Pension Benefit Design Study

EXECUTIVE SUMMARY

TEACHER RETIREMENT SYSTEM OF TEXAS DECEMBER 2018

TRS
TEACHER RETIREMENT SYSTEM OF TEXAS

MISSION STATEMENT

Improving the retirement security of our members by prudently investing and managing the Trust assets and delivering benefits that make a positive difference in their lives.

MAJOR FINDINGS

1. A total of 96 percent of public school employees do not participate in Social Security.

2. The current defined benefit plan provides current benefits at a lower cost than alternative plans.

3. Moving new hires to an alternative plan will not eliminate existing liabilities.

4. A contribution rate increase of 1.82 percent beginning in fiscal year 2020 will lower the funding period to 30 years.

5. A phased-in contribution rate increase of 2 percent beginning in fiscal year 2021 will lower the funding period to 31 years.

6. Combined employee and employer contribution rates for TRS are the lowest in the nation among teacher plans.

7. The value of the retirement benefit available to TRS members is 30 percent less than the average benefits available to members of peer systems.

8. Active members have borne approximately 70 percent of plan changes since 2005.

9. All plan structures carry differing levels of risk. When examining important aspects of pension plan design, the current defined benefit plan places more risk with the State and generally offers more favorable outcomes for TRS members.

10. The majority of TRS members will do significantly worse investing on their own in a plan with a defined contribution component.

A total of 96 percent of public school employees do not participate in Social Security.

In fiscal year 2018, 78 percent of members in the Teacher Retirement System of Texas (TRS), a figure that includes 96 percent of public school TRS members, did not participate in Social Security. For many TRS members, the only source of lifetime income in retirement is their TRS benefit. A lifetime benefit, such as TRS or Social Security, mitigates the risk of a retiree who — due to longevity, market volatility or failure to invest adequately — outlives his or her savings. Moreover, participation in TRS is more cost effective for employers because the availability of TRS as a qualified replacement plan to Social Security saves Texas public school employers an estimated $1.65 billion annually.

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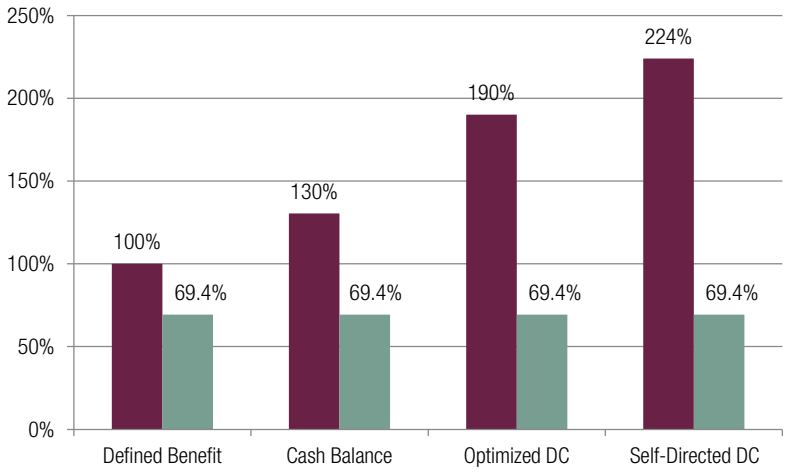
The current defined benefit plan provides current benefits at a lower cost than alternative plans.

