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# **2023 ASOC EY Joint Case Competition x ASSOC x ANU**

**Comprehensive Income Products for Retirement (CIPR)**

Date: 24 Mar 2023



# Group Introduction

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**AAA**

**Members: Katie - Alvie - Jessie**

# Executive Summary

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## Issue

Design a **CIPR for young Australians** (for their retirement) and produce a predicted retirement income projection model

## Objectives

High long term real rates of return earned under the Australian superannuation system

Australian products provide more flexibility and the option to withdraw capital

## Strategies

A product with a 12% annual contribution and **indexed to inflation**, while allowing customers to **withdraw comfortably** and **cover longevity and investment risks as well**

## Impacts

The designed CIPR framework supports young Australians with unstable incomes, and a stochastic projection covers various risk scenarios



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# Framework

# CIPR Product

## Assumptions

Category	Value	Unit
Retirement age	65	Years old
Modest life cost	26,689	AUD/year
Salary	65,220	AUD/year
Contribution from salary	12.00	Percentage
Contribution tax rate	12.00	Percentage
Admin and management fee rate	3.00	Percentage
Investment income tax rate	10.00	Percentage

Category	Mean ( $\mu$ )	Standard deviation ( $\sigma$ )
Inflation	4.6584	3.7605
Interest	7.9067	8.8948

*\*Predictions in Appendix section*

# CIPR Product

## Tax - Contributions

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- Money paid into your super account by your employer is **taxed at 15%**. So are salary-sacrificed contributions (concessional contributions)
- Exceptions:
  - **Earn  $\leq$  \$37,000** → The tax is **paid back** into customer's super account through the low-income super tax offset (LISTO)
  - Income + Super contributions  **$\geq$  \$250,000** → Pay **Division 293 tax** (+15%)
  - **No tax pay:** Make contributions from the after-tax income (non-concessional contributions)

# CIPR Product

## Tax – Withdrawals

### Super Income Stream

- Tax-free from age 60
- Tax-free for non-taxable components at any age
- Taxed at the marginal tax rate less 15% tax offset for the taxable components from age 55-59
- Taxed at your marginal tax rate for the taxable components if the customer is aged below 55

### Lump Sum Withdrawals

#### Over age 60

- Tax-free when withdrawing from a taxed super fund
- May pay tax if withdrawing from an untaxed super fund (public sector)

#### Under age 60

- Tax-free if withdrawing up to the low-rate threshold i.e., \$225,000
- 17% tax or the marginal tax rate, whichever is lower, if withdrawing above the low-rate threshold

# CIPR Product

## Regular Income & Class of Beneficiaries

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### 1. Regular Income

- **Before retirement (< age 65):** No regular income
- **After retirement ( $\geq$  age 65):**
  - At least 6% of account value will be provided
  - Based on the calculation of the projection, ***the constant regular income*** is approximately \$35,000

### 2. Class of Beneficiaries

- **The nominated beneficiary** (usually the customer's partner or dependants) will get your income payments for the rest of their life. This is usually at a reduced level, for example, 60% of your income stream.





# CIPR Product

## Flexibility to Access Funds

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### Surrender

- Cancel the policy entirely & take the surrender value cash payment
- Cash received is lowered by any fees taken out
- Requirements:
  - Must cancel before next period payment (12 months)

### Withdrawal

- Allow to withdraw up to 20% of account value and the exact amount base on the reasons and other factors.
- Disadvantages of withdrawal: death benefit will be reduced (reduction may be greater than the amount withdrawn)
- Requirements:
  - Been in the policy for at least 12 months

*\*Taxes are mentioned in the Tax section*

# CIPR Product

## Limitations

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- Normal person assumption (without any special health considerations)
- Fixed initial salary which is the rounded average income per employee
- Not allowed to surrender after 12 months in the policy
- A relatively higher contribution rate (12%)



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# Design

# Retirement Income Maximization

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- We offer a level of income p.a. that exceeds the latest account-based pension minimum drawdown rates by 1% according to age groups.

