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Title : OPTIMIZING CONTRIBUTION RATE OF SOCSO'S INVALIDITY PENSION SCHEME (IPS): AN ACTUARIAL PRESENT VALUE (APV) MODELLING

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This dissertation proposes the optimisation of the contribution rate for Social Security Organisation (SOCSO)'s Invalidity Pension Scheme (IPS). In performing this study, four objectives were set. Firstly, this study aims to statistically analyse the current situation of the contribution fund collection and the claim benefits payment under SOCSO's IPS. Secondly, it seeks to develop an actuarial formulation based on the benefits coverage from SOCSO's IPS. Thirdly, it attempts to determine an optimal contribution rate to support the benefits provided under SOCSO's IPS using an actuarial approach. Fourthly, it proposes an appropriate contribution rate to be implemented by SOCSO. Currently, the contribution rate for SOCSO's IPS is 1%, which is shared equally between employer and employee. This contribution rate is directly deducted from the employee's monthly gross salary. This contribution rate needs to be adjusted upwards by SOCSO in the near future to ensure that all payments of claims are sufficiently covered. Based on the 9th Actuarial Valuation Report issued by the International Labour Organisation (ILO), recent statistics show that immediate revision of contribution rate is necessary in order to achieve the minimum loss ratio (max 20%) in SOCSO's IPS funding systems. In this study, the Actuarial Present Value Approach is applied to all benefits under SOCSO's IPS. SOCSO data from 1985 until 2014 are used in this study. Seven assumptions are made in this study, namely mortality rate, salary ceiling, interest rate, retirement age, increment salary rate, age entry, and salary entry. By optimising the worst-case scenario (single simulation), this study has found that the optimal contribution rate is 2.2% rather than the current 1%. This can be attributed to the fact that since 1969, many changes have occurred in the workplace, working conditions are different and many new jobs have been created. Therefore, an Actuarial Present Value Approach with regards to actuarial modeling was conducted to optimise SOCSO's IPS contribution rate. In conclusion, an optimal contribution rate of 2.2% should be introduced and implemented in the future as part of the efforts to reduce society's burden whilst ensuring that adequate protection is provided to the nation's workforce.