

**DESCRIPTIVE ANALYSIS OF TRENDS IN FREQUENCY OF INVALIDITY
PENSION SCHEME (IPS) IN MALAYSIA**

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ABSTRACT

Social insurance was introduced in Malaysia in 1971 through Social Security Organisation (SOCSO). Herein, we describe the increasing trend number of SOCSO's IPS recipients. We analyzed IPS data from 2002–2014 to examine frequency each of benefits offered, such as Invalidity Pension, Survivors' Pension, Constant Attendance Allowance, Rehabilitation Benefit and Funeral Benefit. The registered number of employers had increased to approximately 5% in 2013. This is because SOCSO officers all around Malaysia had been actively searching for employers who have yet to register to make contributions for their eligible employees. Additionally, the total number of IPS recipients had steadily increased since 2002 to 2014. On average, the total number of IPS recipients increased at a rate of 62% every year. This study suggested that a large part of the increase in IPS claims could be explained by population which active contributors, and the increase result from equalization of IPS services across the country. In addition, it seems that the claims of low and high care levels depend on different factors. The increase in IPS claims should be monitored carefully to identify underlying factors and to ensure sustainability of the funding system.

Keywords: IPS, descriptive analysis, SOCSO, Social Insurance, Malaysia.

1. INTRODUCTION

Social Security Organization (SOCSO), was established in 1971 to provide social insurance and protections such as Employment Injury Scheme (EIS) and Invalidity Pension Scheme (IPS) to all employees in Malaysia [1]. The source of SOCSO's collection comes from both parties, namely the employers and the employees. Employees who draw a monthly salary not exceeding RM4,000 are required to contribute. Those who have neither registered nor

contributed, and earn more than RM4,000 per month, are given the option to register and contribute, with the condition that an agreement is entered between employee and employer. Based on the 'once-in-always-in' principle, once an employee is eligible under the ESSA 1969, he or she continues to be eligible to contribute, regardless of the amount of his or her monthly salary [2]. The updated number of active contributors in SOCSO is introduced in this subtopic in order get better idea of the employment in Malaysia.

Table 1. Number of Registered Employers and Employees 2002-2014

Number of Registered Employers and Employees					
Year	Malaysian Population	Registered Employers	Active Employers	Registered Employees	Active Employees
2002	24,400,000	477,150	297,785	8,773,267	4,068,757
2003	24,900,000	507,853	309,399	9,954,032	4,426,569
2004	25,600,000	542,629	335,335	10,452,487	4,567,365
2005	26,100,000	578,390	351,437	11,040,427	4,882,953
2006	26,600,000	612,953	366,312	11,526,472	5,454,799
2007	27,200,000	649,603	383,215	12,009,101	5,450,943
2008	27,500,000	684,465	389,344	12,443,683	5,670,027
2009	27,900,000	724,290	326,840	12,877,325	5,310,552
2010	28,300,000	769,684	347,871	13,368,141	5,518,823
2011	28,700,000	819,915	368,472	13,918,650	5,761,626
2012	29,200,000	863,338	383,575	14,363,035	5,876,934
2013	29,700,000	906,363	393,359	14,825,082	5,946,861
2014	30,200,000	951,532	403,393	15,301,993	6,017,620

Source: SOCSO, (2015)