Age	Minimum pension payment 2023-24	Our payment
65-74	5%	6%
75-79	6%	7%
80-84	7%	8%
85-89	9%	10%
90-94	11%	12%
95 or more	14%	15%

# Risk Management

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## Longevity

### Lifetime income

- Provide income beyond life expectancy i.e., until the policyholder dies



## Inflation

### Indexed to inflation

- Based on the stochastic projections we have made



## Investment

### Balanced investment

- Around 70% in shares and property
- The remaining portions in cash or fixed interest
- Moderate risk



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# Expected Retirement Income Projections

# Projections

Time	0	1	2	3	4
Age	25	26	27	28	29
1	\$6,681	\$15,333.99	\$24,026.12	\$32,009.12	\$41,596.43
2	\$6,681	\$12,520.08	\$21,489.76	\$32,661.35	\$37,343.60
3	\$6,681	\$14,813.93	\$20,675.72	\$34,099.27	\$49,993.39
4	\$6,681	\$14,090.04	\$21,578.12	\$30,193.00	\$36,278.74
5	\$6,681	\$13,834.48	\$21,240.92	\$30,093.93	\$35,746.94
6	\$6,681	\$15,052.19	\$18,788.39	\$25,522.62	\$35,124.30
7	\$6,681	\$14,189.38	\$23,042.95	\$26,213.65	\$36,655.77
8	\$6,681	\$14,180.26	\$22,538.49	\$33,429.61	\$40,151.16

t = 0

$=B\$2*B\$3*(1-B\$5)*(1-B\$6)$

initial salary\*contribution rate\*(1-contribution tax)\*(1-admin and management fees)

