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UNDERSTANDING FACTORS AFFECTING CONTRIBUTION RATE OF SOCIAL INSURANCE

MOHD ZAKI AWANG CHEK & ISMA LIANA ISMAIL
UiTM Cawangan Perak

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ABSTRACT

The main objective of this study is to understand risk factors affecting the contribution rate of social insurance. Social insurance is designed to provide protection against heterogeneous risks. In Malaysia, Social Security Organisation (SOCSO) is mandated to administer and enforce the Employee Social Security Act 1969 and Employee Social Security General Regulations 1971. Basically, social insurance programs differ from private insurance in several ways. Firstly, the contributions are normally compulsory and may be made by the employer and employee. Benefits are also not as strictly tied to contributions as is the case with private insurance. For example, to make the programs serve certain social purposes, some contributors are included among the beneficiaries even though they may not have contributed for the required period. Next, benefits may be increased in response to the rising cost of living, which reduces the amount between contributions and benefits. Therefore, this study identified risk factors affecting the contribution rate as such mortality as rate, age, salary, and interest rate. These risk factors are important for policymakers to provide sufficient future claims and comprehensive benefits to the contributors inclusively.

1.0 INTRODUCTION

Rejda (2014) described social insurance programs as government insurance programs with certain characteristics that distinguish them from other government insurance plans. These programs are financed entirely or in part by mandatory contributions from employers, employees, or both. SOCSO[1] currently spends more than RM500 million to pay out compensations relating to commuting accidents that occur during working hours (Bernama, 2011). SOCSO provides compensation to eligible employees who receive lifetime pensions due to occupational uncertainties. Contributions to SOCSO are made by employees having a gross monthly income of less than RM4, 000.00 per month. However, the contribution rate would have to be adjusted upwards by SOCSO in the near future to ensure that all claims can be sufficiently met (Awang Chek et al., 2018b, 2018a; Lean W., 2010).

This study seeks to fill the gap inherent in the socio-economic environment for SOCSO's financial protection system within the context of the country's broader social security

[1] SOCSO stands for Social Security Organisation, also known as Pertubuhan Keselamatan Sosial (PERKESO). For details, refer to the website: http://www.perkeso.gov.my/

framework. As a single fund manager of social insurance created for the lower and middle-income group in Malaysia, SOCSO is obligated to make sure that all future payments towards employees' claims be made regardless of any current and economic situation, as spelled out in the Employee Social Security Act 1969. In order to fulfill its obligations on all future claims of employees, SOCSO should have a dynamic and strong financial system by understanding and identifying the risk factors affecting social insurance.

1.1 Factors affecting contribution rate of retirement scheme

This study discusses the actuarial, social, and economic factors leading to a variation in social insurance. These factors are the most common variables employed to optimize the contribution rate in retirement schemes. These are factors that influence the contribution rate of social insurance. Therefore, the economic and demographic characteristics of the population can be easily measured and provide the most consistent and quantifiable measure of optimizing the retirement scheme contribution rate (Awang Chek et al., 2012; Salkever et al., 2001).

2.0 MORTALITY RATE

Ideally, the mortality rate should be built from a scheme's experience. If the data are unavailable or are not statistically credible, or if the scheme covers a large proportion of the total population of the country under study such as Malaysia, it is then appropriate to use the mortality rates of the general population (SOCSO, 2008).

According to Yamabana (2012), the general population shows a more stable pattern of mortality rates, although life expectancy is generally higher among the insured population. The only reliable set of mortality rates that can normally be developed from the statistics of a social security scheme relates to pensioners.

Nevertheless, the active population is subject to two decrements, namely mortality and invalidity, which differentiate the retired population group. Specifically, the force of each decrement will be age and salary. In addition, the effect on the contribution rate for IPS when higher levels of mortality and invalidity are assumed is discussed (M. Z. A. Chek et al., 2019; M. Z. A. M. Z. A. Chek et al., 2019; Iyer, 1999).

The force of mortality and invalidity decrements at a single age are defined separately. The effect of an increase in the force of invalidity is defined as equivalent to the same increase in the force of mortality at the same age (Benjamin & Pollard, 1980; Mitchell et al., 2013).

Thus, an increase in either the force of invalidity or the force of mortality over the active service age range from entry age until retirement age should produce the same effect as an increase in the force of interest over this range. Meanwhile, an increase in the force of mortality after retirement should produce the same effect as an increase in the force of interest over the age range of retirement age until the person dies. Thus, an increase in either the force of mortality or the force of invalidity will lead to an increase in the contribution rate. It is should be noted, however, that the explained above the effect of the mortality and invalidity decrements apply only to contribution rate relating to retirement pensions (Murad et al., 2009; Silva, 2010).

The effect on the contribution rate relating to survivors' pensions of a higher force of mortality will be different, and so will the effect on the contribution rate for invalidity pensions of a higher force of invalidity. This produces a mutually compensating effect in a comprehensive social security pension scheme covering all three risks of retirement, invalidity, and premature death (Bowers et al., 1997; Silva, 2010).

