



**Consultores Actuariales, S.R.L.**  
CONSULTORES ACTUARIALES • PLANES DE PENSION • SOCIO-ECONOMICOS

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**BELIZE**

**Social Security Board**

**Actuarial Performance Analysis of the Social Security Scheme  
(at 31 December 2021)**

**Belmopan, Belize  
08 June 2022**



# *Consultores Actuariales, S.R.L.*

CONSULTORES ACTUARIALES • PLANES DE PENSION • SOCIO-ECONOMICOS

08 June 2022

Board of Directors  
Social Security Board  
Belmopan, Belize

In accordance with the provisions of Section 45 of the Social Security Act, an actuarial performance assessment of the scheme was carried out as of 31 December 2021, as a complement to the triennial valuation carried out every three years, to assess the performance of the benefit branches and the adequacy of the statutory contributions to support benefits. The review was based on the legal provisions in force, including amendments introduced in 2019, 2020, and 2021. The analysis also comprises an assessment of the Investment Portfolio, the National Health Insurance Program, the Self-Employed Scheme, and the Non-Contributory Pension Scheme.

Due to the imponderable effect caused by COVID-19 on the economic activities, the labour force, the density of contributions, and the implementation of the 10% rate and \$520 ceiling as of 4 April 2022, the actuarial assumptions might have been updated at the close of the present year.

A summary of the main findings and recommendations is set out in Chapter I of the report, while Chapter II describes the legal bases and the consolidated financial operations. Chapters III, IV, and V present the actuarial analysis of the short-term benefits branch, the employment injury branch, and the long-term branch. Annexes will deal with the Investment Performance, as required by the Third Schedule of the Act, the performance of the Non-Contributory Pensions, and the Self-Employed Schemes, and a summary of the benefit provisions.

## **Acknowledgments**

The actuary would like to express his appreciation to the Board for the facilities provided to the actuary during his assignment. Special thanks are due to the Chairperson, Ms. Nigeli Sosa, Ms. Deborah Ruiz, CEO, and the staff of the Financial and Policy Programs, for the technical guidance provided to the actuary during the valuation.



# Consultores Actuariales, S.R.L.

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## Attestation

The analysis was carried out according to applicable actuarial cost methods and our interpretation of the provisions in force. Further, the valuation was carried out utilizing actuarial and financial bases and assumptions, which, in our opinion, are reasonable and offer an adequate estimate of the anticipated experience.

Yours sincerely,

For: Consultores Actuariales, SRL  
Consultores Actuariales

  
**Hernando Pérez Montás, Actuary**



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**BELIZE**  
**ACTUARIAL PERFORMANCE ANALYSIS OF THE SOCIAL SECURITY**  
**SCHEME**  
**(31 DECEMBER 2021)**

**EXECUTIVE SUMMARY**

**1. General Assessment**

Amendments to the legal provisions recommended by the Board and approved by the Government contributed to strengthening the financial position of the scheme and providing benefits better correlated with actuarial earnings, **thus improving the actuarial sustainability and the social adequacy of the scheme**. On the operational side, contribution income exceeded expectations, despite the incidence of the COVID pandemic, although the full potential of investment income was constrained in an environment of excess liquidity and low-interest rates.

**The analysis shows that the combined incidence of these factors: i) ensures the long-term actuarial solvency of the short-term and the employment injury branch, and ii) extends the period of equilibrium of the long-term branch until the second half of the present decade.**

**The actuarial cost of administrative expenditure continues to decline, approaching the international benchmark once the impact of the 10% contribution rate and the \$520 ceiling on contributions as of 4 April 2022 is fully reflected in the financial statements.** The redistribution of the contribution among the benefit branches effective as of 1 January 2021 also contributed to allocating a higher share of contributions to the long-term branch, which show a rapid rate of demographic maturity due to the progression of pensions in payment at a faster rate than insured persons.

Key amendments and challenges for 2022/23 are as follows: i) reduce the excess liquidity and expand the investment portfolio to obtain a higher nominal return of the portfolio without undue risks, ii) address the financial imbalance of the self-employed scheme, iii) adjust the actuarial tables to compete for the actuarial cost of disability and death provisions of the employment injury branch, and iv) continue to optimize the actuarial cost of administrative expenses with focal cost-containment strategies.

## **2. Financial Trends**

Consolidated financial operations show a surplus estimated at \$27 million in 2021 as compared to \$33 million in 2020, due to the postponement of the pending legal amendments until 4 April 2022 and to the impact of the COVID pandemic on employment economic activity, which is decreasing sharply in 2022.

## **3. Performance of the Investment Portfolio**

The nominal rate of return on investments was assessed at 4.61% in 2021 (4.8% in 2020), but high inflation rates reduced the CPI adjustment rates to 1.39% (4.70 in 2020). The analysis shows the urgent need to diversify the investment portfolio with fresh funds targeted to alternative investments, preceded by i) a sound “risk/reward” assessment, ii) a favorable “risk-adjusted” return, and iii) a careful evaluation of the collateral funds, to ensure full recovery of the unamortized portion of the investment in case of default.

