementation of a default contribution rate and a process by which plan participants may elect to change their level of contribution;
- A process for streamlined enrollment of potential plan participants, including automatic enrollment of each employee unless the employee chooses to opt out of participating in the plan;
- A process by which a qualified employer shall credit the plan participant's contributions to his or her individual retirement account through payroll deposit; and
- The dissemination of educational information concerning saving and planning for retirement to potential plan participants.

CRSB Conclusions and Recommendations

The CRSB focused on the policy goals of pre-funded retirement income and a minimal need for financial sophistication, as well as the ability to deliver a high quality and affordable savings platform. In considering the specific design elements to recommend in the Program prototype, the CRSB specifically considered the economic consequences to the participants in including or excluding key statutory design features.

Recommendations:

- **The Program have one investment option aligned with the individual's targeted retirement date. The CRSB does not recommend giving investment choice, but recommends giving the implementing Board the ability to take detailed decisions with regard to the investment option, as well as have the authority to amend and evolve the investment program over time.**

- **The Program not offer an annually pre-determined guaranteed rate of return, as the cost-benefit does not support the desirability of this option.**
- **Mandatory annuitization for 50% of a participant's accumulated account balance and the remaining 50% be defaulted into an annuity if the participant does not actively elect what to do with the funds.**
- **The implementing Board investigate the feasibility of offering nonprofit annuities via establishment of a captive insurance company.**
- **The default contribution rate be 6%.**
- **The implementing Board make decisions regarding the administration, operations, processes for enrolling participants and processes for crediting participant accounts during implementation.**
- **The Program have a mandate to provide financial education to private citizens and support in retirement planning. The CRSB recommends that the Legislature give the implementing Board and its staff discretion to determine how these services will be delivered and paid for.**

The report section first considers how to approach investing participant balances given the policy goals of a reduced need for public assistance through a system of prefunded retirement income and minimal need for plan participants to be financially sophisticated. This analysis is followed by the CRSB's analysis related to providing an annually pre-determined guaranteed rate of return. The report then covers annuitization followed by analysis around the default contribution rate. This section concludes with an outline of the key considerations with administration, operations, enrollment, and crediting participant accounts.

Investment Options

The CRSB believes that the primary purpose of this program is to provide workers with a supplement to their Social Security income in retirement. That supplemental income should have inflation protection, longevity protection, and spousal protection. The CRSB believes that the best way to achieve this objective is to invest contributions within a target date framework that pursues a maximum return on investment while using diversification and prudent restrictions to mitigate risk, with a gradual migration towards less volatile and less risky asset classes as the participant approaches the target retirement date. Therefore, the CRSB does not believe that participants should be offered a menu of investment options, but rather that each participant's IRA account will be managed within this target date framework. Both the CRR Report in Appendix A and the Mercer memorandum in Appendix B show varying income replacement ratio projections for eligible employees based on the target date fund investment option. The CRR and Mercer memoranda in Appendix C explain the differences between the projections based on the different assumptions made by CRR and Mercer.

Guaranteed Rate of Return

The Connecticut Retirement Security legislation directed the CRSB to review and provide recommendations around the following design feature:

An annually predetermined guaranteed rate of return and the procurement of insurance, as necessary, to guarantee the stated rate of return.

The CRSB has considered a broad range of guarantee options, including options that did not meet the statutory requirements but might be considered alternatives. The Program can structure the guarantee in one of five ways:

1. The State guarantees the rate of return on the assets accumulated in the Program.

2. The Program contracts with a third-party insurance company to provide a guaranteed rate of return on assets accumulated in the Program.

3. The Program offers a stand-alone investment option, such as a stable value fund, that provides an explicit guaranteed rate of return on invested assets.

4. The Program offers a stand-alone investment option that guarantees the investment through yields generated or an insurer-provided guarantee.

5. The Program offers a money market fund, which guarantees principal value of investments.

The CRSB considered the feasibility and cost (where estimable) of each option. The CRSB also reviewed the market survey results that show a 12.9% increase in opt-out rates when contributions were invested in a fund with a guaranteed, but limited, rate of return. The CRSB considered this increase in opt-out rates to be a significant potential negative consequence of offering guarantees. The tables in Appendix D indicate the declines in income replacement ratios projected for each guarantee option considered.

The State Provides the Guarantee

The statute requires that the Program not "constitute a debt or obligation of the state" if such guarantees were to be offered as an investment option in the Program. This requirement appears to preclude the State providing a direct guarantee. Setting aside this restriction, the CRSB had Mercer develop a model to illustrate the potential costs of offering the guarantee. This illustration also explains why the cost of a guarantee from a third-party insurer is likely to be expensive. When the State is providing a direct guarantee, the State is essentially writing a put option to the participants. The State effectively commits that if the rate of return on the investment does not meet a minimum threshold of "x%", the State will fund the difference between the rate of return and the guaranteed percentage. If the rate of return exceeds the threshold, the participant does not require the State to fund the account. In this structure, the cost of the guarantee is determined by the time period over which the guarantee is made, the fluctuations in rates of return, and the accumulated assets for which the guarantee is made. To illustrate the point and understand the likelihood of the State paying out a guarantee, consider the following example:

- Assume participants have been contributing $1,000 per annum for the past 15 calendar years.

- Assume that at inception (15 years ago) there was one participant in each age group from age 47 through 61 (15 participants).

- Assume the contributions are invested in a return seeking fund aligned with the participant's age.

- Assume the guarantee is for principal + 1% return per annum every year. The accumulated balances with real rates of return will be compared with the principal +1% p.a. guarantee at age 62 to determine whether the State will pay.

- Exhibit 5.1 shows how the State would have paid for the guarantee for the period of 2000 to 2014.

Using a backward looking approach and the assumptions listed, the State would have been likely to pay out guarantees in the first three years of the program and in 2008. Please see the bottom row of the table for the amounts paid.

EXHIBIT 5.1: $1K CONTRIBUTIONS PER ANNUM FOR 15 YEARS WITH AGE GROUPINGS 47 TO 62

	Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	40% BC Agg / 60% MSCI ACWI return %	-4.3	-6.4	-7.7	21.8	11.2	7.8	14.4	10.2	-25.5	23.5	11.1	-0.8	11.9	12.7	5.3
	Annual Contribution	$1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000
	CPI %	3.4	1.6	2.4	1.9	3.3	3.4	2.6	4.1	0.1	2.7	1.5	3.0	1.7	1.5	0.8
	Guaranteed Account Balance at Retirement (Contributions plus 1% annual real return)	$1,044	$ 2,097	$ 3,203	$ 4,325	$ 5,553	$ 6,843	$ 8,124	$ 9,591	$10,707	$ 12,146	$ 13,476	$ 15,054	$ 16,497	$ 17,937	$ 19,272
Participant's age in 2000	47	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784	$11,884	$ 9,599	$13,086	$15,649	$16,512	$19,592	$23,203	$25,482
	48	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784	$11,884	$ 9,599	$13,086	$15,649	$16,512	$19,592	$23,203	
	49	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784	$11,884	$ 9,599	$13,086	$15,649	$16,512	$19,592		
	50	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784	$11,884	$ 9,599	$13,086	$15,649	$16,512			
	51	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784	$11,884	$ 9,599	$13,086	$15,649				
	52	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784	$11,884	$ 9,599	$13,086					
	53	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784	$11,884	$ 9,599						
	54	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784	$11,884							
	55	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549	$9,784								
	56	$ 957	$1,832	$2,612	$4,399	$6,001	$7,549									
	57	$ 957	$1,832	$2,612	$4,399	$6,001										
	58	$ 957	$1,832	$2,612	$4,399											
	59	$ 957	$1,832	$2,612												
	60	$ 957	$1,832													
	61	$ 957														
	Guarantee Paid	$ 87	$ 265	$ 590	$ -	$ -	$ -	$ -	$ -	$ 1,109	$ -	$ -	$ -	$ -	$ -	$ -

Participant Balance at retirement

The past 15 years have seen strong returns in bond markets and several years with high rates of return in equity markets, which means that the performance in the table most likely does not represent an unbiased estimate of possible future experience. One could reasonably expect that guarantee payouts will likely be more frequent and larger going forward than they would have been in the past 15 years.

A second consideration is that the Program could have new entrants close to the age on which the guarantee will be due, e.g. aged 62. Using the same assumptions and historical data, if a person aged 61 enters in each of the past 15 years; the model shows a higher likelihood of the State paying guarantees. See exhibit 5.2 below.

EXHIBIT 5.2: NEW PARTICIPANT JOINS AT 61 IN EACH OF THE PAST 15 YEARS.

