OliverWyman

Prepared for the California Department of Insurance

Presentation #1.B

AB 567 ACTUARIAL ANALYSIS

Initial data sources and modeling plan

The information contained in this document is preliminary and intended for discussion with the AB 567 Actuarial Subcommittee only. The methodologies, assumptions, and data sources referenced in this document are subject to change.

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QUALIFICATIONS, ASSUMPTIONS AND LIMITING CONDITIONS

Oliver Wyman was commissioned by the California Department of Insurance (CDI) to provide support associated with assessing the feasibility of developing and implementing a culturally competent statewide insurance program for long-term care services and supports. The primary audience for this report includes stakeholders from the California Department of Insurance, members of the Long-Term Care Insurance Task Force, and members of the general public within the state of California.

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METHODOLOGY: MODEL ARCHITECTURE

Refer to Section 2 of the AB 567 Feasibility Report for further information regarding the Task Force's recommended program designs

	Component	Approach (DRAFT)
1	**Actuarial software**	• Moody's Analytics AXIS™
2	**Projection period**	• 75 years beginning on January 1, 2025 • A 75-year projection period is standard for determining actuarial balance of a public insurance program[1]
3	**Program contribution calculation methodology**	• Solve for level payroll tax rate for employed and level income tax rate for self-employed – Calculation accounts for lower-income waivers and higher-income cap – Calculation allows for employer/employee portion flexibility • Tax rate set to achieve zero-ending surplus (on December 31, 2099) • Illustrative tax progressivity constructs will be assessed – Specific progressivity tiers not defined in Feasibility Report
4	**Financial sensitivities** (i.e., financial impact quantification of alternative program designs)	• The following financial sensitivities will be performed: – Program opt-out provision transition date set to the beginning of the year preceding Program effective date – Benefit eligibility ages: no minimum age, 18+, 30+, 40+, 50+, and 65+ – Vesting criteria: 10 years (Design 5) – Portability: full or partial international portability (all Designs) – Benefit maximum: $1,000 per month (Design 1) – Elimination period: 0 days and 30 days (Design 2) – Care setting: home and community-based services only (Design 2) – Employer contributions: range to be assessed; including small businesses exemption (methodology TBD) – Contribution caps: range to be assessed, including no contribution cap – Investment methodology: U.S. Treasuries only

1. As established by the Social Security Administration and the Centers for Medicare and Medicaid Services

METHODOLOGY: MODEL POINT FILE STRATIFICATION

	Characteristic	Variability (DRAFT)
1	**Gender**	• Male • Female
2	**Age band**	• 5-year age bands (from age 0 to age "99+")
3	**Income type**	• Wage-earned income • Self-employed Income
4	**Wage/income bands (annual)**	• $0 to $9,999 • $10,000 to $14,999 • $15,000 to $24,999 • $25,000 to $34,999 • $35,000 to $49,999 • $50,000 to $74,999 • $75,000 to $99,999 • $100,000 to $149,999 • $150,000 to $199,999 • $200,000 and above
5	**Entry year**	• Yearly, from 2024 through 2099 – Reflects current population and new entrants (i.e., births, immigration) – Population exits are modeled via actuarial assumptions (i.e., deaths, benefit exhaustions, and emigration)

METHODOLOGY: ECONOMIC ASSUMPTIONS

	Assumption	Approach (DRAFT)	Data source
1	**Wage/income distribution**	• Based on California wage/income distributions (2017-2022 data) – Distributions are stratified by gender, age band, and income band – Separate distributions applied for wage-earned income and self-employed income – Model point file reflects wage/income inflation to 2024 • Midpoint of income bands assumed for modeling purposes	California's Department of Finance
2	**Wage inflation: career progression**	• Based on California wage/income distributions (2017-2022 data) • Career progression inflation determined based on change in wage/income by age band	
3	**Wage inflation: calendar year inflation**	• 2022: 7.5% per annum • 2023: 4.75% per annum • 2024: 3.25% per annum • 2025: 2.9% per annum • 2026+: 2.5% per annum	

METHODOLOGY: POPULATION GROWTH AND MIGRATION ASSUMPTIONS

	Assumption	Approach (DRAFT)	Data source
1	**Starting population**	• Projected 2024 California population sourced from Report P-1C (refer to data source) – Population is stratified by gender and age band	California's Department of Finance (including Reports P-1C and P-CC)
2	**Birth rate**	• 2025 to 2059: projected births sourced from Report P-1C (refer to data source) • 2060+: birth-only population growth rate of -0.3% is assumed	
3	**Domestic and international migration**	• Immigration – 2025 to 2059: projected net migration sourced from Report P-CC (refer to data source) – 2060+: total population growth rate (birth + immigration) of -0.4% is assumed – Gender and age group proportions determined based on foreign immigration distributions (2010-2021 data) • Domestic and foreign immigration/emigration ratio determined based on migration counts (2000-2022 data)	

METHODOLOGY: INVESTMENT ASSUMPTIONS

	Assumption	Baseline: California constitutional amendment required (DRAFT)	Financial sensitivity: U.S. Treasuries only (DRAFT)
1	**Asset type**	• Corporate A bonds and equities	• U.S. Treasuries
2	**Investment expense**	• 0.10% per annum (market value) – Based on industry benchmarks	• N/A
3	**Credit spreads**	• 3-year bond: 94bps • 5-year bond: 107bps • 10-year bond: 129bps • 20-year bond: 149bps • 30-year bond: 147bps – Based on long-term Oliver Wyman study	• N/A
4	**Asset default** (bonds only)	• 0.13% per annum – Based on long-term Oliver Wyman study	• N/A
5	**Equity return**	• 10% per annum – Based on historical average S&P 500 returns	• N/A
6	**Asset allocations** (refinement anticipated based on liability duration)	• Baseline allocation – 3-year bond: 3.5% – 5-year bond: 3.5% – 10-year bond: 14% – 20-year bond: 28% – 30-year bond: 21% – Equity: 30% • Alternative baseline allocation[1] – 3-year bond: 4.25% – 5-year bond: 4.25% – 10-year bond: 17% – 20-year bond: 34% – 30-year bond: 25.5% – Equity: 15%	• 3-year treasury: 5% • 5-year treasury: 5% • 10-year treasury: 20% • 20-year treasury: 40% • 30-year treasury: 30%
7	**Additional financial sensitivities**	• +/- 100bps (risk free rate)	• +/- 100bps (risk free rate)

1. Reflects a more conservative asset allocation; allows for the estimation of a range of investment returns as a financial sensitivity

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