Amendments to the Third Schedule (Section 49) of the Act, have been provided to the SSB.

## **4. Specific Issues**

### **a) Administrative Expenditure**

The actuarial cost of administrative expenditure declined to 1.74% of insurable earnings in 2021 and should decrease again in 2022/2023 approaching the 1.50% target, in accordance with international benchmarks.

### **b) Self-Employed Scheme**

The analysis shows that the Self-Employed Scheme is already insolvent, due to faulty design, including the “voluntary” feature of the scheme, which is conducive to adverse selection. Most pensioners have opted to claim pensions at the age of 60 years, although the same provisions as for the general scheme should be required.

### **c) Non-Contributory Pensions**

The analysis of the Non-Contributory Pension Scheme shows a steady reduction of actuarial costs of 0.11%, with a non-material incidence on the total cost of the scheme, of insurable earnings in 2021 and a further reduction of 0.10% of insurable earnings in 2022.

**d) NHI Operations**

**As per Part II of the Social Security Act, the NHI scheme is managed by the Board, but financing is the responsibility of the Government. Therefore, the scheme is cost-neutral to the SSB, despite marginal supervisory and financial support by the SSB. The administrative cost is below standard benchmarks, and the scheme operates with a satisfactory level of efficiency.**

**5. Conversion into a Dynamic Scheme**

**The conversion of the scheme from a static into a dynamic social security scheme in the second half of the present decade requires periodic adjustments to the financing and benefit provisions, to enhance the adequacy and social effectiveness of the scheme.**

Trigger points conducive to semi-automatic adjustments to the ceiling on contributions, to ensure a close link between actual and insured salaries; adjustments to pensions in payment, to compensate for the inflation; and adjustments to the financial bases to guarantee the solvency of the scheme, require periodic updates more frequent than in the past.

**08 June 2022**



# I

## CONCLUSIONS AND RECOMMENDATIONS

### **1. Actuarial Trends**

The 2021 performance analysis shows that the implementation of the last tranche of legal amendments as of 4 April 2022 should contribute to extending the financial solvency of the scheme for several years, despite the gradual maturity of the long-term branch due to the steady increase in age pensions at a faster rate than the increase of the active insured persons.

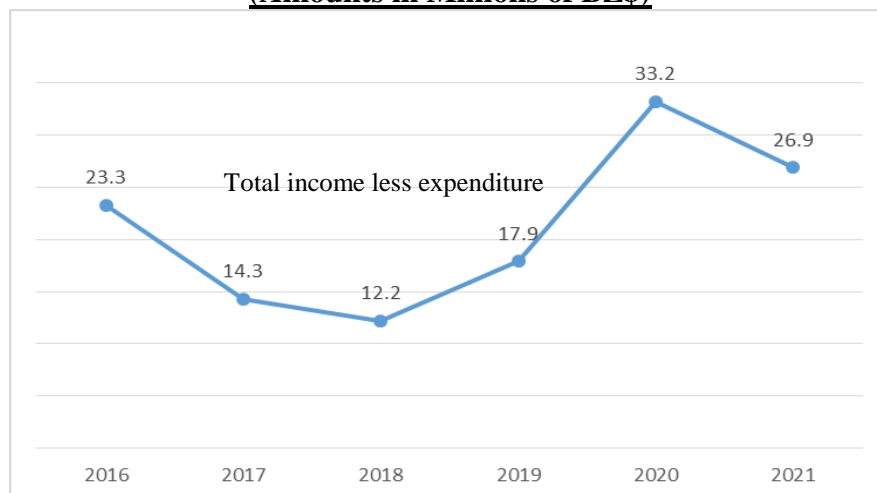
Amendments to the financing bases ensure the long-term solvency of the short-term branch, while the EI branch is anticipated to continue to show reserves in excess of actuarial requirements for the rest of the present decade, despite a significant reduction in this share of contributions, providing a safety factor for a potential transfer of reserves to the long-term branch to offset deviations between the actuarial and the expected actuarial cost of the long-term branch.

The analysis shows that the capitalization of the long-term branch would depend almost exclusively on a share of investment income, with a Period of Equilibrium (declining reserves) extended to a range of 2028/29 rather than 2027/25 before the legal amendments sanctioned as of 4 April 2022.