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
40% BC Agg / 60% MSCI ACWI return %	-4.3	-6.4	-7.7	21.8	11.2	7.8	14.4	10.2	-25.5	23.5	11.1	-0.8	11.9	12.7	5.3
Annual Contribution	$1,000	$1,000	$1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$1,000	$ 1,000	$ 1,000	$1,000	$ 1,000	$ 1,000	$ 1,000
CPI %	3.4	1.6	2.4	1.9	3.3	3.4	2.6	4.1	0.1	2.7	1.5	3.0	1.7	1.5	0.8
Guaranteed Account Balance at Retirement (Contributions plus 1% annual real return)	$1,044	$1,026	$1,034	$ 1,029	$ 1,043	$ 1,044	$ 1,036	$ 1,051	$1,011	$ 1,037	$ 1,025	$1,040	$ 1,028	$ 1,025	$ 1,018
Retiree balance at 62	$ 957	$ 936	$ 923	$1,218	$1,112	$1,078	$1,144	$1,102	$ 745	$1,235	$1,111	$ 992	$1,119	$1,127	$1,053
Guarantee Paid	$ 87	$ 90	$ 112	$ -	$ -	$ -	$ -	$ -	$ 266	$ -	$ -	$ 48	$ -	$ -	$ -

While the option described above does not meet the statutory requirement for an annually pre-determined guarantee, it illustrates that guarantees determined less frequently than annually have a high likelihood of being paid out. One would expect an annually determined guarantee to pay out more frequently as illustrated by exhibit 5.2, where a participant that is a year away from retirement would have received a guarantee payout five out of the last 15 years, as opposed to exhibit 5.1

where the guaranteed amount was determined over a longer time period and paid out in four out of the last 15 years. If the State were to self-insure, the State would need to accumulate and maintain significant reserves to mitigate the risk of being unable to fund an actual loss. The State could provide a direct guarantee on accumulated assets and reinsure this risk off the State's balance sheet. Estimating the cost of such a reinsurance arrangement is not possible at this time, because such a contract would be unique and the overall terms are not known. One would expect that the terms of a reinsurance contract would incorporate the likelihood of paying guarantees and require a premium payment. Anecdotal feedback from insurers suggests that the arrangement would not be cost effective because these types of solutions can have unpredictable and large payouts and do not offer any natural hedging mechanisms with other insurance solutions.

Other Issues

In addition to high cost and not achieving the policy objective of securing retirement income, guarantees also present administrative and practical challenges that either raise the overall administrative costs or put liability back to the State. Specifically, guarantees will be challenging to administer. The IRA provider will need to track annual balances and returns for each participant. IRA providers do not currently provide this service, and their recordkeeping systems are not likely to have this functionality.

Second, the State would want to manage future liabilities with hedges. Financial instruments are not available with sufficient liquidity at the maturities needed to provide the hedge; liquid high quality corporate bonds are not available for 30 and 40 year maturities. Equity put protection is not available at reasonable cost for time horizons beyond a few years. Consequently, the guarantee cannot be hedged well, which increases the residual risk that the State would bear and raises the cost of any reinsurance. The lack of hedging instruments also means that there is no current pricing available on market instruments, so we cannot ascertain the costs associated with the State offering this type of guarantee.

Consequently, and in light of the additional analysis presented below, the CRSB concluded that a third-party insurance provider is a more likely solution for providing an annually pre-determined guarantee. The different approaches for providing a predetermined guarantee and the associated costs are described in the next sections.

A Third-Party Insurance Company Provides the Guarantee

A third-party insurance company can provide guarantees similar to the guarantee described above. The insurance company would also have a high likelihood of paying out against such a guarantee. Mercer obtained indicative pricing on an anonymous basis from two large insurers. To simply guarantee the principal accumulated at age 62, the insurers would charge an indicative fee of 100 basis points per annum or 1% in addition to administrative costs. If the legislature decides to offer a 1% guaranteed return, the fee would increase to 200 basis points or 2% of the asset value per annum. In short, given current market conditions including available interest rates on the marketable securities insurers would use to partially hedge their guarantees, providing a guarantee is so expensive that it cannot be done without a net reduction in the account balance. Moreover, this guarantee structure does not meet the statutory requirement because the guarantee is not determined on an annual basis. This structure is simply a guarantee of principal or 1% return at age 62.

Using a Stable Value Fund as an Option

The Program could theoretically achieve the general statutory objective using a stable value investment option, although using a stable value fund within an IRA program has major barriers. As with a direct guarantee, the State could directly guarantee the stable value fund's return or use a third-party insurer. The State guaranteeing the stable value return is not in-line with the statutory prohibition against the State taking on liability. Consequently, Mercer prepared this analysis assuming a third party provider would manage the stable value fund.

The guarantee cost for a stable value fund is significantly lower than a direct guarantee because the assets underpinning the stable value guarantee have a risk profile that matches the guarantee return. Generally, stable value funds invest in high quality fixed income assets with limited maturities. For this reason, insurance providers are most likely to be open to providing a guarantee on a stable value fund versus guarantees on more risky and diverse funds.

Based on Mercer's Stable Value Fund survey as of March 31, 2015, the median fee including asset management fees of the underlying fixed income portfolio is about 47 basis points for accounts less than $25MM and 45 basis points for accounts greater than $25MM, which is significantly less than the cost of obtaining a direct guarantee on a riskier target date fund portfolio. While the cost is lower, the expected return on these more conservative portfolios will also be substantially lower than the expected return on a target date fund portfolio.

Other Issues

While stable value options are fairly common in ERISA qualified retirement plans, stable value options are not offered within IRA structures due to securities regulations. Most IRAs require an SEC registered investment vehicle or offer a group annuity contract. Most stable value funds are managed in a commingled fund structure as opposed to a SEC registered mutual fund. In addition, obtaining stable value insurance or wrap coverage around an option offered in an IRA program may be practically difficult as most providers will require an effective means to enforce "equity wash" provisions. "Equity wash" provisions in stable value insurance products restrict the flow of money from and to a stable value fund from a competing fund, such as a money market or short-term bond fund. These restrictions are in place because interest rates have different periods over which they adjust to base rate changes and individuals can move from stable value funds to investments that adjust more quickly or vice versa, creating valuation and liquidity issues for stable value funds.

The basis on which participants can withdraw money from the Program and whether withdrawals can be restricted are important for stable value funds working within an IRA platform. In tax-qualified defined contribution plans participants can take their money from the plan at termination of employment. Under the proposed IRA structure participants may be able to roll their money at any time for any reason. One possible approach to resolving issues associated with cash flows is to take a class year approach where money is collected for a stated period of time, e.g. a calendar quarter, then held for a defined period, e.g. 2 and 3/4 years for a total of 3 years. The fund would essentially act as a 3 year Certificate of Deposit with no transfers in or out prior to the 3 year maturity date. At maturity the funds could be transferred, reinvested, or rolled over to another IRA provider. This approach could coexist with competing accounts.

Restricting money flows in and out of the Program, even if it is only the assets in the stable value fund, may not be desirable given the statutory goal of the Program being portable, and it may make the Program less desirable for participants, especially for those participants that place high priority on being able to access their funds readily. Moreover, expected final regulations by the U.S. Department of Labor may prohibit restricting money flows out of the Program. A recently proposed regulation intended to facilitate state-based reform initiatives such as the Program expressly prohibits such restrictions on withdrawals or the imposition of costs or penalties on transfers or rollovers otherwise permitted.

The stable value option must also be assessed within the broader program goals of maximizing savings and retirement income. Stable value options focus on guaranteeing a minimum rate of return, not maximizing returns or income in retirement. Consequently, this option is not well aligned with the broader program policy objectives. The exhibit below illustrates this point.

EXHIBIT 5.3: MERCER'S LONG-TERM FORWARD LOOKING RETURN AND RISK ASSUMPTIONS

	Return	Risk
Stable Value	1.5% (Short-term) to 3.7% (Long-term)	3.5%
Target Date Fund	5.8% (typical 2020 Fund) to 6.8% (typical 2060 Fund)	11.5% (typical 2020 Fund) to 16.8% (typical 2060 Fund)

EXHIBIT 5.4: HISTORICAL RETURNS AND RISK (AS OF MARCH 31, 2015)

	Return (%pa)	Risk (%pa)
	Trailing 10-years	
Mercer Mutual Fund Target-Date 2020 Universe		
Lower Quartile	5.0	10.9
Median	5.6	11.9
Upper Quartile	5.9	13.0
*Mercer Mutual Fund Target-Date 2035 Universe**		
Lower Quartile	6.3	15.2
Median	6.6	15.6
Upper Quartile	7.1	16.0
Mercer US Stable Value Universe		
Lower Quartile	3.2	0.5
Median	3.5	0.6
Upper Quartile	3.7	0.7

**Latest date target date fund universe with more than 10 years of track record*

Investing in a Conservative Portfolio

A fourth option for achieving the statutory objective of offering a guarantee in the Program is to invest the portfolio in cash equivalents or short term bonds, such that the principal value of the portfolio, or even a small positive interest rate, is guaranteed. A return of 1% is not currently available on a broadly diversified high quality bond portfolio with duration less than 1 year. So, a guarantee of 1% is not available currently under this scenario, but the portfolio could provide principal protection. This approach may require imposing participant withdrawal limits to ensure that the State is not liable for making participants whole if the underlying bond holdings decline in value. This approach may not be feasible, as it is counter to the Program's goal of offering a portable retirement solution.

To ensure that the State is not liable, an insurance company could guarantee the rate of return. Purchasing a guarantee from an insurer would increase the cost of offering this investment option, making it less attractive. Given that this option is likely to be a traditional GIC (Guaranteed Investment Certificate) structure, there will mostly likely not be an explicit fee quoted by the insurance company for providing the guaranteed rate of return. Consequently, the cost of offering the guarantee would be included within the guaranteed rate of return. Participant withdrawals are likely to be restricted or in lieu a withdrawal fee charged. The withdrawal fee may be in excess of the guarantee provided for that period. As already discussed, withdrawal restrictions are counter to the Program's goal of being a portable IRA solution. They may also be contrary to expected regulations by the U.S. Department of Labor, which are likely to prohibit certain withdrawal and transfer restrictions.