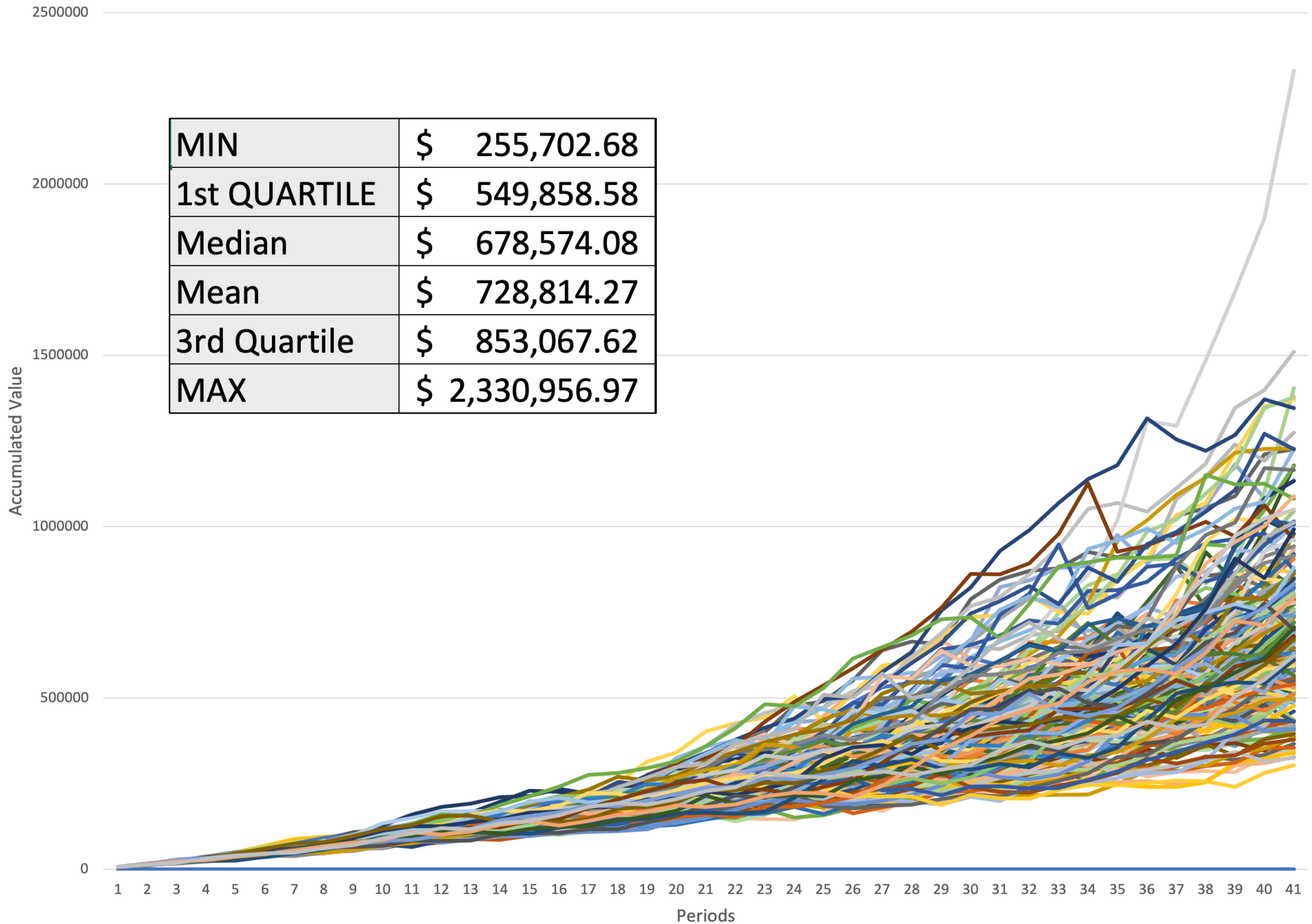
t = 1, 2, 3, ... and onwards

$=(B17+B\$2*(1+(NORM.INV(RAND(),4.6584, 3.76)/100))*B\$3*(1-B\$5))*(1-B\$6)*(1+(NORM.INV(RAND(),7.9067, 8.8948)/100)*(1-B\$8))$

(closing balance + salary\*(1+inflation)\*contribution rate\*(1-contribution tax))\*(1-admin and management fees)\*(1+(interest\*(1-investment tax))

# Accumulated Account Value Overtime

MIN	\$ 255,702.68
1st QUARTILE	\$ 549,858.58
Median	\$ 678,574.08
Mean	\$ 728,814.27
3rd Quartile	\$ 853,067.62
MAX	\$ 2,330,956.97





CIPR vs Pension Income





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# References & Appendix

# References

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Retirement Income Covenant Position Paper Stage one of the Retirement Income Framework

Actuarial Certification Test for Comprehensive Income Products for Retirement

Annuities

Account-based pensions

Australia Life Expectancy 1950-2023

Australia Inflation Rate 1960-2023

# References

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[To understand how much you are really paying in superannuation fees, you have to demystify the different ways products and funds describe their fees.](#)

[Average superannuation fees: Here's what super funds charge](#)

[How much does life insurance cost in Australia?](#)

[Average Life Insurance Rates for March 2023](#)

[Weekly earnings of employees, including distribution of earnings and hourly earnings, by State, Occupation, Industry and Qualifications](#)

[What is the cost of living in retirement in Australia?](#)

# References

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[Super setback, but fees fall and it's likely to continue](#)

[Tax and Super](#)

[Life insurance claims: An industry review](#)

[Choosing a managed fund](#)

[Super fund performance over 30 calendar years \(to December 2022\)](#)