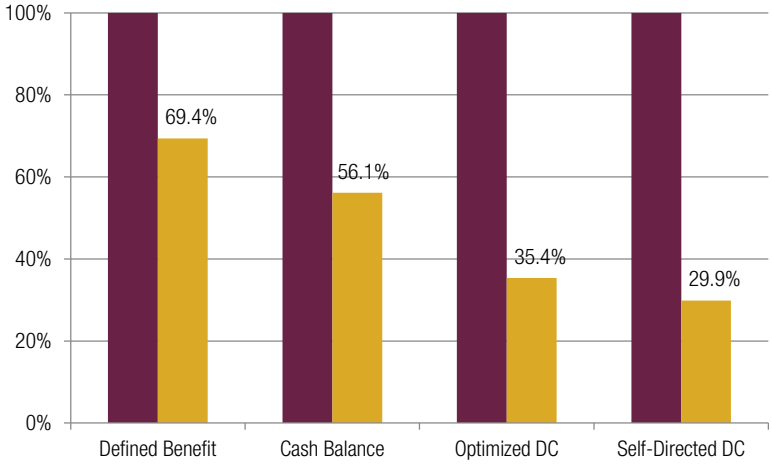
TRS modeled alternative retirement plans using two different approaches — Targeted Benefit and Targeted Contribution. The TRS benefit, as currently designed, replaces roughly 69 percent of a career employee's pre-retirement income when the employee initially retires. Therefore, TRS modeled the plans in the Targeted Benefit Approach to provide the same level of benefit as the current plan regardless of cost. As shown below, TRS determined that the alternative plans would be 30 percent to 124 percent more expensive than the current defined benefit plan to provide the same level of benefit when the employee initially retires. Note, this estimate does not include costs associated with paying off any unfunded liability.

FIGURE 1.1: TARGETED BENEFIT APPROACH



SOURCE: GRS

FIGURE 1.2: TARGETED CONTRIBUTION APPROACH



SOURCE: GRS

Conversely, under the Targeted Contribution Approach, TRS modeled the alternative plans to cost the same as the current plan, regardless of the benefit level provided. Under this approach, TRS determined that the alternative plans would replace 29.9 percent to 56.1 percent of preretirement income for a career employee retiring at age 62.

Moving new hires to an alternative plan will not eliminate existing liabilities.

Based on current expectations, the outstanding liability to provide benefits for current active members is $58.7 billion. This consists of an unfunded liability of $46.2 billion for benefits already earned and an assumption that current active members will earn $12.5 billion in employer provided benefits before retiring. Closing the current plan to future hires would not eliminate these liabilities. In fact, closing the plan would increase the unfunded liability by approximately $15.5 billion due to lower expected investment earnings on the plan assets, as any decrease in investment earnings would have to be offset with higher contributions.

Just as individuals are advised to change their asset allocation as they near retirement, so too would the plan if it were closed and had to wind down. If the State closed the plan, then over time, the monthly cash flow needs to pay retiree benefits would increase. This would force TRS to invest the plan assets in a more liquid asset allocation with shorter-term investments and anticipated lower returns. The expected lower investment returns would bring the outstanding liabilities to $74.2 billion in total.

Given that these liabilities remain, the State would have to determine how to finance the $74.2 billion over an appropriate period of time, while at the same time, ensuring a sufficient retirement contribution for new members into a 401(k)-style plan. The State would have options when determining how to finance the costs associated with closing the current plan and establishing and funding a new plan. These options could include a combination of direct payment schedules, lump sums, and/or percentage of payroll contributions.

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A contribution rate increase of 1.82 percent beginning in fiscal year 2020 will lower the funding period to 30 years.

While the plan currently does not have a depletion date and there is an expectation of paying off the unfunded liability in 87 years, this is the optimal time to get the plan's funding goals back on track. Small improvements now will have a big impact over time. The longer the unfunded liability takes to pay off, the more expensive addressing the problem becomes.

In 2013, the legislature increased State and member contributions, provided a new revenue source from non-Social Security school districts, and adjusted benefits. Together, these actions greatly improved the funding status of the plan. In the subsequent years, however, TRS has had to adjust its mortality assumptions to reflect retirees living significantly longer and most recently adjusted the return assumption to expect lower future returns based on financial modeling and recommendations from the plan's investment advisors and actuary. Moreover, since 2008, the plan has accumulated almost $8 billion in unpaid interest because the revenue available to pay down the unfunded liability has been insufficient to annually pay both the principal and the full interest. This is called negative amortization and is analogous to taking out a loan and then not only failing to make any payment toward the principal but also failing to pay the full amount of interest due on the bill.