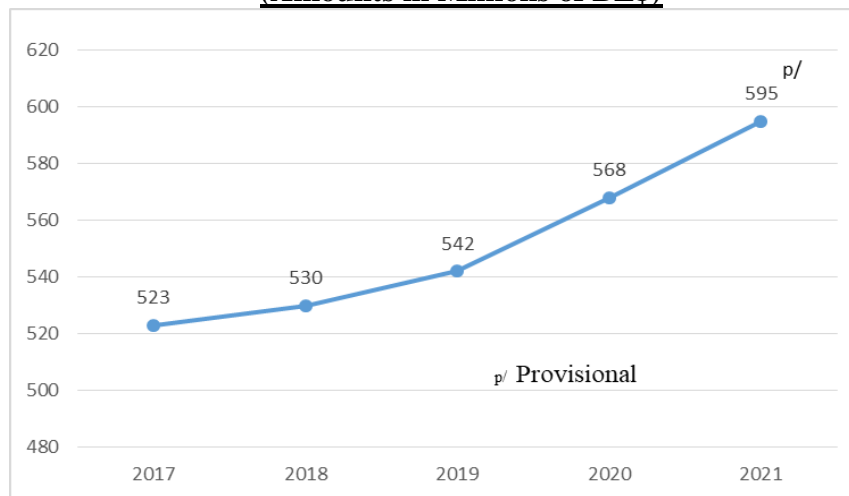
### **2. Summary of Financial Trends**

Contribution income increased by 6.24% in 2021 (10.3% in 2020) despite the incidence of COVID-19 and the postponement of the 10% contribution rate to 4 April 2022. However, benefit and administrative expenditures were lower than anticipated and preliminary investment income declined by 5.2%, subject to accounting adjustments. Preliminary reserves rose to \$597 million.

#### **Consolidated Income less Expenditure** **(Amounts in Millions of BZ\$)**



**Trend of Consolidated Benefit Reserves**  
**(31 December)**  
**(Amounts in Millions of BZ\$)**

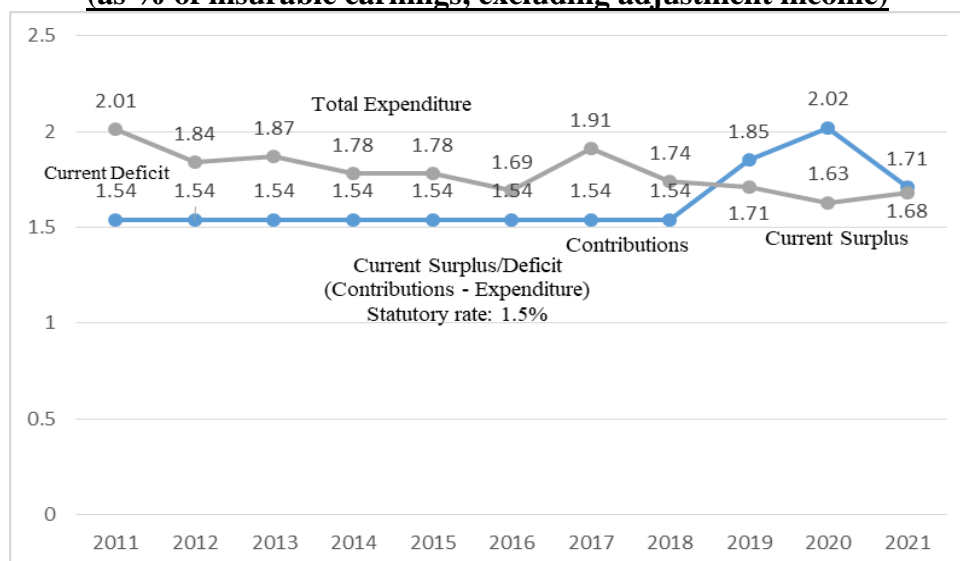


### **3. Short-Term Branch**

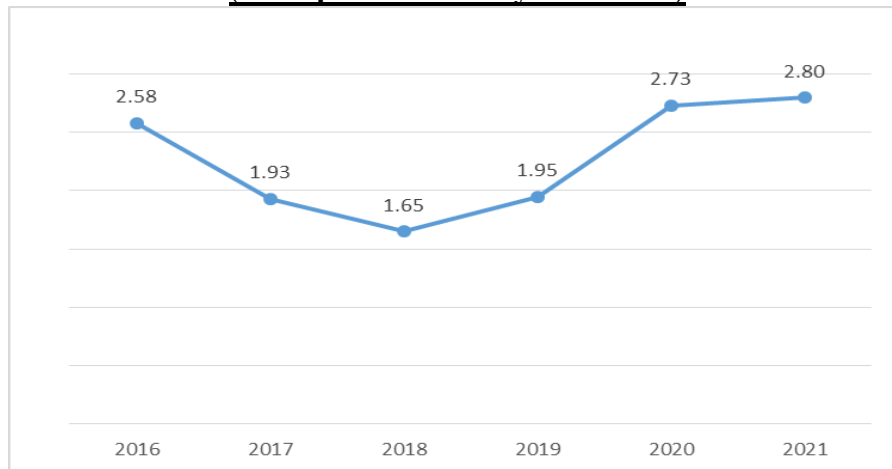
The analysis shows that the statutory contribution rate of the short-term branch is expected to guarantee the solvency of the branch, despite the reduction of the share of contributions to 19% as of 1 January 2021. An imponderable is whether the morbidity rates of the high-income segment of insured persons, which have been increased to \$520 per week as of 1 April 2022, would moderate the actuarial cost of sickness benefits from 2022.