The CRSB does not view either option as attractive relative to the State's other goals for the Program, nor as practical under current market conditions. The income replacement ratio obtainable via investment over an entire career in cash and short term bonds is poor and worse than the comparisons shown above for stable value and particularly poor relative to investing assets in an age appropriate target date fund, as shown below. Also, administrative, investment, and insurance costs associated with the program might be higher than the yields currently available on cash and short term bonds, such that in practice even a principal guarantee could not be provided. Finally, a guarantee near zero is unlikely to be attractive to participants given competing alternatives in the market.

Using a Money Market Fund as the Guarantee Option

The Program could achieve the general statutory objective using a money market investment option given that it can preserve participant's principal investment value. This option would significantly reduce a participant's income replacement ratio compared to an age-appropriate target date fund. A money market fund option would not have the same withdrawal restrictions as a stable value or conservative fund; however, money market funds have restricted withdrawals in times of significant market illiquidity and they have credit risk. A money market fund will at best keep up with inflation, but frequently does not. While money market funds may meet the statutory goals of providing a guarantee that is also portable within an IRA structure, this product does not improve the participants' retirement readiness.

The CRR market survey found that opt-out rates increased by 12.9% when contributions were invested in a fund with a guaranteed, but limited, rate of return. Given this significant opt-out increase, costs, operating difficulties and limited benefits; the CRSB does not recommend that the Program have a guaranteed rate of return option.

Annuitization and Retirement Income

As part of the statutory Program design, the CRSB had to assess the feasibility and desirability of providing annuity options. Annuitization provides a useful and important income stream throughout retirement. For example, in the "OECD Roadmap for the Good Design of Defined Contribution Pension Programs" issued in June 2012, the OECD recommended that governments "…encourage annuitization as a protection against longevity risk". The Board will provide further recommendations on annuitization in its implementation plan.

Comments on Recourse to the State

The Legislature has specifically required that the recommended Program model not incur debts or liabilities to the State, as well as ensure that any contract entered into by or any obligation of the Program not constitute a debt or obligation of the State to any designated beneficiary or any other person on account of the Program. The implementing Board's purchase of an annuity or annuities on behalf of participants in the Program should generally not result in the State incurring debts or liabilities. However, the CRSB recommends that the implementing Board be held to a best interest standard of care, similar to that under ERISA, when making investment decisions. The implementing Board, therefore, would be required to abide by that standard of care when it purchases an annuity. The implementing Board would further be subject to the applicable restrictions on investments and other transactions under the federal Internal Revenue Code.

Captive Insurance Company

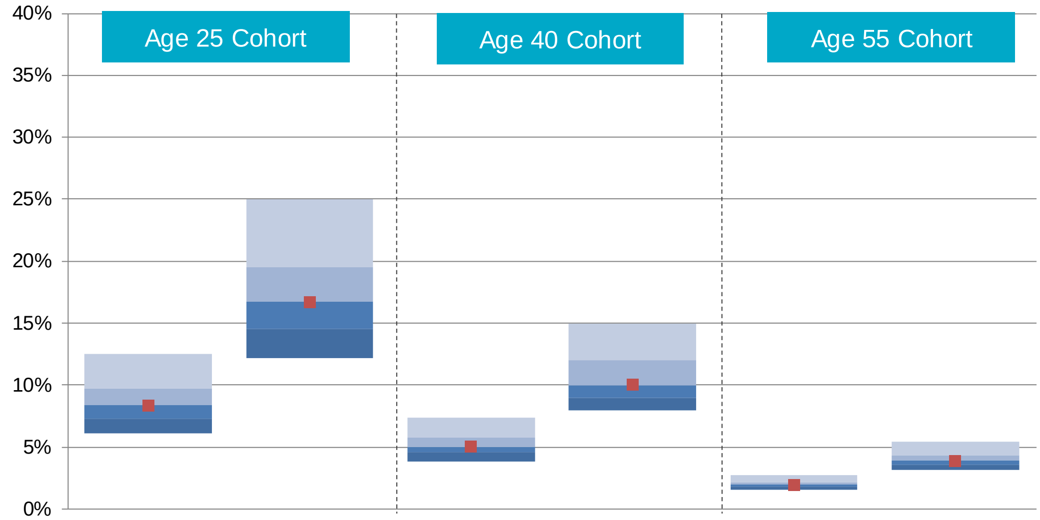
In lieu of purchasing private annuities for participants, there is an opportunity for the implementing Board to annuitize payments through a captive insurance company. Such an approach could potentially achieve cost savings by the elimination of profit motives, brokers or sales commissions, and marketing expenses. Some fee component would be required to cover the costs of reserves and capital requirements mandated by insurance laws. Revisions to the existing statutory regulation of annuities may be necessary so that, for example, the captive insurance company does not participate in the private resolution pool. There is a risk that a captive insurance company could become unable to pay all promised benefits in the absence of a backstop or third-party guarantor (whether provided through additional insurance, the state, or another mechanism). There may be barriers to such an approach in federal law as well, but drawing on the assistance of the Department of Insurance, the implementing Board could have the authority to design an appropriate annuitization mechanism.

Deferral Rate

The deferral rate (percentage of salary contributed into the Program) is one of the biggest factors influencing retirement savings accumulation. A deferral rate of 6% compared to 3% improves the income replacement ratio by more than 20%, on average, for a participant entering the Program at age 25. The improvement drops to less than 10% on average for a 40 year-old entrant, and less than 5% for a 55 year-old entrant, largely due to the shorter accumulation phase. The CRSB considered two scenarios, where contributions are invested in cash or target date funds (TDFs). Scenarios where savings are invested in cash show smaller improvements in income replacement ratio than savings invested in TDFs.

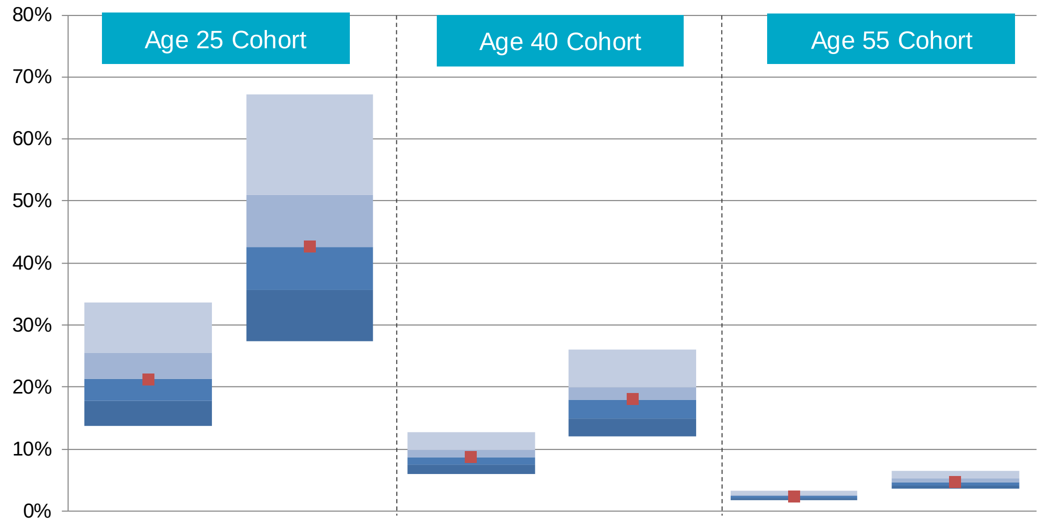
The modeling assumes participants continue contributing until retirement. This assumption is not likely to be true for all participants, given the possibility that participants may experience periods of unemployment, underemployment, or employment at a workplace that provides an employer sponsored retirement plan. Given the uncertainty associated with future employment, the CRSB believes it is appropriate to adopt a higher default deferral rate to ensure that participants save sufficiently. This perspective should be balanced with participants' ability to contribute at higher levels at the outset versus slowly increasing deferral rates over time.

EXHIBIT 5.5: SUMMARY OF CASH INCOME REPLACEMENT RATIO FOR ALL INCOME LEVELS (3% AND 6% DEFERRAL RATE)



		Cash Only, 3% Deferral Rate	Cash Only, 6% Deferral Rate	Cash Only, 3% Deferral Rate	Cash Only, 6% Deferral Rate	Cash Only, 3% Deferral Rate	Cash Only, 6% Deferral Rate
95th		12%	25%	7%	15%	3%	5%
75th		10%	20%	6%	12%	2%	4%
50th		8%	17%	5%	10%	2%	4%
25th		7%	15%	5%	9%	2%	4%
5th		6%	12%	4%	8%	2%	3%

EXHIBIT 5.6: SUMMARY OF TARGET DATE FUNDS' (TDF) INCOME REPLACEMENT RATIO FOR ALL INCOME LEVELS (3% AND 6% DEFERRAL RATE)