While the pension fund does not owe a creditor interest in the traditional sense, the plan finances benefits by investing funds that earn the assumed rate of return. An unfunded liability represents funds that are not on hand to be invested. So, sound actuarial practice necessitates that the unfunded liability be charged interest at the assumed rate of return to keep the plan's funding goals on track. For TRS, the interest charge is the 7.25 percent assumed rate of return, and the longer the unfunded liability is allowed to persist, the more it will cost to ultimately pay off. In fact, if all current plan assumptions are met and the plan takes 87 years to pay off the unfunded liability, it will end up costing over $800 billion in interest charges to pay off what is currently an unfunded liability of $46.2 billion. This means that the $800 billion will be used over the next 87 years to pay for benefits known today that are not currently funded. If the unfunded liability were paid off sooner, then the $800 billion could, instead, be used to pay for retiree cost-of-living increases or create a cushion for when the plan encounters adverse experience such as low investment returns.

To get the fund back on a path to full funding and begin to address negative amortization, TRS requested a permanent contribution rate increase of 1.82 percent in its Legislative Appropriations Request. This would require an All Funds increase of $843 million in fiscal year 2020 and $868 million in fiscal year 2021 for a total increase of $1.7 billion for the biennium. While TRS did not address who should pay for the contribution increase, possible revenue sources include the State, employers, active members, or any combination of these.

FIGURE 1.3: 1.82% INCREASE STARTING IN 2020

Fiscal Year	Contribution Rate	Funding Period	Funding (in millions)
2020	17.23%	30	$843**
2021	17.23%	29	$868**
2022	17.23%	28	$894
2023	17.23%	27	$921
2024	17.23%	26	$949
2025	17.23%	25	$977

*Funding period in years from beginning of given fiscal year.

**Amounts in Legislative Appropriations Request are $29 million lower due to timing of request.

SOURCE: GRS

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A phased-in contribution rate increase of 2 percent beginning in fiscal year 2021 will lower the funding period to 31 years.

Rather than providing an immediate contribution increase, an alternative would be to phase in a contribution increase over a period of years. For example, a 2 percent increase phased in over four fiscal years beginning in fiscal year 2021 would lower the funding period to 31 years. This would require an All Funds increase of $238 million in the second year of the 2020-21 biennium.

FIGURE 1.4: 2% INCREASE STARTING IN 2021 (0.5% INCREASE PER YEAR)

Fiscal Year	Contribution Rate	Funding Period	Funding (in millions)
2020	15.41%	31	-
2021	15.91%	30	$238
2022	16.41%	29	$491
2023	16.91%	28	$759
2024	17.41%	27	$1,042
2025	17.41%	26	$1,074

*Funding period in years from beginning of given fiscal year.

SOURCE: GRS

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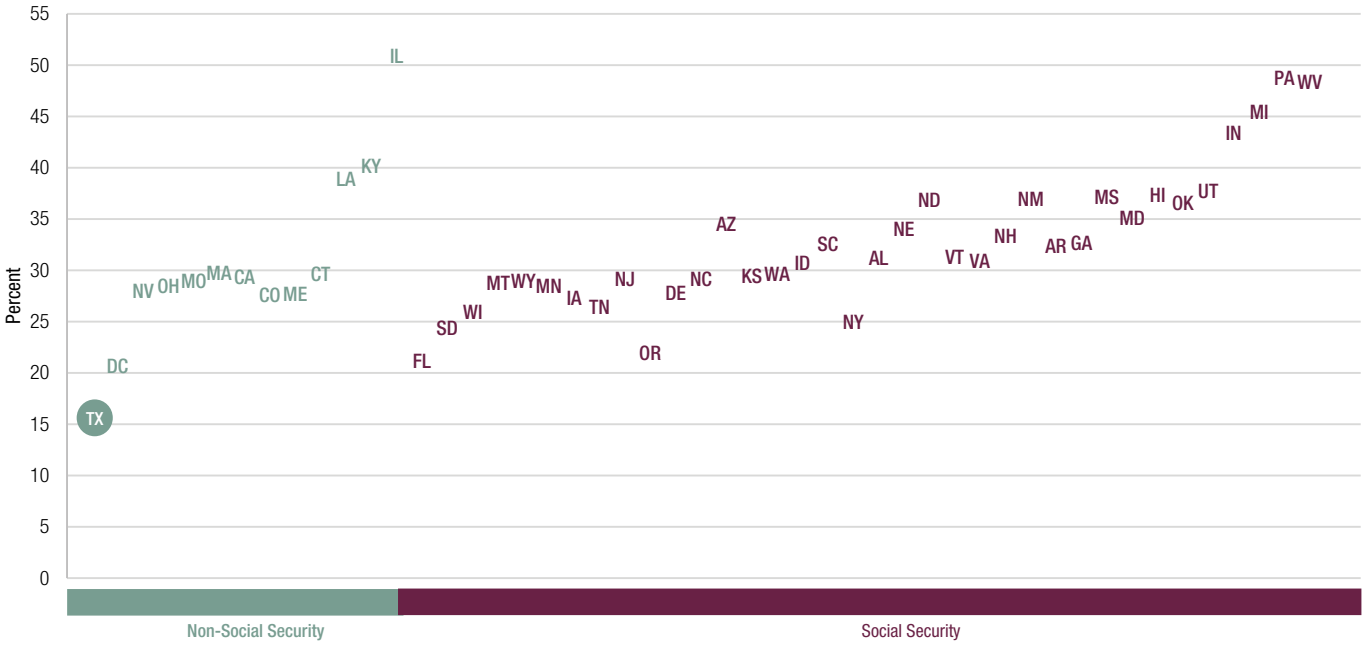
Combined employee and employer contribution rates for TRS are the lowest in the nation among teacher plans.