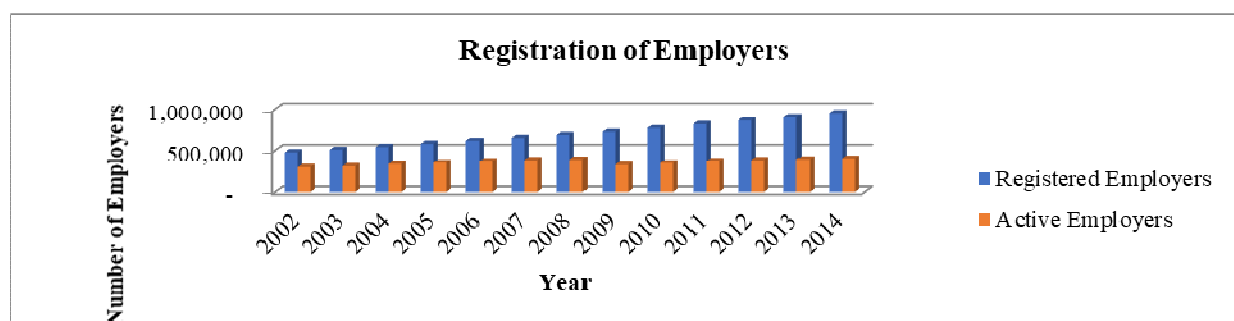


Fig. 1. Number of Employers 2002-2014

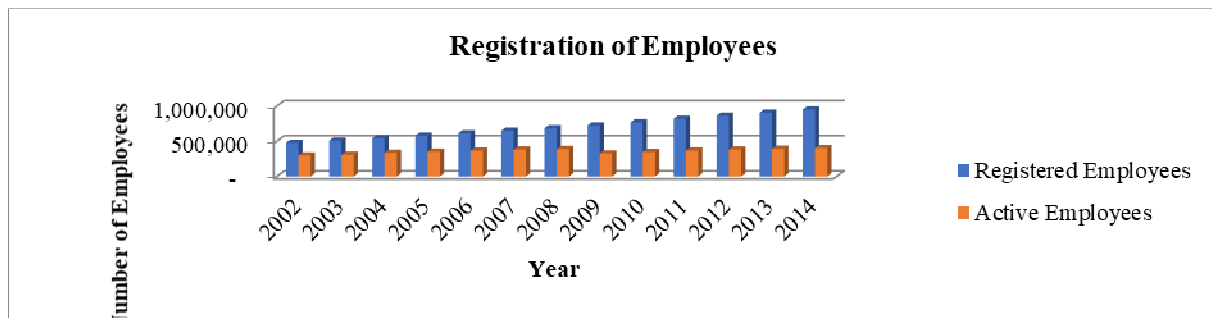


Fig. 2. Number of Employees 2002-2014

Table 1 shows that the total Malaysian population was 30.2 million in 2014 compared to 24.4 million in 2002. That gives an average annual population growth rate of 2.0 per cent for this 13-year period. The population had steadily increased parallel to the number of active employers and employees. Throughout 2014, there was a steady increase in the number of registered employers and employees who were eligible under the ESSA 1969. Correspondingly, the number of registered employees had increased by 3.57% to 15.3 million compared to 14.82 million in 2013. The number of active employers also increased by 2.57% to 403,393 in 2013, while the number of active employees increased by 3.61% in 2014, as shown in Table 1, Figure 1, and Figure 2.

The registered number of employers had increased to approximately 5% in 2013. This is because SOCSO officers all around Malaysia had been actively searching for employers who have yet to register to make contributions for their eligible employees (SOCSO, 2014d).

1.1 Invalidity Pension Scheme (IPS)' Recipients

An Insured Person shall be considered as suffering from invalidity by reason of specific morbid condition of permanent nature either incurable or is not likely to be cured and no longer capable of earning, by work corresponding to his strength and physical ability, The scheme provides 24-hour coverage to employee who suffers from invalidity or death due to any cause and not related to his employment. Table 2 shows the total number of recipients for all types of benefits and the total number of IPS recipients.

Table 1. Total Number of SOCSO and IPS Recipients, from 2002 to 2014

Year	IPS Recipients	Total Recipients
2002	146,950	261,900
2003	141,348	251,888
2004	155,564	268,663
2005	159,044	264,640
2006	170,972	272,367
2007	182,864	290,463
2008	190,941	298,068
2009	211,519	324,798
2010	230,883	351,433
2011	249,239	378,377
2012	262,529	397,541
2013	541,193	681,017
2014	564,147	1,166,632

The table shows that there was a drastic increase of 72.19% from 681,017 in 2013 to 1,166,632 in 2014, which amounts to an additional 485,615 recipients. This can be attributed to the introduction of the Health Screening Programme. Additionally, the total number of IPS recipients had steadily increased since 2002 to 2014. On average, the total number of IPS recipients increased at a rate of 62% every year.