2.1 Age

Another identifiable factor that drives the contribution rate of social insurance is age, namely entry age, and retirement age. Different age groups in a population have different levels of disability, and therefore the different costs of coverage and contribution rates provided they can contribute based on their occupational risks. The ability to pay contributions is largely dependent on the benefit provisions of the social insurance system. The contribution rate differentials between population subgroups can generally be determined through statistical analysis. The population structure and the capacity of the entry age, as well as the retirement age in the social insurance system, are important factors that are likely to influence the claims payment coverage (Plamondon et al., 2002).

Additionally, age is also an important factor in assessing invalidity, since impairment and health problems usually have more serious consequences for older than for younger people. Some national laws of developed and developing countries specifically provide that when entitlement to the benefit is being assessed, a comparison should be made between the applicant and a normal person of the same age and sex. Even when the relevant law is silent on this point, age is always a significant factor pertinent to the assessment of opportunities for vocational rehabilitation. Again, where the concept of general invalidity is the normal rule, the invalidity of an older person may be assessed by reference to what has been a regular occupation (ILO, 1984).

Moreover, the optimal contribution rate becomes more valid when a deterministic actuarial approach based on expected values is used. It considers a pension scheme that operates without any fundamental changes, such as significant modifications of the benefit provisions or appreciable expansion of its scope of coverage, except for a steady flow of new entrants. It is also assumed, as is generally the case, that persons already over retirement age at the outset of the scheme are not entitled to any benefit. The above assumes the worst-case scenario which applies a fixed entry age for new entrants and fixed retirement age. However, with regards to the complete data, the same reasoning can be applied to any other combination of entry and retirement ages in order for the contribution to be more accurate (Scholz et al., 2000).

2.2 Salary

As found in many empirical studies, salary is the most important factor which influences the contribution rate for social insurance. Salary is used in occupational risk classification today irrespective of the nature of the work, especially in Malaysia and other developing countries. However, through actuarial valuation reports conducted by ILO actuary experts, it appears that they may look at the interaction of group salary and other potential social risk classification variables to achieve an optimal contribution rate for social insurance (Bloom et al., 2007; Godínez-Olivares et al.,2016).

Montalto et al. (2000) stated that in the US, a study using cross-sectional survey data found a direct positive link between the level of salary and the social protection acquired. As salary increases, the occupational risk transfer to social insurance gets higher. Hence, the contribution rate for social insurance is likely to rise with income as it safeguards future benefits for the dependents. The positive impact of salary on social insurance contribution rate has been further validated by studies in other developed countries such as Galasso, (2008), Kashiwase et al., (2012), and Pit et al., (2010).

Godínez-Olivares et al. (2016) discovered a positive link between the contribution rate and salary in both the lower and higher income groups of the USA and Europe.

2.3 Interest Rate

Actuarial interest rate is another factor that should be considered in calculating an optimal contribution rate of social insurance. Since the actual interest rate fluctuates and changes remarkably over time, the actuarial rate should be assumed prudently, and with adequacy and solvency to support future claims payments (Godínez-Olivares et al., 2016; Josa-Fombellida et al., 2010).

Interest rate risk for insurance companies is a significant factor in determining profitability. Although rate changes in either direction may affect insurance company operations, the profitability of an insurance company typically rises and falls in concert with the increase or decrease of interest rate (Boulier et al., 2001).

Changes in interest rates can affect the contribution collection and the claims payment of social insurance. Social insurance has a substantial collection in interest-rate-sensitive contribution, as well as interest rate-sensitive benefits provided for contributors (Hamermesh, 1982; Han & Hung, 2012; Carvalho et al., 2016).

Drops in interest rates can decrease the liabilities of social insurance by decreasing its future obligations to contributors. On the other side of the coin, lower interest rates can also make the social insurance benefits less attractive, resulting in retrenchment and unemployment of active contributors (Yuh et al.,1998; Montalto et al., 2000; Boulier et al., 2001).

While the precise effects of interest rate changes on a social insurance provider may be uncertain, historical analysis shows that the overall trend for the sustainability of the social insurance funding system is needed in an environment of rising interest rates. Overall, a contribution for long-term claims payment of social insurance usually increases in fairly direct proportion to increases in interest rates (Mccray, 1972; Hamermesh, 1982; Benítez-Silva et al., 1999; Haberman et al., 2000).

Again, social insurance providers are sensitive to interest rates because contribution collection that is constantly being remitted by contributors needs to earn an adequate ROI and solvency has to be maintained to fulfill future claims (P. A. Diamond & Mirrlees, 1978; Boulier et al., 2001; Manasan, 2009; Cociuba et al., 2016).

3.0 CONCLUSION

By having a concrete understanding[2] of literature about the risk factors affecting contribution rate for social insurance as such mortality rate, age, salary, and interest rate. This study can be considered the same factors towards enhancing social insurance protection, to optimize the contribution rate of SOCSO's benefits soon.

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