Compared to other plans, TRS offers a modest benefit that does not contain an automatic cost-of-living adjustment. The combination of three elements have contributed to low TRS contribution rates: a modest plan design, consistent investment returns, and the State not taking any funding holidays. While the plan has not always received all of the required actuarial funding, the State has always contributed at least the constitutional 6 percent minimum contribution, which stands in contrast to other states that have taken funding holidays.

FIGURE 1.5: TEACHER PLANS – COMBINED EMPLOYEE & EMPLOYER CONTRIBUTION RATES (PENSION & SOCIAL SECURITY)*



*Data reflects available contribution rates for statewide teacher pension plans. Rates shown reflect actual contributions paid by employees and employers as a percentage of the plan's payroll base, as reported in system annual financial reports. Some plans have multiple rates for different benefits tiers; in those cases, rates reflect weighted average rates as calculated by NASRA.

SOURCE: NASRA, 2017

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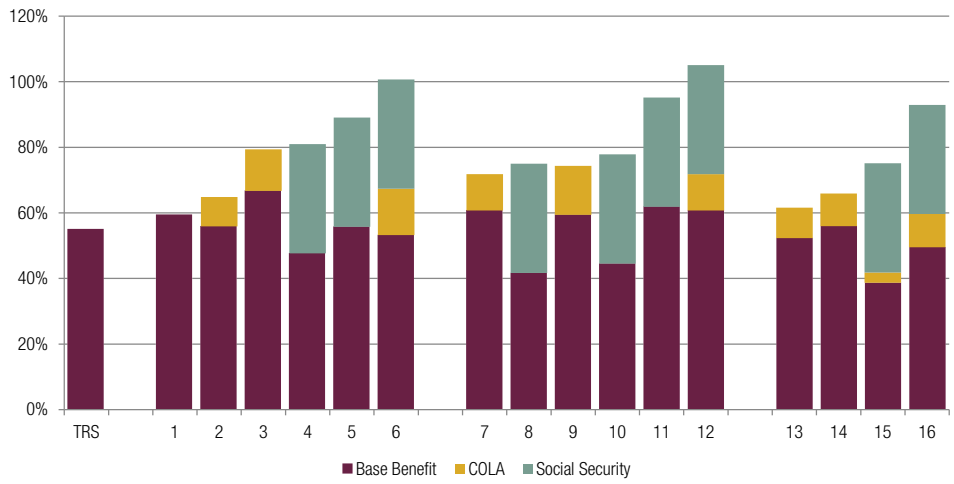
The value of the retirement benefit available to TRS members is 30 percent less than the average benefits available to members of peer systems.