2. DATA ANALYSIS

The descriptive and regression analyses have been employed in numerous researches since these few years because such methods offer useful information for data analyses [7]. Descriptive approaches are essential because implication becomes insignificant with the presentation of raw data, especially with huge dataset. As such, the descriptive approach allows one to interpret data meaningfully [8]. As such this section unfolds the discussion of several researches pertaining to collection of funds and payments of claims practiced by both the governmental and non-government insurance industry. Furthermore, the approaches of descriptive and regression have been employed by these studies in examining data, besides estimating the results of fund collection, as well as expenses [9].

On the other hand, [10] investigated the use and the expenses of healthcare among Brazilians who received coverage from private healthcare schemes four years prior to death. In brief, vast healthcare capitals had been used by Brazilian private medical scheme subjects in 2007. Therefore, some strategies must be devised in order to boost provision of healthcare capitals among those in need of care.

In a similar vein, [11] determined that information concerning job hazards and their impacts upon health had an essential role to devise control measures that are effective at workplace. Thus, the descriptive approach showed that a whopping 863 cases had been reported to SOSCO. Hence, it had been suggested that prevention measures are in dire need among these employees, emphasizing on safety education, engineering control, and workplace ergonomics. Besides, a comprehensive investigation system should be built for employees by the related companies to hinder cases of occupational hazards within the nation. The literature depicts some essential aspects of the study from the stance of descriptive analysis. Besides, crucial approaches taken to overcome some issues in present organizations are elaborated as well. Thus, this study adopts descriptive analysis to determine the attributes of the Invalidity Pension Scheme (IPS) claimants within the bracket of SOCSO.

Furthermore, data analysis is the application of reasoning to understand the data that have been gathered [12]. There are three objectives of data analysis such as getting a feel of the data used, testing the goodness of data; and testing the model's development. The descriptive statistics procedures were conducted with Microsoft Excel and SPSS computer package.

2.1 Descriptive Analysis

Descriptive analysis is used to describe the basic features of the data in this study. They provide simple summaries of the data and the measures. Together with simple graphics, they form the basis of virtually every quantitative analysis of data [13]. The use of descriptive and summary statistics has an extensive history and the simple explanations of populations. There are three major characteristics of a single variable that are often observed: the distribution, the central tendency and the dispersion. All three characteristics are described accordingly in this study. The distribution is a summary of the frequency of individual values for a variable. The most common way to describe a single variable is frequency distribution. Frequency distributions can be illustrated in two ways, as a table or as a graph. Distributions may also be displayed using percentages.

3. FINDING AND DISCUSSION

The analysis of the frequency of SOCSO's IPS data from 2002 to 2014 included all the benefits offered by SOCSO, such as Invalidity Pension and Grant Benefit, Survivor Pension Benefit, Constant Attendance Allowance Benefit, Rehabilitation Benefit; and Funeral Benefit.

3.1 Frequency and Severity of Invalidity Pension and Grant Benefit

The following Figure 3 shows the frequency trend of the Invalidity Pension and Grant benefit from 2002 to 2014. By the end of 2014, the cumulative number of Invalidity Pension and Grant recipients was 50,600, indicating an increase of 9% or 4,213 recipients compared to 46,387 recipients in the previous year. In 2014, there were 4,214 new recipients compared to 3,863 in 2013. However, in 2011, the payment amount had dropped by 1% compared to in 2010, with regards to the increased number of recipients for that particular year. This was because most recipients had received reduced amount of pension, which was lower than 65% of the gross monthly salary [14].