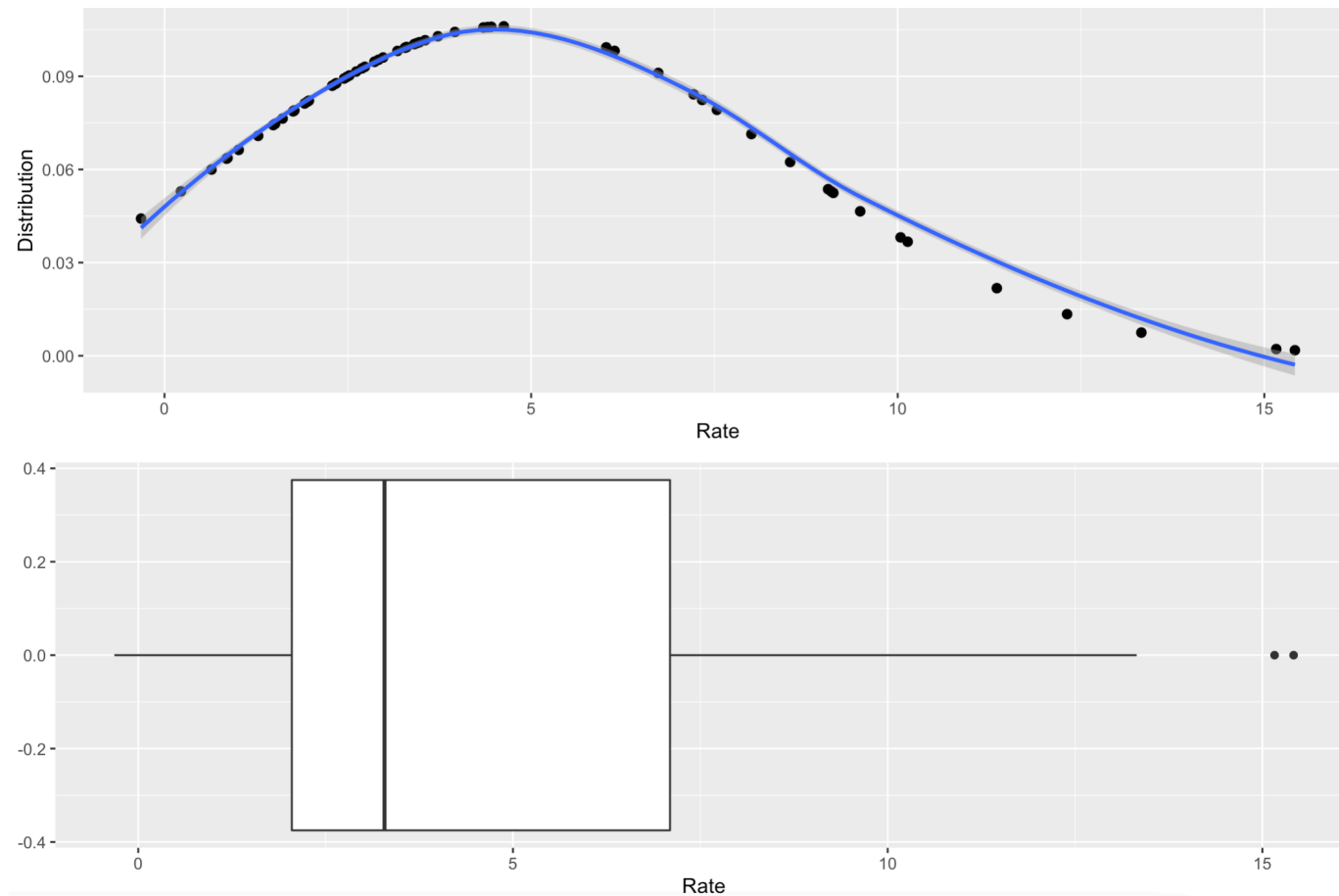
[Industry SuperFund Drawdown rates for 2023 Minimum payments from your super pension](#)

[Age Pension rates \(March 2023 to September 2023\)](#)