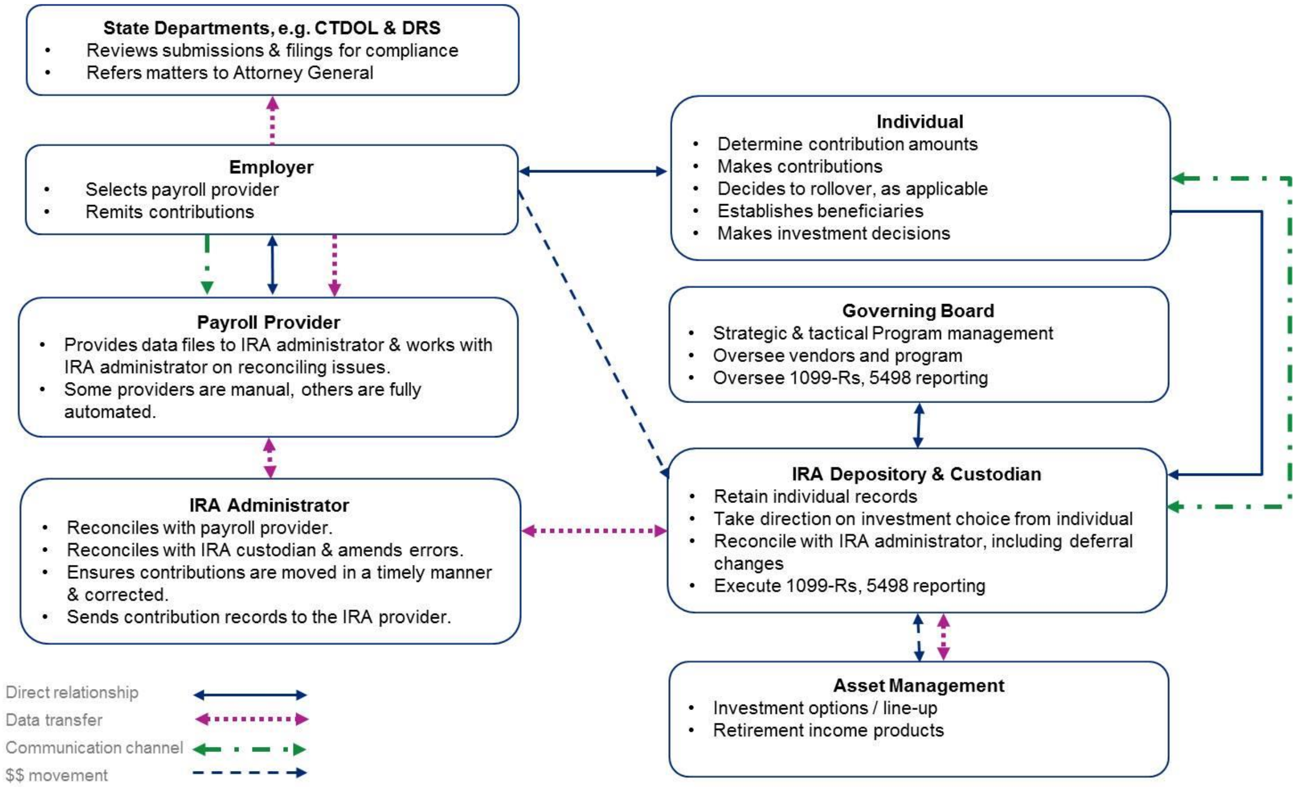
		TDF Only, 3% Deferral Rate	TDF Only, 6% Deferral Rate	TDF Only, 3% Deferral Rate	TDF Only, 6% Deferral Rate	TDF Only, 3% Deferral Rate	TDF Only, 6% Deferral Rate
95th		34%	67%	13%	26%	3%	7%
75th		26%	51%	10%	20%	3%	5%
50th		21%	43%	9%	18%	2%	5%
25th		18%	36%	8%	15%	2%	4%
5th		14%	27%	6%	12%	2%	4%

The CRR market survey found that opt-out rates decreased by 3.9 percentage points if a 3-percent contribution rate was used instead of a 6-percent rate. This decrease is considered marginally statistically significant. Given that a 6% deferral rate has a significant impact on overall savings and participants are only slightly less likely to use the program at higher deferral rates, the CRSB recommends the Legislature compel a default deferral of 6% with the ability to opt-out or lower the deferral rate.

Administrations and Operations

Administration and operations are critical to successful implementation, cost efficiency and meaningful governance. The Legislature has required the CRSB to provide specific recommendations on crediting participant accounts and streamlining enrollment. From an operational and cost perspective, vendor selection and negotiations will have a significant impact on whether the Program can meet the policy goals. Consequently, the CRSB recommends that the specific decisions around processes be left to the implementing Board as it executes its mandate. In reviewing the processes generically, the CRSB noted some points that should be clarified and codified in the legislation. This section discusses these items in detail. To guide the discussion, the diagram overleaf provides a pictorial representation and illustration of how the Program could operate to achieve the primary administrative goals and implement effective controls. There are many approaches to achieving overall operating efficiency and Program integrity goals. The CRSB recommends that the implementing Board conduct further analysis to understand how this operating model could work within the envisaged enforcement mechanisms.

EXHIBIT 5.7: EXAMPLE RESPONSIBILITIES AND INFORMATION FLOWS



Within this operating model, the working assumption is that the employer opens IRA accounts using payroll data for employees not opting-out of the program. The exact process for this activity will be determined during the implementation phase; however, one approach is for the IRA administrator to accept instructions from the employer's appointed payroll provider and work with the custodian to establish the accounts and initial deferrals for each employee.

Each payroll, the IRA administrator would receive payroll data from the payroll provider and contribution data from the IRA custodian. Ideally, this process would be automated and integrated across the providers, with the IRA administrator receiving both data sets at the individual level and employer level. The IRA administrator would then reconcile the data sets at the individual and employer levels. Where the IRA administrator encounters reconciling items or breaks, the IRA administrator would identify the source, the cause and resolve the issue. Once the IRA administrator is satisfied with the data's accuracy, the IRA administrator would pull the aggregate contributions from the employer's bank account and move the funds to the IRA depository's / custodian's omnibus account. The IRA depository / custodian would then reconcile internal recordkeeping systems to ensure all cash has been properly allocated to each participant account and advise the investment manager of net buys/sells for the investments.

Individuals should have the ability to see their investments, performance, account activity and balances via a website. The IRA depository / custodian will most likely provide the technology platform and website; however, the portal should be branded as Connecticut Retirement Security.

The implementing Board will have ultimate responsibility for how the IRA Administrator, Depository, Custodian and Investment Managers operate and meet the employees' and employers' needs. The CRSB recommends that the implementing Board be required to establish policies and control guidelines to outline reporting, checks and balances and processes for changing these entities. It is anticipated that the implementing Board will delegate to staff or other third parties daily management and oversight responsibilities to ensure the vendors are operating in accordance with an established standard of care and expectations.

Crediting Participant Accounts

The CRSB must comment on the process by which a qualified employer shall credit the employee's contributions to the individual retirement account (IRA) through payroll deposit. The CRSB recommends that the implementing Board take decisions around the specific process during vendor reviews and implementation. The process will require some legislative or legal guidance on the following items:

- Defining eligible wages
- Deduction protocols
- Deferral funding

Defining Eligible Wages

The definition of eligible wages is likely to be a key challenge in implementation because, as in the tax-qualified defined contribution plan context, payroll systems and coding can vary widely from employer to employer. To facilitate efficient administration, the definition of eligible wages should rely on the same definition of wages used to determine employee wages as reported in Box 1 of an employee's Form W-2. This data should already be built into payroll systems or even manual payroll processes because of Federal reporting requirements, thus reducing administrative burden.

Deduction Protocols

Prior to processing employee contributions, the employer must set up the IRA deduction rules in the payroll system or payroll process. The IRA deduction will also need to be factored into the hierarchy of other payroll deductions to ensure that any required deductions are made from the employee's pay before the IRA deduction is made. Since there will be many instances where a participant changes jobs during the year, or holds multiple jobs with multiple payroll deductions, and since direct contributions through the Plan Administrator, not through payroll deduction, are allowed, the Plan Administrator should be tasked to monitor total participant contributions during the year, and should alert the participant and current employers when the maximum contribution amount is about to be reached. The employee must withdraw excess contributions by the date that their tax return is filed or they will incur a 6% excise tax. Currently, 10% or less of the Connecticut population would be at risk for incurring an excise tax; however, someone could be penalized. Decisions about processes and controls to prevent issues should be delegated to the implementing Board.

Most workers have regular deductions from their wages. Employers will need to allow many of these deductions to take precedence over contributing to the Program. Some deductions may already have precedence in existing law. It may be appropriate for the Legislature to establish a cutoff amount below which contributions are allowed but not required. Decisions about the employer's responsibilities in the case where remaining wages after deductions are insufficient should be referred to legal counsel for specific opinions and recommendations prior to determining what to recommend to the Legislature with regard to instances where an employer is not required to auto-enroll an employee.

6

Financial Feasibility

Summary

The Legislature charged the CRSB with evaluating the financial feasibility of establishing a retirement program for employed individuals not currently covered by a workplace retirement plan. On behalf of the CRSB, Oliver Wyman analyzed the financial feasibility of an indicative strawman program (the Program) to assess the viability of the program under a range of different assumptions with regard to program participation, contribution rates, investment returns and program costs. Key elements of the strawman Program evaluated include: an individual retirement account structure with mandatory employee enrolment and optional opt-out, a default contribution rate of 6% of salary, automatic assignment to a single investment vehicle (i.e. an age-appropriate target date fund) and a combined investment management and program management fee of 50 basis points as a percentage of program assets[8].

Oliver Wyman's financial feasibility analysis resulted in a 15-year projection of the program's financials and a preliminary view of the financial feasibility that included consideration of a number of sensitivities, such as using a lower (3%) default contribution rate and replacing the target date fund investment option with a money market fund[9]. Key assumptions for the feasibility analysis with regard to Program design and investment returns, employee population and salaries, opt out rates and Program fees, are based on inputs from Mercer, the US Census Bureau, CRR, preliminary discussions Oliver Wyman conducted with potential 3rd party service providers and secondary research, respectively.