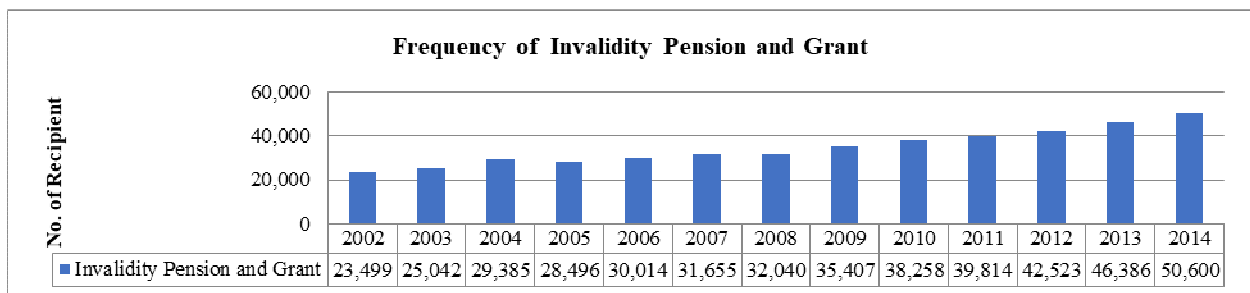


Fig. 3. Frequency of Invalidity Pension and Grant from 2002 to 2014

3.2 Frequency and Severity of Survivor Pension (SP) Benefit

The following Figure 4 shows the frequency pattern of the Survivors' Pension (SP) from 2002 to 2014. By the end of 2014, the cumulative number of Survivors' Pension recipients had amounted to 216,377 compared to 203,454 in 2013. There were also 13,081 new cases (namely 6%) during that year compared to 12,290 cases in 2013. Overall, the frequency pattern had gradually increased from 2002 until 2014. However, in 2012, the claim payments were drastically increased because of increased mortality due to the premature death of recipients who were involved in road accidents [15].

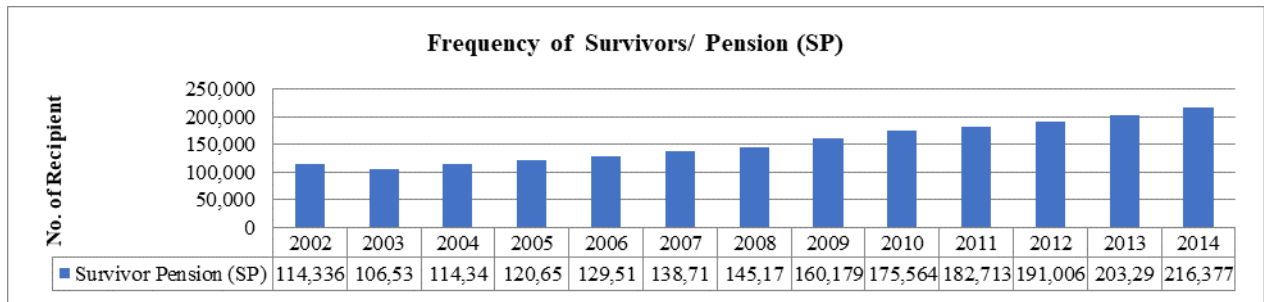


Fig. 4. Frequency of Survivors’ Pension from 2002 to 2014

3.3 Frequency of Constant Attendance Allowance (CAA) Benefit

The following Figure 5 shows the frequency trend of Constant Attendance Allowance (CAA) Benefit from 2002 until 2014. By the end of 2014, the cumulative number of recipients eligible for the Constant Attendance Allowance was 5,983 compared to 5,540 recipients in 2013. The number of new recipients in 2014 was 443, while there were 410 new recipients in 2013. However, the trend shows that it had drastically increased in 2012 due to the full claim payments to eligible claimants [15].

