



**CALCULATION OF NORMAL CONTRIBUTION,  
ACTUARIAL LIABILITY, AND ACCUMULATION  
NORMAL CONTRIBUTION USING PROJECTED  
UNIT CREDIT METHOD AND ENTRY AGE  
NORMAL METHOD**

**UNDERGRADUATE THESIS**

**Submitted as one of the requirements to obtain  
Sarjana Aktuaria**

**By**

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**FACULTY OF BUSINESS  
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# PLAGIARISM REPORT

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## ABSTRACT

Preparing retirement funds is very important in achieving financial security when entering retirement. Lack of financial preparation often causes financial difficulties during retirement. Therefore, the planning and management of periodic employee payments through the pension fund program includes the Normal Contribution and the Accumulation of Actuarial Liability Normal Contribution as part of the pension planning calculation. In the context of financing pension funds, two general methods are used to calculate pension obligations, namely the Projected Unit Credit (PUC) Method and the Normal Entry Age (EAN) Method. The Projected Unit Credit (PUC) method considers the participant's length of service and salary growth. Meanwhile, the Entry Age Normal Method (EAN) calculates pension obligations based on the age of participating in the pension program. This second method has a different approach and provides other benefits for both participants. The calculation results show that the Normal Contribution value using the Normal Entry Age method remains constant yearly. In contrast to the Projected Unit Credit method, this value increases with length of service. Actuarial liability values using the Entry Age Normal and Projected Unit Credit methods increase as years of service increase, with a more significant increase in the EAN method occurring in the middle of the year. The Normal Entry Age method is more profitable because it provides stability and predictability in financial planning. On the other hand, the Projected Unit Credit Method can be increasingly burdensome for participants due to the increase in Normal Contributions from year to year.

**Keywords:** *Retirement Fund Preparation, Pension Fund, Normal Contribution, Actuarial Liability, Accumulation Normal Contribution*

## ABSTRAK

Mempersiapkan dana pensiun sangat penting dalam mencapai keamanan finansial saat memasuki masa pensiun. Kurangnya persiapan finansial seringkali menyebabkan kesulitan keuangan di masa pensiun. Oleh karena itu, perencanaan dan pengelolaan pembayaran berkala pegawai melalui program dana pensiun mencakup Iuran Normal dan Akumulasi Kewajiban Aktuarial Iuran Normal sebagai bagian dari perhitungan perencanaan pensiun. Dalam rangka pembiayaan dana pensiun, ada dua metode umum yang digunakan untuk menghitung kewajiban pensiun, yaitu Metode Projected Unit Credit (PUC) dan Metode Normal Entry Age (EAN). Metode Projected Unit Credit (PUC) mempertimbangkan masa kerja peserta dan pertumbuhan gaji. Sedangkan Entry Age Normal Method (EAN) menghitung kewajiban pensiun berdasarkan usia keikutsertaan program pensiun. Cara kedua ini memiliki pendekatan yang berbeda dan memberikan manfaat lain bagi kedua partisipan. Hasil perhitungan menunjukkan bahwa nilai Kontribusi Normal dengan metode Normal Entry Age tetap konstan setiap tahunnya. Berbeda dengan metode Projected Unit Credit, nilai ini meningkat seiring dengan lamanya layanan. Nilai kewajiban aktuarial dengan metode Entry Age Normal dan Projected Unit Credit meningkat seiring dengan bertambahnya masa kerja, dan peningkatan yang lebih signifikan pada metode EAN terjadi pada pertengahan tahun. Metode Normal Entry Age lebih menguntungkan karena memberikan stabilitas dan prediktabilitas dalam perencanaan keuangan. Di sisi lain, Metode Projected Unit Credit dapat semakin memberatkan peserta karena Iuran Normal yang terus meningkat dari tahun ke tahun..

***Kata kunci:*** *Persiapan Dana Pensiun, Dana Pensiun, Iuran Normal, Kewajiban Aktuarial, Akumulasi Iuran Normal.*

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# PANEL OF EXAMINERS APPROVAL SHEET

The Panel of Examiners declare that the thesis entitled "**Calculation of Normal Contribution, Actuarial Liability, and Accumulation Normal Contribution Using Projected Unit Credit Method and Entry Age Normal Method**" that was submitted by Septianing Indah Aninditha Putri in Actuarial Science from the Faculty of Business was assessed and approved to have passed the Oral Examinations on September 15<sup>th</sup>, 2023



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# TABLE OF CONTENT

|  |      |
|--|------|
| PLAGIARISM REPORT .....                                    | ii   |
| ACTIFICIAL INTELEGENCE REPORT .....                        | iii  |
| ABSTRACT .....   | iv   |
| ABSTRAK .....  | v    |
| ACKNOWLEDGEMENT .....                                      | vi   |
| PANEL OF EXAMINERS APPROVAL SHEET .....                    | viii |
| STATEMENT OF ORIGINALITY .....                             | ix   |
| ADVISOR’S APPROVAL FOR PUBLICATION .....                   | x    |
| SCIENTIFIC PUBLICATION APROVAL FOR ACADEMIC INTEREST ..... | xi   |
| TABLE OF CONTENT .....                                     | xii  |
| LIST OF FIGURES.....                                       | xv   |
| LIST OF TABLE .....  | xvi  |
| LIST OF APPENDIX .....                                     | xvii |
| CHAPTER I .....  | 1    |
| INTRODUCTION.....  | 1    |
| 1.1 Background .....                                       | 1    |
| 1.2 Problem Statement .....                                | 3    |
| 1.3 Research Question.....                                 | 4    |
| 1.4 Research Objective.....                                | 4    |
| 1.5 Research Scope and limitation .....                    | 4    |
| 1.6 Research Benefit.....                                  | 5    |
| 1.7 Outline Thesis.....                                    | 5    |
| CHAPTER II.....  | 7    |