In summary, Oliver Wyman found the strawman Program could be financially feasible under a range of scenarios and assumptions for the Program's key drivers. Moreover, selected interviews with a limited set of potential third party service providers indicated interest in supporting the Program, and that the private sector is likely to be able to provide a wide range of services that could minimize the State's need to make substantial investments to administer the Program. In the base scenario, the Program is anticipated to garner assets quickly, reaching a $1BN estimated minimum a threshold at the end of year 2. Further, the Program is expected to repay estimated upfront costs and cover ongoing expenses annually between years 3 and 5[10] in the base scenario. The Program's feasibility was also tested across multiple adverse scenarios. In each of these scenarios, the Program is expected to acquire sufficient assets to meet the minimum asset threshold of $1BN by year 8; however, the breakeven period for the Program extended to between 5 and 12 years. If so required in an actual downside scenario, Oliver Wyman noted that the State could take several mitigating actions to increase the financial health of the Program, including adjusting Program pricing and fees, implementing employee and employer educational programs, and increasing fines associated with non-compliance.

8 Based on a comparison of the Strawman Program to available market proxies in the form of State direct 529 plans

9 The money market fund investment vehicle was selected by the CRSB as the most attractive default investment option that could provide Program participants with a minimum guarantee (i.e. return of principal)

10 Breakeven point is dependent on the assumed rebate to the State for program costs

Oliver Wyman found participant contributions, a function of participation levels and contribution rates, to be the largest driver of Program assets. Re-running the base and downside scenarios with a 3% default contribution rate instead of 6%, and leaving all other assumptions the same, significantly increased the time required for the Program to achieve the estimated $1BN minimum asset threshold. In the base case scenario, the Program remains financially feasible, and is estimated to reach the $1BN minimum asset threshold between years 3 and 4. However, the payback period to recover Program start-up costs is estimated to increase to between 5 and 8 years. Under the downside scenarios, the Program is estimated to require between 9 and 11 years to reach the $1BN minimum asset threshold, and 12 to 15 or more years to repay initial start-up expenses. The extended time periods required to achieve the minimum asset threshold and repay upfront start-up costs under a 3% default contribution assumption, indicate that the initial Program fee would likely need to be increased, up to 100 bp (or 1% of assets) in total in order to ensure the Program is self-funding, as well as sufficiently attractive program to third party service providers. A 6% default contribution rate is therefore recommended to minimize Program fees for participants.

As a final note, Oliver Wyman indicated that its analysis and findings are based on information available at the time of the analysis regarding potential program design, likely expected employee participation and market proxies for administrative program expenses. Changes to the ultimate Program design from the straw man tested by CRR may impact employee participation and / or Program assets levels, which could also impact the Program's pricing and financial feasibility, in the extreme case. Oliver Wyman therefore recommends key assumptions for the financial feasibility analysis be revisited once details of the Program are further defined and clarified.

The remainder of this section provides a detailed summary of the analysis and includes the following:

- Approach for determining the financial feasibility of the Program
- Determining a minimum asset threshold
- Modelling base scenario financials
- Modelling downside scenario financials
- State break even analysis
- Program financials under a 3% contribution assumption
- Key takeaways and model limitations

Approach for Determining the Financial Feasibility of the Program

Oliver Wyman used a three-part test for assessing the Program's financial feasibility. First, the Program must be self-funding, meaning it should generate enough fees to cover upfront investment and ongoing administration costs. This criterion is based on the requirement for the Program to be self-funding and without an ongoing appropriation from the State. Second, the Program must be attractive to service providers by generating fees that provide a fair economic return to the service providers (e.g., investment managers, administrators). If 3rd party service providers are not willing to participate, launching the Program will likely be extremely difficult. Finally, the Program must be attractive to participants, which is defined as being offered at a reasonable rate. If the fees necessary to support the Program's economics result in unacceptable participant charges, the Program would likely not be feasible.

Following on from establishing the criteria for assessing Program financial feasibility, the analysis had three parts:

- Determining a minimum asset threshold: The lowest level of program assets that can support program administration expenses and provide an attractive return to third party service providers. Since the key output of the financial feasibility model is program assets, this provides the quantitative threshold against which model results are tested.

- Modelling base scenario financials: Assess if and when the Program's assets breach the estimated minimum asset threshold under base case assumptions and inputs.

- Modelling adverse scenario financials: Analyze downside scenarios using extreme down-side assumptions to determine if and when the Program achieves the minimum asset threshold under adverse conditions.

Determining a Minimum Asset Threshold

Since many details around the Program will be decided during implementation, Oliver Wyman considered the structure and economics of state sponsored direct 529 plans (the best market proxy for the Program) and preliminary discussions with a selected number of third party service providers in determining an estimated minimum asset threshold for the Program in steady state[11].

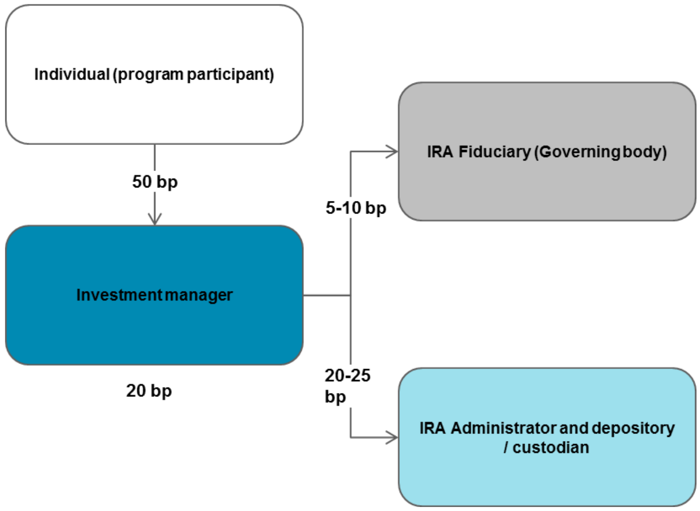
For purposes of the financial feasibility analysis, the Program is assumed to have an investment wrap account structure with a single asset-based fee deducted directly from program assets. This is a common structure used in 529 plans, which face similar self-funding requirements, whereby the fee is used to pay for investment management, recordkeeping and administration services. Oliver Wyman assumed a fee of 50 bp per annum in the Program strawman, reflecting the average of state direct 529 plans that do not have an account fee[12].

For the purposes of modelling, Oliver Wyman further assumed the investment manager would rebate the State's governing body 5-10 bp and the IRA admin and depository / custodian (IRA administrator) 20-25 bp (representing typical 529 plan arrangements) In practice, these amounts will be subject to negotiation.

[11] Although the administrative structure of state sponsored direct 529 plans differs somewhat from that of the currently contemplated Program, Oliver Wyman found that third party vendors are likely to have or are willing to build the capabilities required to support the Program in the capacity outlined in the strawman design.

[12] The CRSB indicated a strong preference for a Program fee structure without account minimum and per participant type charges.

EXHIBIT 6.1: ILLUSTRATIVE PROGRAM FEE FRAMEWORK



Oliver Wyman then made assumptions for the estimated ongoing expenses for the State's governing body. At the time of the analysis, the likely size and structure of the State's governing body had not yet been determined. In discussions with third party service providers, they indicated that states take a range of different approaches to direct 529 program governance and administration. Some states have relatively large teams, while others have small groups focused primarily on program governance and oversight of third party service providers. For the purposes of the financial feasibility analysis, Oliver Wyman assumed the Program will adopt the latter model, and analyzed the program governance fee levels for existing state direct 529 plans to establish a baseline estimate. Accordingly, a strawman budget of $500K-$1MM per year was used to fund an estimated team of 2-5 full time employees, plus overhead and third party consultant services. Note this assumption is based on the team being located in existing State office space, and excludes any costs associated with enforcement. The actual size of the team and expense budget may be higher or lower than this estimate which could impact the minimum asset threshold, program fee or both. As more information becomes available, during the implementation phase, it will be important for the implementation board to take this into account when setting the final program fee levels to ensure sufficient funding to cover Program governance expenses.

A minimum asset threshold was calculated based on the estimated ongoing costs of the Program's governing body of $500K-$1MM and an assumed 5-10 bp State rebate. Based on those figures the minimum asset threshold for the program is estimated to be $1 BN in steady-state assets. In recognition that the direct 529 plan is not a 100% analogue to the currently contemplated plan, Oliver Wyman noted that in practice the Program may require a higher or lower level of support than the average 529 plan, which could also impact the required budget for Program administration, and potentially lead to a higher State rebate fee and/or minimum asset threshold.

For the $1BN minimum to be an effective minimum asset threshold, it must also allow for the requirement that that the Program be attractive to service providers. At an asset size of $1BN, and overall Program fees of 50 bp, the Program would generate $5MM to be divided among the investment manager, IRA administrator and IRA fiduciary. Oliver Wyman found five state direct 529 plans that generate total fees ~$5MM per year or less (representing 20% of plans in the sample population[13]), which suggests that there are viable similar plans with like economics. Based on this

[13]Sample population includes state 529 plans with no per account fees

observation, Oliver Wyman concluded that the Program is likely to be sufficiently attractive to third party service providers at $1 BN in assets.