TRS examined the value of its members' benefits relative to the benefits provided by a variety of peer systems, including large plans in Texas and other large or regional statewide public employee and teacher systems. A prototypical TRS career employee, one who retires at age 62 with 32 years of service credit, receives a benefit that equates to 69 percent of preretirement income when the employee initially retires. This is very comparable to the peer group when only looking at replacement income at retirement from the plan sponsor's retirement plan as the average peer replaces 68 percent for the same member. However, members in nine of the sixteen peer systems also participate in Social Security and ten have cost-of-living increases as a provision in the system itself. Throughout the TRS retiree's expected lifetime, the TRS benefit only effectively replaces 55 percent due to a loss of purchasing power. Including cost-of-living adjustments (COLA) and the impact from Social Security, the average value of benefit available to the same prototypical employee of the peer plans examined during their retirement years was 79 percent. Note, the percentage for the peer systems is lower than the 82 percent reported in the 2012 TRS Pension Benefit Design Study due to a number of plans implementing cost-saving measures in the past six years.

The modesty of TRS' benefit is due, primarily, to the lack of an automatic cost-of-living increase. Members of the peer plans examined received some type of purchasing power protection either through automatic COLAs or because the members participate in both a retirement plan and Social Security.

TRS is the only system in the comparison that does not have either a built-in COLA or Social Security, or the ability to elect an indexed payment option.

FIGURE 1.6: RELATIVE BENEFIT INDEX



SOURCE: GRS

8

Active members have borne approximately 70 percent of plan changes since 2005.

There have been several adjustments to the plan since the 2005 legislative session, including benefit changes and contribution increases. The value from these changes has been a total concession of approximately $45 billion as of 2018, made up of $17 billion in lower projected liabilities and $28 billion in additional projected future contributions. However, the distribution of concessions varies widely across the various stakeholders. Figure 1.7 illustrates the distribution of these changes by stakeholder group.

FIGURE 1.7: PRESENT VALUE OF PREVIOUS CONCESSIONS (IN BILLIONS)

Group	Benefit Changes	Additional Contributions	Total Concession	Portion of Concessions
Retirees	$ (0.4)	$ 0.0	$ (0.4)	(1%)
Grandfathered Actives	-	0.1	0.1	0%
Vested as of 2014 Actives	4.1	2.6	6.6	15%
Nonvested as of 2014 Actives and Future Hires	13.3	11.0	24.3	54%
State	-	4.2	4.2	9%
Local Employers	-	10.5	10.5	23%
Total	$ 16.9	$ 28.4	$ 45.3	100%

SOURCE: GRS

Nonvested Actives and Future Hires have borne the largest portion of the previous changes, with more than 50 percent of the total net change. Active employees in general have borne approximately 70 percent of the net reduction in value from all previous changes. Local Employers have taken 23 percent of the net concession, while the State follows at 9 percent.

The retiree group has a net opposite impact as there was a COLA and a supplemental payment during this time. Otherwise, benefits have not been reduced for these members and most of them retired before higher member contribution rates went into effect. While pension benefits have not been reduced for retirees, they have not received a COLA from the pension plan since 2013 and recent health care premiums and out-of-pocket expenses for retirees in TRS-Care have increased substantially.