|   |    |
|---|----|
| LITERATURE REVIEW.....                                  | 7  |
| 2.1 Actuarial .....                                     | 7  |
| 2.2 Pension Fund .....                                  | 7  |
| 2.2.1 Types of Pension Benefits .....                   | 8  |
| 2.2.2 Characteristics of Post-Employment Benefits ..... | 9  |
| 2.3 Random Variable.....                                | 10 |
| 2.4 Probability .....                                   | 11 |
| 2.5 Mortality Table (Single Decrement) .....            | 12 |
| 2.6 Commutation Symbols .....                           | 13 |
| 2.7 Annuity.....  | 14 |
| 2.8 Basic Actuarial Calculation.....                    | 15 |
| 2.8.1 Time Value of Money .....                         | 15 |
| 2.8.2 Salary Function .....                             | 16 |
| 2.8.3 Benefit Function.....                             | 16 |
| 2.8.4 Present Value of Future Benefit.....              | 18 |
| 2.9 Actuarial Calculation Method .....                  | 19 |
| 2.9.1 Projected Unit Credit .....                       | 20 |
| 2.9.2 Entry Age Normal.....                             | 21 |
| 2.9.3 Accumulated of Normal Contributions.....          | 23 |
| 2.10 Research Gap.....                                  | 24 |
| CHAPTER III.....  | 27 |
| RESEARCH METHODOLOGY .....                              | 27 |
| 3.1 Research Type .....                                 | 27 |
| 3.2 Data Gathering .....                                | 27 |
| 3.3 Data Variable.....                                  | 27 |
| 3.4 Research Framework.....                             | 28 |
| 3.5 Flow of Research Design .....                       | 29 |
| CHAPTER IV .....  | 30 |
| ANALYSIS & RESULT.....                                  | 30 |

|                  |  |    |
|------------------|--|----|
| 4.1              | Research Data Description .....                            | 30 |
| 4.2              | Actuarial Calculation Method in Pension Fund .....         | 31 |
| 4.2.1            | Participant Pension Fund Actuarial Calculations A.....     | 31 |
| 4.2.2            | Participant Pension Fund Actuarial Calculations B.....     | 38 |
| 4.2.3            | Comparison of Calculation Results of the two methods ..... | 46 |
| CHAPTER V.....   |  | 55 |
| CONCLUSION ..... |  | 55 |
| 5.1              | Conclusion.....  | 55 |
| 5.2              | Suggestions for Future Research.....                       | 56 |
| REFERENCES.....  |  | 57 |
| APPENDIX.....    |  | 60 |

## LIST OF FIGURES

|  |    |
|--|----|
| Figure 4.1 Graph of the Normal Contribution PUC AND EAN.....                   | 46 |
| Figure 4.2 Graph of the Normal Contribution PUC AND EAN Participants B ..      | 46 |
| Figure 4.3 Graph of the Normal Contribution of PUC .....                       | 47 |
| Figure 4.4 Graph of the Normal Contribution of EAN.....                        | 48 |
| Figure 4.5 Graph of the Actuarial Liability of PUC and EAN Participants A..... | 49 |
| Figure 4.6 Graph of the Actuarial Liability of PUC and EAN Participants B..... | 49 |
| Figure 4.7 Graph of the Actuarial Liability of PUC .....                       | 50 |
| Figure 4.8 Graph of the Actuarial Liability of EAN.....                        | 51 |
| Figure 4.9 Graph of the Accumulation Normal Contribution Participant A.....    | 52 |

## LIST OF TABLE

|  |    |
|--|----|
| Table 4.1 Present Value Future Benefit Participant A.....                      | 32 |
| Table 4.2 Normal Contributions Projected Unit Credit Method Participant A..... | 33 |
| Table 4.3 Normal Contributions Entry Age Normal Method Participant A .....     | 34 |
| Table 4.4 Actuarial Liability Participant A.....                               | 36 |
| Table 4.5 Accumulation Normal Contribution Participant A .....                 | 38 |
| Table 4.6 Present Value Future Benefit Participant B .....                     | 40 |
| Table 4.7 Normal Contributions Projected Unit Credit Method Participant B..... | 41 |
| Table 4.8 Normal Contributions Entry Age Normal Method Participant B .....     | 42 |
| Table 4.9 Actuarial Liability Participant B .....                              | 44 |
| Table 4.10 Accumulation Normal of Contribution Participant B .....             | 45 |
| Table 4.11 Calculation Results of Each Method.....                             | 53 |



## **LIST OF APPENDIX**

|  |    |
|--|----|
| Appendix 1. 1 Indonesia Mortality Table In 2019 IV .....         | 60 |
| Appendix 1. 2 Indonesian Mortality Table in 2019 IV Male.....    | 62 |
| Appendix 1. 3 Indonesian Mortality Table in 2019 IV Female ..... | 63 |