EXHIBIT 6.2: STATE 529 PLANS GENERATING LESS THAN $5MM PER ANNUM IN FEES[14]

State	Assets	Avg fees (bps)	Fees per year
South Carolina	1,955,613,828	14	2,737,859
Oklahoma	683,232,331	55	3,757,778
Delaware	505,031,256	79	3,989,747
Georgia	1,506,628,047	32	4,821,210
Minnesota	1,097,194,549	47	5,156,814

In addition to identifying the minimum asset threshold, Oliver Wyman estimated the critical time period for meeting this threshold for the State and for the 3rd party service providers, i.e., the investment manager and IRA administrator. The State is expected to want the Program to re-pay set-up costs and cover ongoing administrative expenses as soon as possible; however, a target payback period had not been detailed at the time of the analysis. For investment managers, there are no set time criteria. Given limited support requirements from investment managers, they are not likely to have as rigid a timeframe to achieve the minimum asset threshold. However, assets should be meaningful to garner sufficient attention and servicing. For IRA administrator the key time criterion is likely to be the time of contract renegotiation. The typical contract term for 529 plans is 5 to 7 years, which is likely to be a good proxy for the Program. Exhibit 6.3 illustrates the fee criteria (based on a $1BN minimum asset threshold) and the time criteria for the Program's governing body, the investment manager and the IRA administrator.

EXHIBIT 6.3: FEE AND TIME CRITERIA BY ROLE

Role	Fee	Min $ fees criteria	Time criteria
Governing body (state)	5 -10 bp	$500K - $1MM	As soon as possible
IRA admin. and depository / custodian	20-25 bp	$2-2.5MM	Years 5-7
Investment manager	20 bp	$2MM	No set time criteria

A Program size of $1BN in assets fulfils the criteria of allowing the Program to be self-finding and attractive to service providers, and is used as the minimum asset threshold throughout the remainder of the analysis.

Modelling Base Scenario Financials

Model Development Approach

The Program financial modelling was based on three guiding principles. First, the model focuses on key drivers that can be parameterized using available information. Second, the model utilizes conservative assumptions[15]. Throughout the modelling process, simplifying assumptions needed to

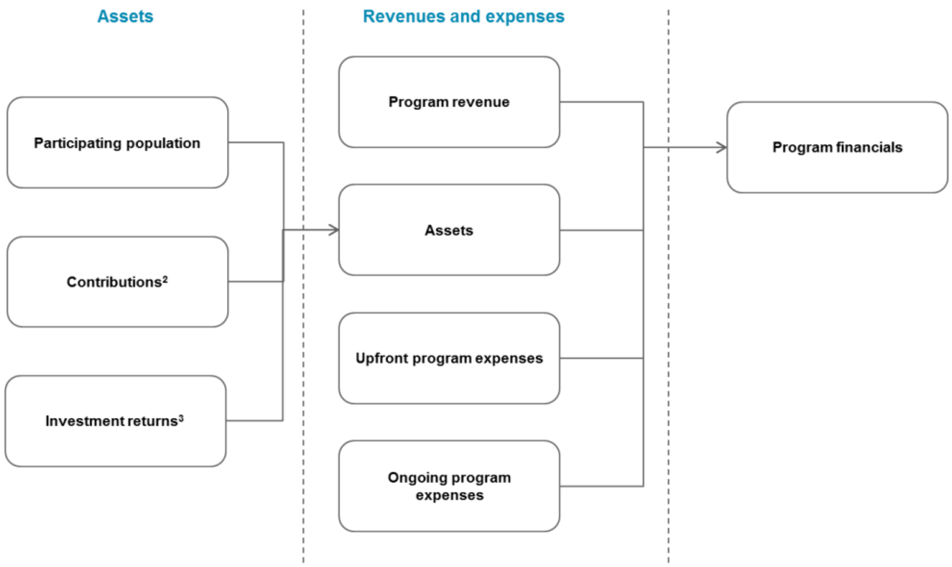
[14] Source: Morningstar as of 5/2014

[15] At the time the financial feasibility analysis was conducted, a decision regarding whether to use a traditional or Roth IRA structure had not been made. Given CRR found no statistical difference in opt-out rates between traditional and Roth

be made. Since the focus of the model is on downside risk to asset levels and Program fees, as opposed to potential upside, conservative assumptions were used whenever possible. Finally, sensitivity testing of key assumptions was used to stress test model outcomes to account for different potential assumptions and scenarios.

The guiding principles described above inform the design of the financial feasibility model. Key drivers are used to estimate Program assets which are then combined with other key drivers to estimate revenues and expenses as well as overall Program financials. Exhibit 6.4 outlines the financial feasibility model framework.

EXHIBIT 6.4: FINANCIAL FEASIBILITY FRAMEWORK[16]



Within this framework, projections are based on assigning assumptions for each of the key model drivers to 9 distinct cohorts and rolling those forward through time. Each group of participants is assigned to a cohort based on their age and income segment. Exhibit 6.5 illustrates the cohort mapping characteristics.

IRAs, the financial feasibility analysis assumes a Roth IRA structure (i.e. after-tax contributions), which results in lower estimated contributions and Program asset levels. A decision to use a traditional IRA structure would therefore, likely improve the Program's economics.

[16] Sources: 1. Participating population: US Census Bureau for base population and covered vs. uncovered population and salaries, BC Center for Retirement Research for opt-out rates; 2. Contribution rate: based on BC Center for Retirement Research survey; 3. Investment returns: Mercer capital markets analysis; 4. Upfront and ongoing program expenses: estimated based on state 529 plan market analysis and 3rd party service provider discussions

EXHIBIT 6.5: COHORT MAPPING

Cohort	Income level	Career level	Age min	Age max	Salary min ($thousands)	Salary max ($thousands)
Cohort 1	Low	25	18	30	13	20
Cohort 2	Low	40	30	50	14	29
Cohort 3	Low	55	50	65	15	36
Cohort 4	Mid	25	18	30	20	25
Cohort 5	Mid	40	30	50	29	50
Cohort 6	Mid	55	50	65	36	61
Cohort 7	High	25	18	30	25	138
Cohort 8	High	40	30	50	50	328
Cohort 9	High	55	50	65	61	319

The mapping of groups to a cohort is important because many model assumptions are only available at the cohort level or higher, and are thus applied at the cohort level. *Exhibit 6.6: Key Driver Assumptions by Cohort* illustrates the assumptions for key drivers as applied in the base scenario.

EXHIBIT 6.6: KEY DRIVER ASSUMPTIONS BY COHORT

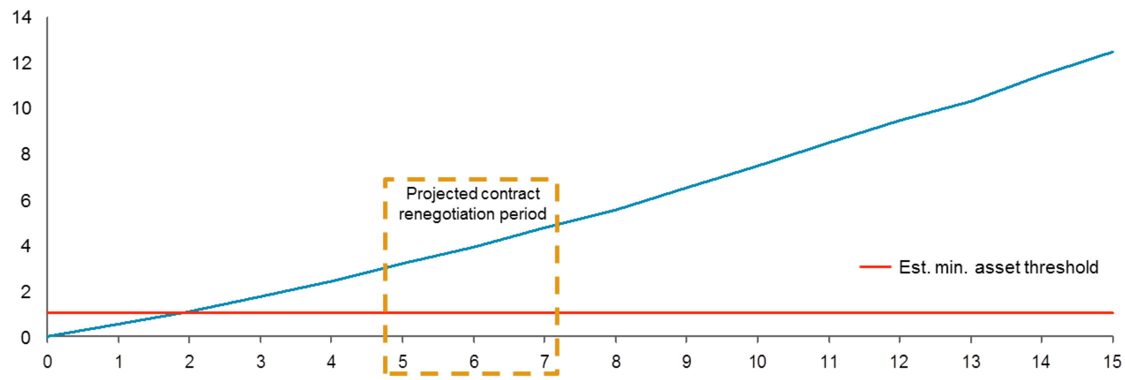
Cohort	Starting population (thousands)	Post-tax mean salary ($ thousands)	Opt out rates	Leakage	Contribution rate	Investment vehicle	Annual investment return
Cohort 1	18	15	20%	1.5%	6.0%	Target date 25	6.4%
Cohort 2	37	18	27%	1.5%	6.0%	Target date 40	6.3%
Cohort 3	17	21	25%	1.5%	6.0%	Target date 55	5.3%
Cohort 4	22	20	23%	1.5%	6.0%	Target date 25	6.4%
Cohort 5	33	32	20%	1.5%	6.0%	Target date 40	6.3%
Cohort 6	20	39	23%	1.5%	6.0%	Target date 55	5.3%
Cohort 7	31	37	16%	1.5%	6.0%	Target date 25	6.4%
Cohort 8	49	63	21%	1.5%	6.0%	Target date 40	6.3%
Cohort 9	20	79	24%	1.5%	6.0%	Target date 55	5.3%

Base Scenario Results

In the base scenario, Program assets are estimated to meet the minimum asset threshold by the end of the second year under both the TDF investment option and the money market fund (MMF) investment option.