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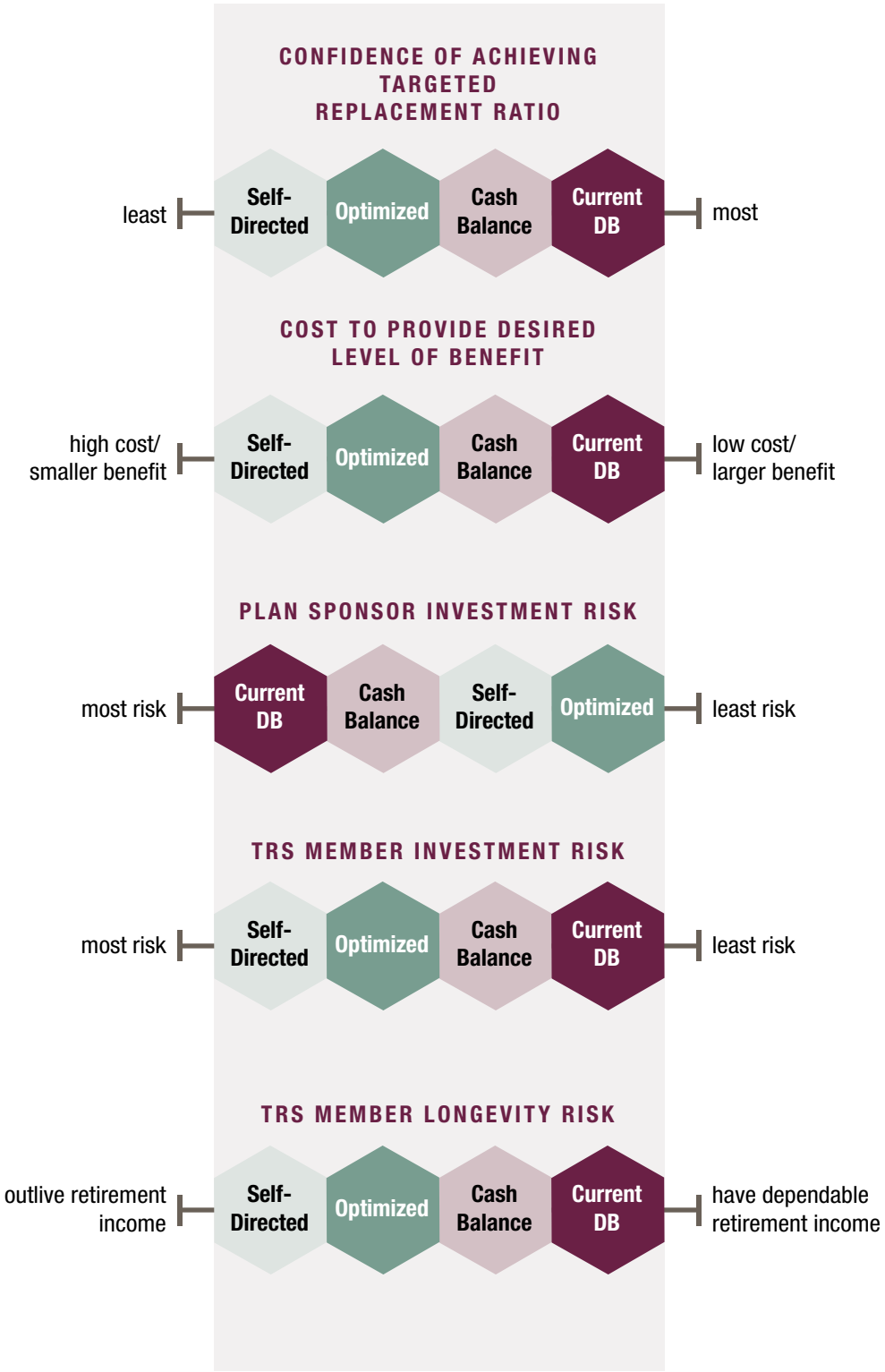
All plan structures carry differing levels of risk. When examining important aspects of pension plan design, the current defined benefit plan places more risk with the State and generally offers more favorable outcomes for TRS members.

When examining important aspects of pension plan design, the current defined benefit plan generally provides more favorable outcomes for TRS members. These plan design metrics include replacement income, efficiency, investment and longevity risks, workforce management, portability, fees, access to asset classes, insulation from poor behavioral tendencies, and Social Security.

Figure 1.8 provides a brief summary of each of the modeled plan designs in the context of the various considerations in plan design. The four plans (Current Defined Benefit, Cash Balance, Optimized Defined Contribution, and Self-Directed Defined Contribution) are placed on a scale relative to the plan consideration. Placement on the scale represents order only, not magnitude.