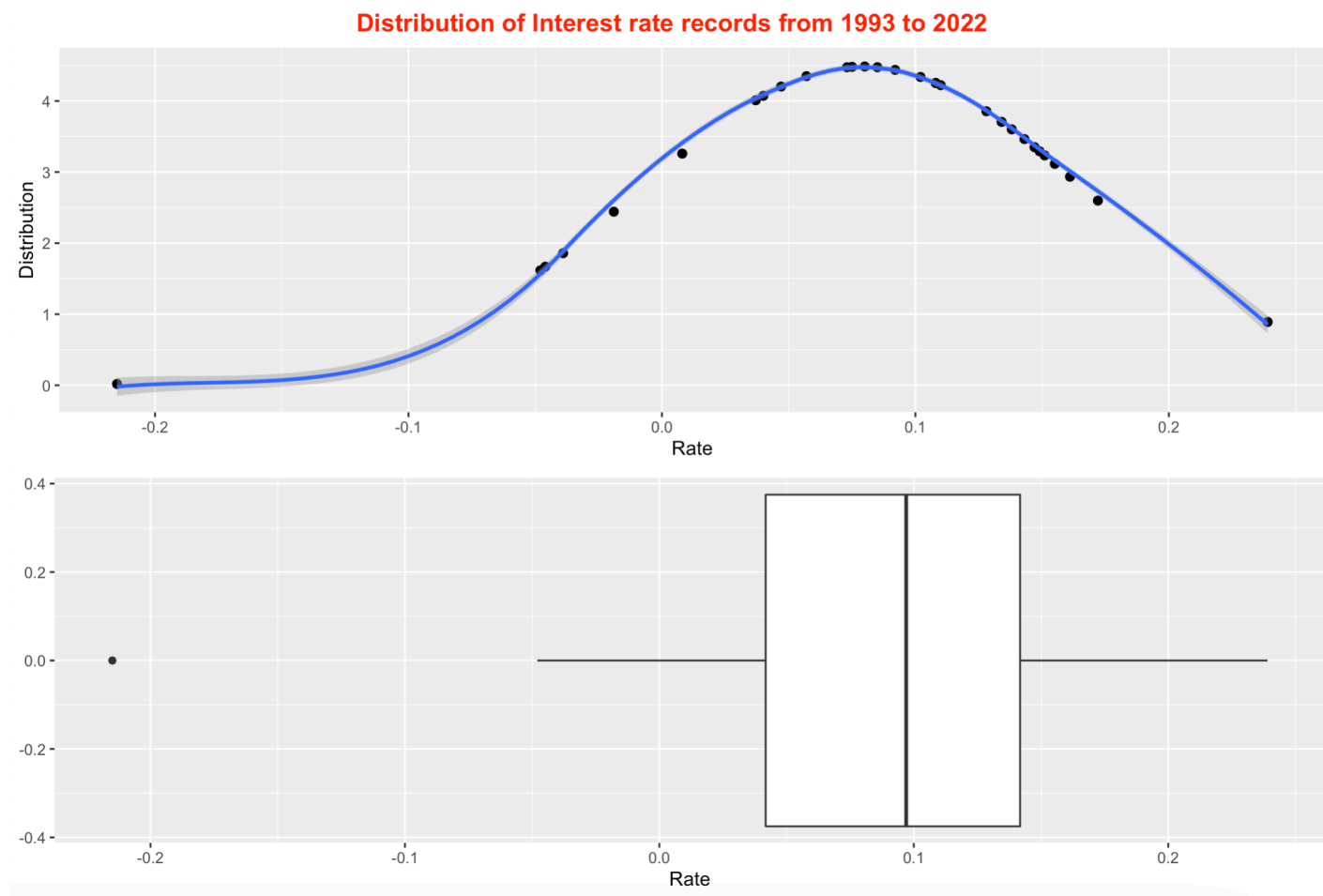
# Appendix

Distribution of Inflation rate records from 1960 to 2021





# Appendix

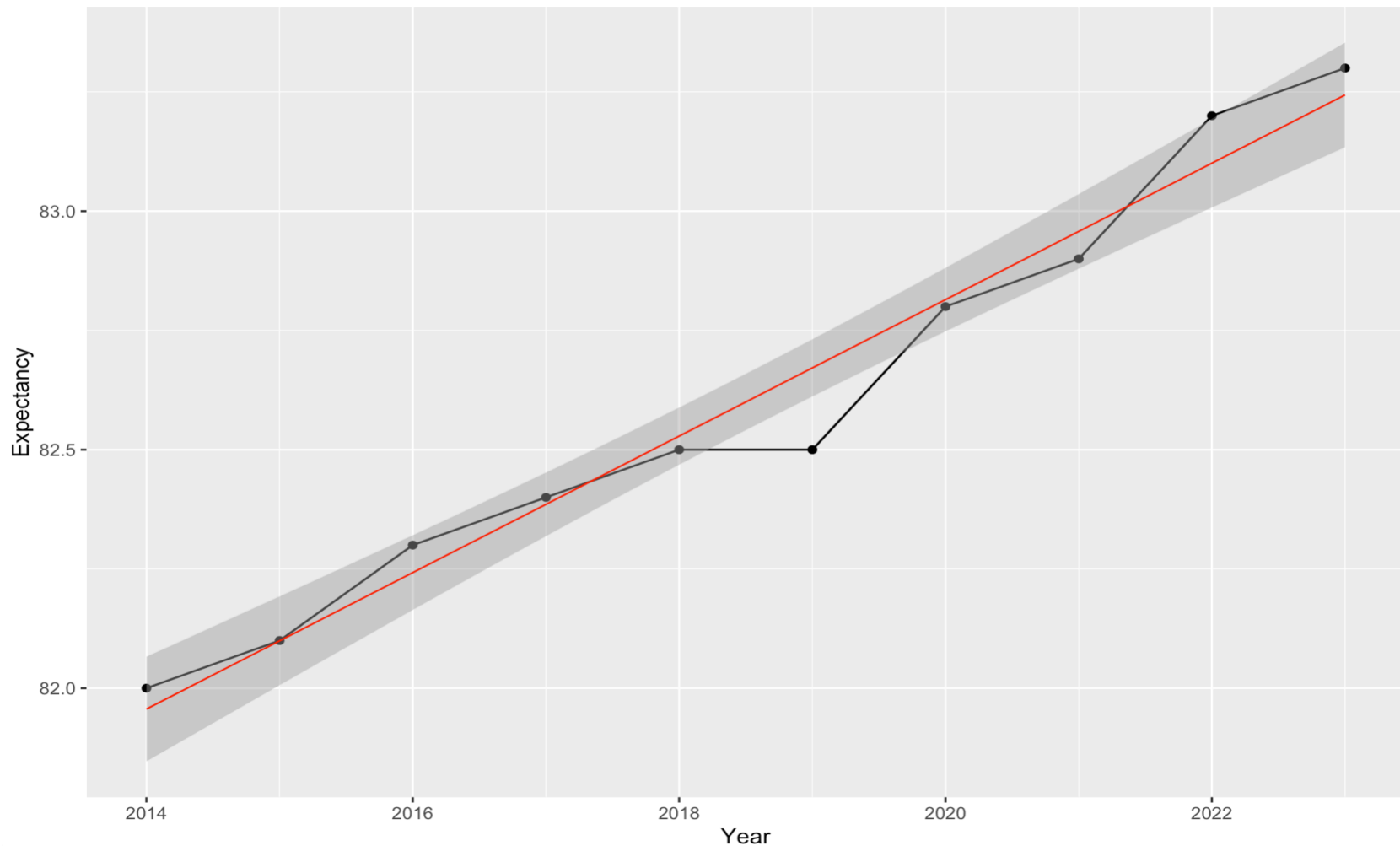




# Appendix

Regression line of Life Expectancy over Year from 2014 - 2023

R-squared: 0.9662





# Appendix

Yearly Employee Earnings 1975 - 2022

R-squared = 0.9829