EXHIBIT 6.7: BASE SCENARIO PROGRAM ASSETS – TDF INVESTMENT OPTION

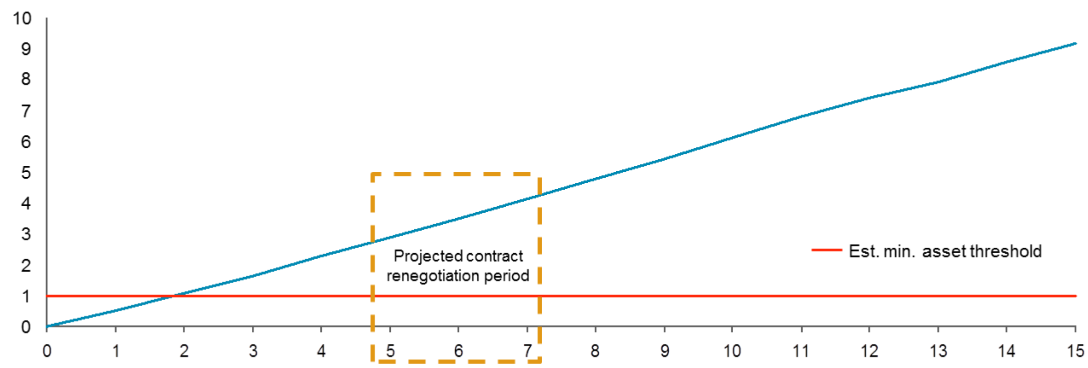
Base scenario assets (Target date fund)
$BN, by year (1-15)



Assets ($BN)	0.5	1.1	1.8	2.4	3.2	3.9	4.8	5.6	6.5	7.5	8.5	9.5	10.3	11.5	12.5
Accounts (K)	246	252	257	261	266	268	271	271	274	278	281	280	279	280	281
Per account ($K)	2	4	7	9	12	15	18	21	24	27	30	34	37	41	45

EXHIBIT 6.8: BASE SCENARIO PROGRAM ASSETS – MMF INVESTMENT OPTION

Base scenario assets (Money Market)
$BN, by year (1-15)



Assets ($BN)	0.5	1.1	1.7	2.3	2.9	3.5	4.2	4.8	5.4	6.1	6.8	7.4	7.9	8.6	9.2
Accounts (K)	246	252	257	261	266	268	271	271	274	278	281	280	279	280	281
Per account ($K)	2	4	6	9	11	13	15	18	20	22	24	27	29	31	33

Further, during the projected contract renegotiation period (years 5 to 7) fees to 3RD party service providers and the rebate to the State's governing body are far in excess of the minimum criteria.

EXHIBIT 6.9: FEES BY ROLE – TDF AND MMF INVESTMENT OPTIONS

	Fees by year ($MM) - TDF				Fees by year ($MM) - MMF		
Role	Min criteria	5	6	7	5	6	7
Governing body	0.5	1.6	2.0	2.4	1.5	1.8	2.1
IRA admin. and dep. / cust.	2.5	8.0	9.8	11.9	7.3	8.8	10.4
Investment manager	2.0	6.4	7.8	9.5	5.8	7.0	8.3

Modelling Downside Scenario Financials

Downside Scenario Modelling Approach

In addition to testing the financial feasibility of the program for a base scenario, the program was also tested based on several downside or 'bear' scenarios. While the base scenario represents Oliver Wyman's view on the most likely path forward for the program, the bear scenarios represent adverse scenarios to assess the program's financial feasibility under a composite of distressed assumptions.

In the bear scenarios, certain stresses were applied for a single period, e.g., market shock, and other stresses were applied throughout the projection time horizon, e.g. lower participation due to an increased unemployment rate.

Specifically in the bear scenarios the following stresses are applied to the base scenario:

- Rate at which employers would offer a private-sector alternative is 48% based on CRR employer survey[17]

- Returns based on the 5th percentile of cumulative returns according to Mercer returns modelling (<3% annualized returns)

- Leakage rate doubles from 1.5% to 3% for the duration of the projection time horizon

- Increase in unemployment to the highest yearly rate since 1976 (9.3%) for the duration of the 15-year projection reduces program participation

- Application of an equity market shock in a given year (7 separate scenarios were run, with an equity market shock applied to a different year for Years 1-7)

    - A significant market correction similar to that of the 2008 financial crisis, after which point returns revert to 5th percentile annualized cumulative return for the duration of the period

    - Upon market correction, 20% of the population exits the program, removes balances and does not re-enrol in the program

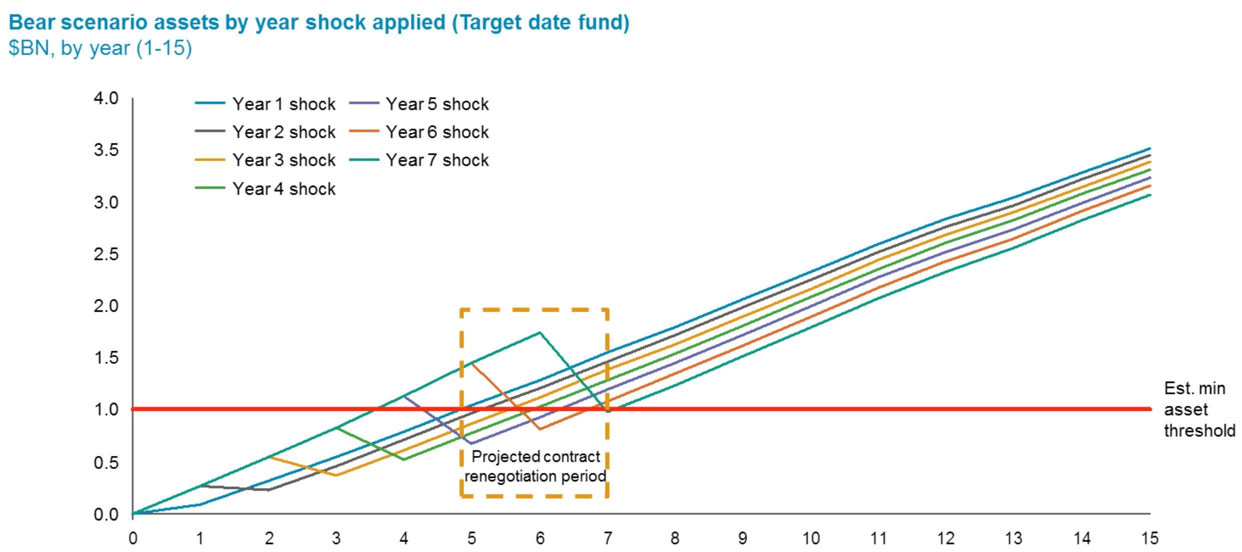
[17] Note: Employer non-participation was not used in the base scenario due to lack of meaningful survey results according to the BC Center for Retirement Research

- Contribution rates across the entire population decline by 50% (from 6% to 3%) in the year of the shock

Downside Scenario Results

Given the extremely conservative nature of the bear scenarios, program assets fall below the minimum asset threshold between years 5-7. However, in all but one scenario assets recover to >$1BN by year 7 and assets recover to >$1BN by year 8 in all scenarios.

EXHIBIT 6.10: BEAR SCENARIOS PROGRAM ASSETS – TDF OPTION



Even in the case of bear scenarios, a number of mitigating actions are available to the State to increase the financial health of the Program including implementing employee and employer educational programs, increasing fines associated with non-compliance and increasing Program fees. Exhibit 6.11 details these mitigating actions.

EXHIBIT 6.11: POTENTIAL MITIGATING ACTIONS

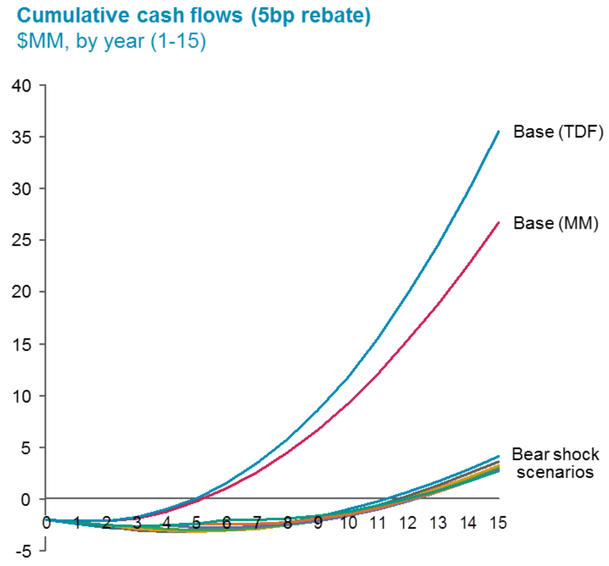
Mitigating action	Description	Impact
Employee educational program	• Marketing related to ensuring awareness around the benefits of participating in the program • Continued outreach to those who have chosen to opt-out of the program at anytime during their employment and have not yet re-enrolled	• Decrease in opt-out rate
Employer educational program	• Marketing related to ensuring employer awareness around – The benefits to their employees of participating – The low cost and effort associated with complying with program requirements – The penalties associated with non-compliance	• Increase employer participation
Increase fines associated with non-compliance	• Increase fines to employers associated with non-compliance with program requirements in order to reduce non-participation	• Increase employer participation
Increase program fees	• Increase bp fees charged to participants in order to increase the total fees to – Ensure fees collected by 3rd party service providers allow for attractive economics – Ensure the rebate collected by the state is enough to cover program's administrative expenses	• Decrease minimum asset viability threshold

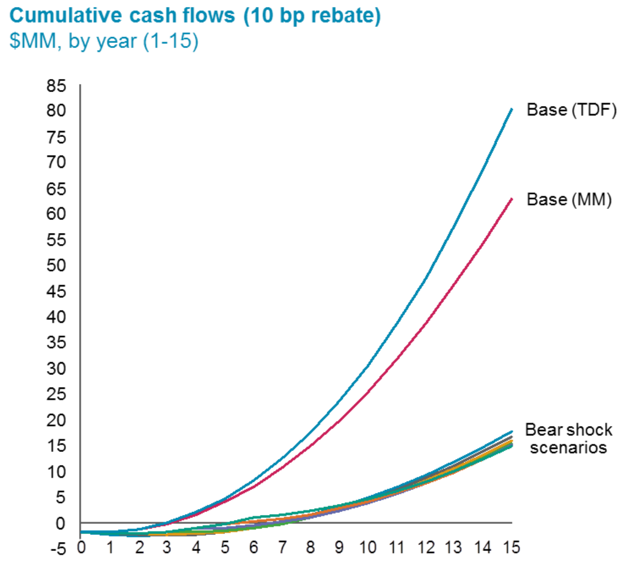
State Break Even Analysis

Although an explicit target payback period for the State's investment in the Program was not established at the time of the analysis, a breakeven analysis was performed to demonstrate the potential range of the payback period under different scenarios. The analysis was performed for the base scenario and each of the bear scenarios and assumed a $1.5MM upfront investment based on informal discussions with service providers and $500K in ongoing expenses. Further, the analysis was performed once assuming a 5 bp rebate to the State and once assuming a 10 bp rebate.