FIGURE 1.8: ALL PLANS COMPARED TO CONSIDERATIONS IN PLAN DESIGN



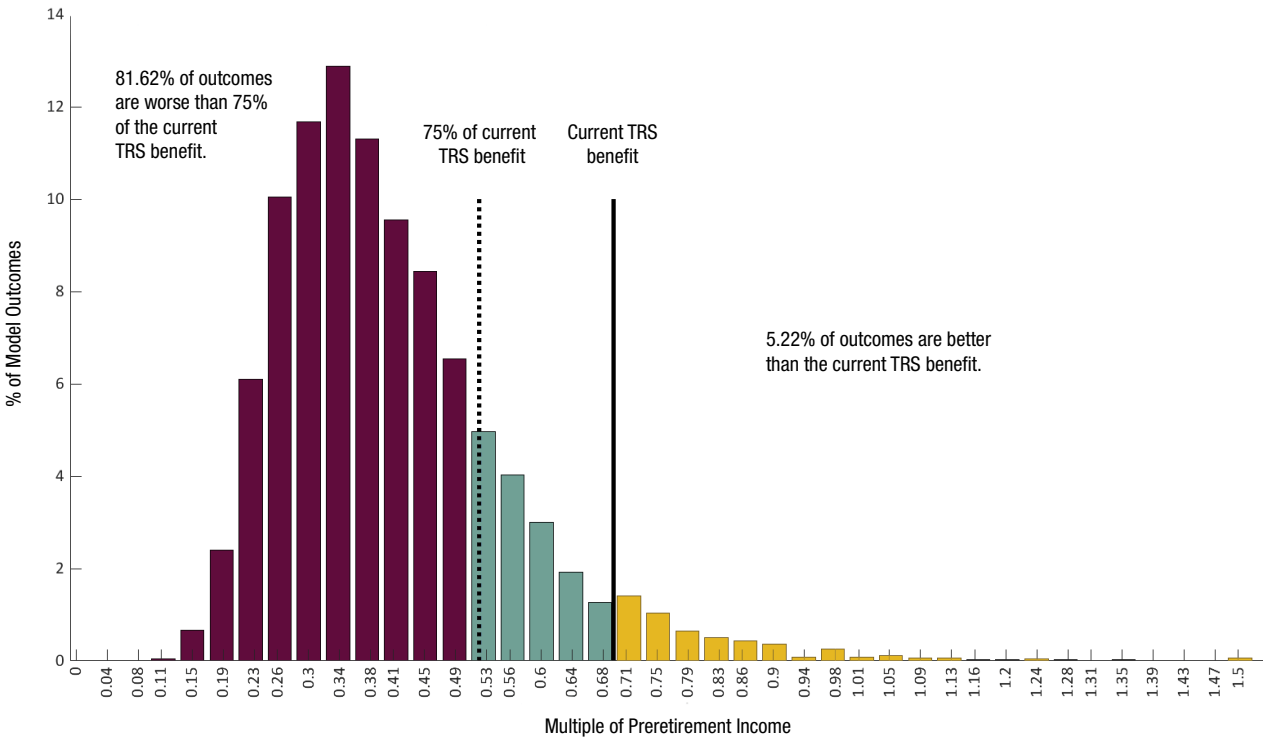
SOURCE: TRS

10

The majority of TRS members will do significantly worse investing on their own in a plan with a defined contribution component.

In a plan with a self-directed defined contribution component, TRS members would make their own investment decisions. The resulting difference between individual returns would likely be very wide. TRS modeling has shown that under a defined contribution plan, 94.7 percent of retirees will ultimately receive less than the current defined benefit. As illustrated below, modeling showed that more than four-fifths of the members would receive no more than 75 percent of the current benefit. Only a handful – about 5.2 percent – of the members would receive more than the current defined benefit. The estimated underperformance is attributable to lower investment returns from a shorter investment period, access to fewer asset classes, less-disciplined investment approaches that lead to poor behavior tendencies, and potentially higher fees.

FIGURE 1.9: INDIVIDUAL SELF-DIRECTED RETIREMENT INCOME COMPARED TO TRS BENEFIT



SOURCE: TRS

TEACHER RETIREMENT SYSTEM OF TEXAS
1000 Red River Street
Austin, TX 78701
www.trs.texas.gov
1-800-223-8778