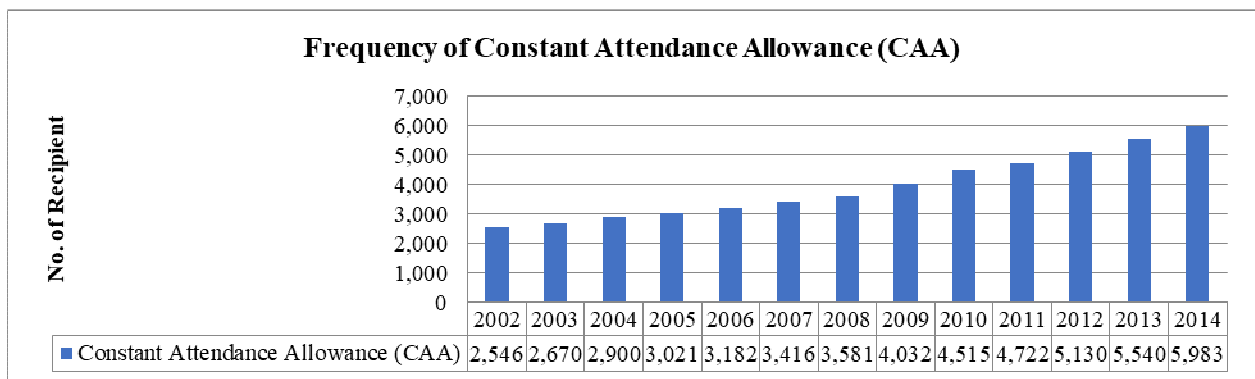


Fig. 5. Frequency of Constant Attendance Allowance from 2002 to 2014

3.4 Frequency and Severity of Rehabilitation (RB) Benefit

Figure 6 shows the frequency of the Rehabilitation Benefit (RB) from 2002 until 2014. The number of Insured Persons receiving the Rehabilitation Benefit in 2014 was 7,044 persons, which constituted an 11% increase. The number of recipients had gone up drastically in 2011 compared to in 2010 because during the time SOCSO had just introduced the health screening programme. This programme is parked under rehabilitation for those who are above 40 years old, and eligible to get the coverage and claim for the benefit [16].

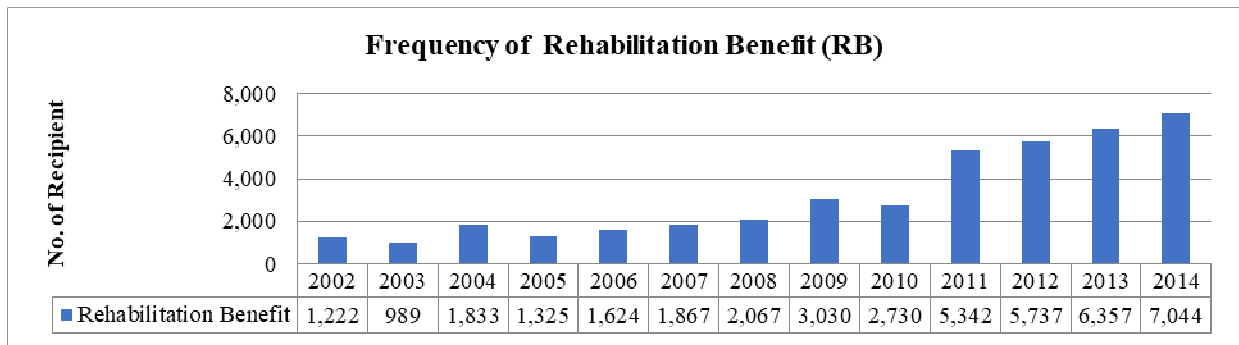


Fig. 6. Frequency of Rehabilitation (RB) Benefit from 2002 to 2014

3.5 Frequency of Funeral Benefit (FB)

The following Figure 7 shows the frequency of Funeral Benefit (FB) from 2002 until 2014. The number of Insured Persons receiving the Rehabilitation Benefit in 2014 was 7,044 persons, which constituted an 11% increase. The number of recipients had gone up drastically in 2011 compared to in 2010 because during the time SOCSO had just introduced the health screening programme. This programme is parked under rehabilitation for those who are above 40 years old, and eligible to get the coverage and claim for the benefit [16].