For the base scenario, the payback period is estimated to be ~5 years under a 5 bp rebate assumption and ~3 years under a 10 bp assumption. However, in the bear scenarios the payback period is extended significantly. In the bear scenario, the payback period is estimated to be ~12 years under a 5 bp assumption and ~6 years under a 10 bp assumption.

EXHIBIT 6.12: CUMULATIVE CASH FLOWS TO THE GOVERNING BODY





Oliver Wyman found that there is a wide range of potential payback periods depending on the scenario and assumed rebate level .The payback period should be reviewed again during the implementation phase to ensure that the State rebate is set at a level that achieves the State's goals and requirements for the Program.

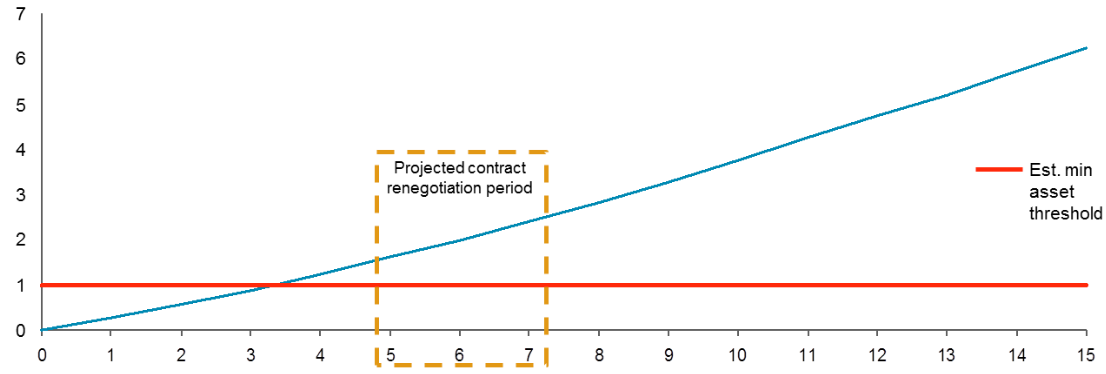
Program Financials under a 3% Default Contribution Rate

The preceding analysis is based on a 6% default contribution rate. Given the sensitivity of the model to changes in contribution rate and the possibility of the consideration of a 3% contribution rate by the State legislature and implementing board, full base and bear scenario analysis was also performed using a 3% default contribution rate.

Under the base scenario using the lower default contribution rate, the Program is expected to be financially feasible, and reach the $1BN minimum asset threshold between years 3 and 4.

EXHIBIT 6.13: BASE SCENARIO PROGRAM ASSETS UNDER 3% CONTRIBUTION RATE – TDF INVESTMENT OPTION

Base scenario assets at 3% contribution rate (Target date fund)
$BN, by year (1-15)

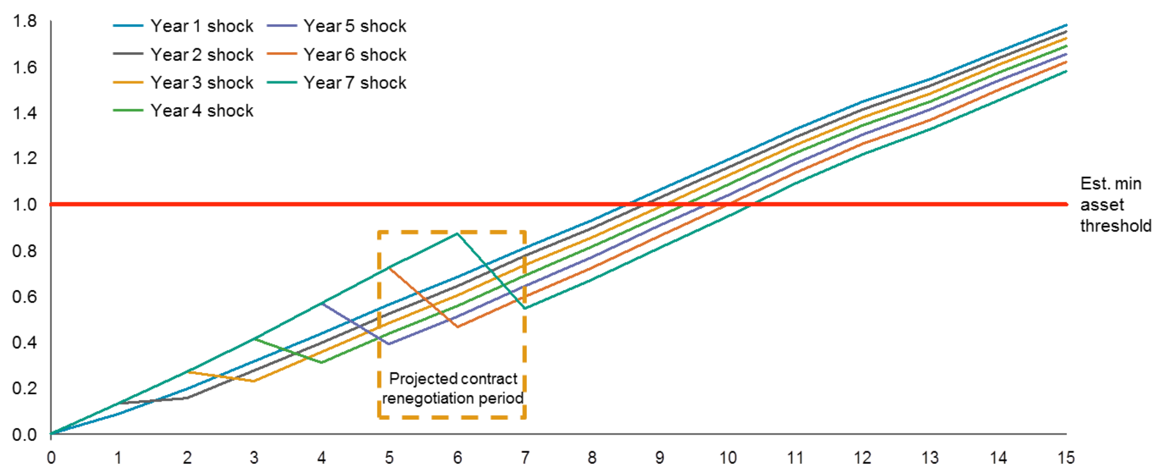


Assets ($BN)	0.3	0.6	0.9	1.2	1.6	2.0	2.4	2.8	3.3	3.8	4.3	4.7	5.2	5.7	6.3
Accounts (K)	246	252	257	261	266	268	271	271	274	278	281	280	279	280	281
Per account ($K)	1	2	3	5	6	7	9	10	12	14	15	17	19	20	22

However, under the bear scenarios, the Program is not expected to meet the minimum asset threshold during the projected renegotiation period between years 5 and 7.

EXHIBIT 6.14: BEAR SCENARIOS PROGRAM ASSETS UNDER 3% CONTRIBUTION RATE– TDF OPTION

Bear scenario assets at 3% contribution rate by year shock applied (Target date fund)
$BN, by year (1-15)



Furthermore, under base and bear scenarios, the payback period for the State is significantly extended compared to the payback periods under a 6% contribution rate assumption. For the base scenario, the payback period is estimated to be ~8 years under a 5 bp rebate assumption and ~5 years under a 10 bp assumption. In the bear scenario, the payback period is estimated to be >15 years under a 5 bp assumption and ~12 years under a 10 bp assumption.

Key Takeaways and Model Limitations

Key takeaways from the financial feasibility analysis include the following:

- The strawman Program is expected to be financially feasible in most cases, and meet all criteria identified for financial viability, i.e. self-funding, attractive economics for third party service providers, and reasonable fees for program participants.

- The strawman Program is expected to exceed the minimum asset threshold by Year 7 in most cases, and even in highly adverse scenarios where the minimum asset threshold is not met by this time, mitigating actions can be taken improve the Program's financial health, including:

    - Employee education

    - Employer education and increased fines for non-participation to drive increased compliance

    - Adjustments to Program fee levels to reduce the minimum viability threshold

- The Program fee is expected to be at or below 1%. The actual level and split among the service providers and the State will be informed by a more detailed view of the State's expected upfront and ongoing expenses, final program design choices (e.g. default contribution rate), and negotiations with third party service providers. Given the wide range of potential outcomes in the break even analysis, it will be important for the State to consider the desired payback period when establishing the ultimate fee.

- A sensitivity analysis for model key drivers (see Appendix of final report) indicates employee participation and contribution rate have the largest impact on Program financial feasibility, while market returns are not a major determinant of Program viability. Steps should therefore be taken to encourage participation at the outset of the Program as well as participation among those who have already opted out (e.g. through periodic outreach and education)

- Further analysis of the base and bear scenarios under a 3% contribution rate assumption indicates that the strawman Program may not be feasible under certain adverse scenarios, and that a higher Program fee (~100 bp) may be required to ensure financial viability. A 6% default contribution rate is recommended to minimize Program fees to participants.

The financial feasibility analysis is intended to cover a range of final Program design decisions and market scenarios. Nevertheless, Oliver Wyman's results and findings may not be applicable for certain Program features and structures not tested in CCR's research on employee opt-out rates. We recommend further consideration of the impact on Program financials and feasibility by the State legislature and implementing board, specifically with regard to the following:

- The financial feasibility analysis is focused on the accumulation phase of the Program. Inclusion of mandatory annuitization of a participant's Program balances at retirement will likely have multiple implications for the Program financials including:

    - Investment performance – A TDF with an annuity feature is expected to have a more conservative glide path (i.e. greater allocation to fixed income vs. equities) in years immediately prior to annuitization in order to lower volatility of the value of participants' Program holdings, thereby also reducing expected investment returns.

- Opt-out rate – Mandatory annuitization may result in increased opt-out rates and thus lower Program participation and asset levels.

Discussions around the current capabilities of 3rd party service providers were based on the strawman Program developed by Mercer and available to Oliver Wyman at the time of the analysis. Material changes to the Program could impact 3rd party service providers' capability to support the Program, investment needed to support the Program and ultimately the fee charged to participants.