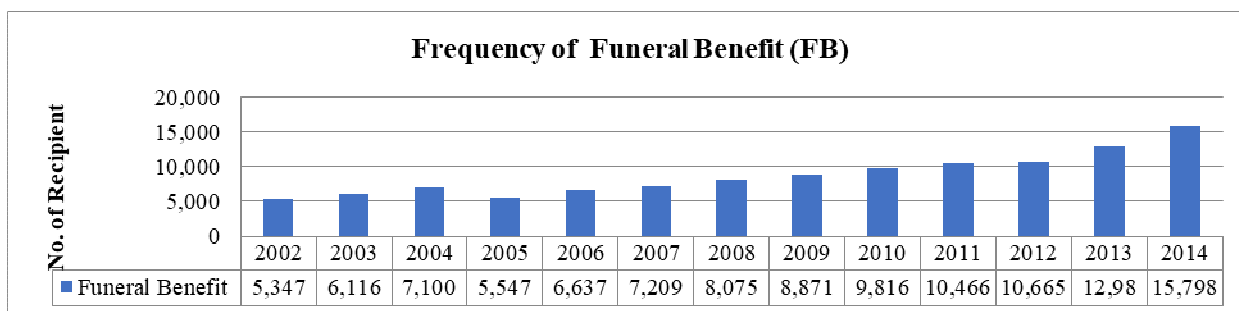


Fig. 7. Frequency of Funeral Benefit (FB) from 2002 to 2014

4. CONCLUSION

The above analyses were done as preliminaries to model an efficient social insurance plan. This is important and SOCSO should place emphasis on this. In this study also, the frequency analysis based on available past information it concerns the frequency exposure to risk. Furthermore, the contribution fund collection and budgeted claim amounts were used as the basis to model an adequate contribution rate for SOCSO’s IPS for further study [17].

5. REFERENCES

- [1] N. M. N. Muhammad, *Personal financial planning*, 1st ed. Kuala Lumpur: UiTM Press, 2013.
- [2] S. C. Seng, "Social Security : Challenges and issues," Kuala Lumpur, 2014–1, 2014.
- [3] SOCSO, "SOCSO Annual Report 2013," Kuala Lumpur, 2014.
- [4] SOCSO, "SOCSO Annual Report 2012," Kuala Lumpur, 2013.
- [5] SOCSO, "SOCSO Annual Report 2011," Kuala Lumpur, 2012.
- [6] SOCSO, "SOCSO Annual Report 2010," Kuala Lumpur, 2011.
- [7] N. G. Levinsky et al., "Influence of age on Medicare expenditures and medical care in the last year of life," *J. Am. Med. Assoc.*, vol. 286, no. 11, pp. 1349–1355, 2001.
- [8] L. T. Kya, *Quantitative business analysis for UiTM*, 3rd. ed. Kuala Lumpur: Oxford Fajar, 2015.
- [9] A. Venema, "Monitoring occupational accidents in the Netherlands: Does it work for prevention?," *Saf. Sci. Monit.*, vol. 11, no. 2, pp. 1–8, 2007.
- [10] M. B. Ferraz, I. C. Miranda, J. Padovan, P. C. De Soárez, and R. Ciconelli, "Health care costs in the last four years of life for private health plan beneficiaries in Brazil," *Pan Am. J. Public Heal.*, vol. 24, no. 2, pp. 120–126, 2008.
- [11] A. bin L. Abas, A. R. B. M. Said, M. A. B. A. Mohammed, and N. Sathiakumar, "Use of a national reporting system for Occupational Diseases among non-governmental employees in Peninsular Malaysia , 2002 to 2006," *Am. J. Ind. Med.*, vol. 56, no. 1, pp. 65–76, 2013.
- [12] W. G. Zikmund, B. J. Babin, J. C. Carr, and M. Griffin, *Business Research Methods*, 9th ed. Canada: South- Western Cengage Learning, 2013.
- [13] L. Xiong, L. Zhang, W. Tang, and Y. Ma, "Constructing an urban Population Model for Medical Insurance Scheme using Microsimulation Techniques," *Comput. Math. Methods Med.*, vol. 2012, pp. 1–14, 2012.
- [14] N. S. A. Mahdzan and A. B. O. Lin, *Risk management and insurance*, 1st. ed. Kuala Lumpur: Oxford Fajar, 2015.
- [15] SOCSO, "Social Security Organisation (SOCSO) Malaysia," pp. 1–52, 2014.
- [16] SOCSO, "Life changing stories after return to work. Disability: Not a tragedy," *SOCSO*, 2014. .
- [17] R. Kaas and M. Goovaerts, "Modern Actuarial Risk Theory," 2009. [Online]. Available: <http://faculty.math.tsinghua.edu.cn/~zliang/paper/Modern Actuarial Risk%25%5Cn20Theory.pdf>. [Accessed: 20-Feb-2015].