The minimum reserve, as provided in Section 17(1) of the Financial Regulations, should be equivalent to one-half the average benefit expenditure in the preceding three years. At 31 December 2021, the reserve exceeded the minimum by a 2.80 factor (2.73 in 2020).

**Current Actuarial Operations of the Short-Term Branch**  
**(as % of insurable earnings, excluding adjustment income)**



**Short-Term Branch**  
**Trend of the Reserve Ratios**  
**(Multiple of Statutory Minimum)**



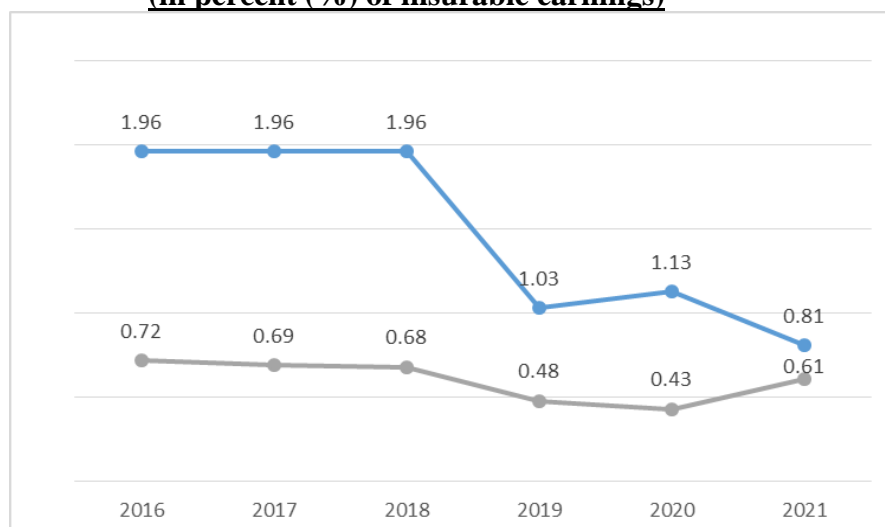
**4. Employment Injury Branch**

The contribution rate earmarked to the branch was reduced to 9% of contributions as of 1 January 2021, to contain the progression of excess reserves of the EI branch.

**At year-end, the reserve is much higher than the statutory minimum, a clear indication that the branch reserves exceed the actuarial requirements.** Another reduction to 9% of contributions was approved as of 1 January 2021, assigning the difference to strengthen the actuarial situation of the long-term branch.

The analysis of the Disablement and Death Reserve shows an actuarial deficit compensated by the surplus of the branch. Due to the substantial surplus of the EI branch, the difference can be met by an internal transfer within the branch. Updated factors to assess the cost of new pensions (APV) have been completed as lower in Section IV.

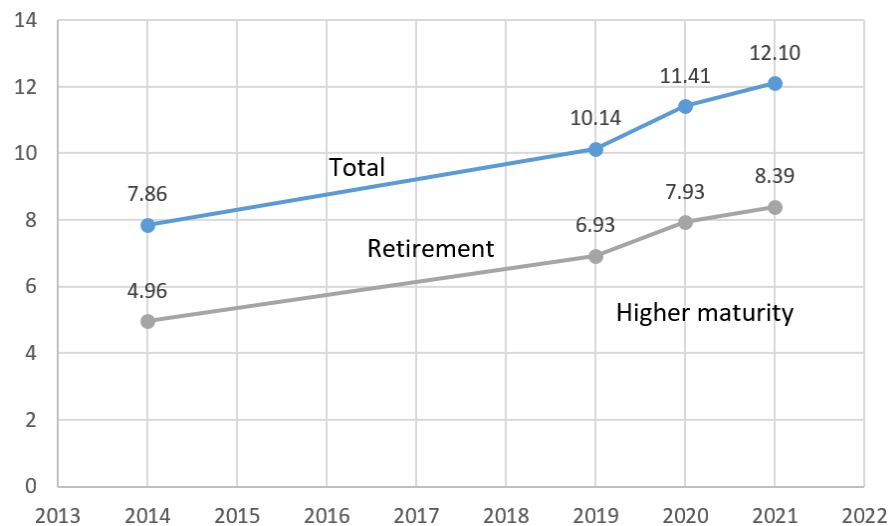
**Actuarial Cost of EI Branch**  
**(in percent (%) of insurable earnings)**



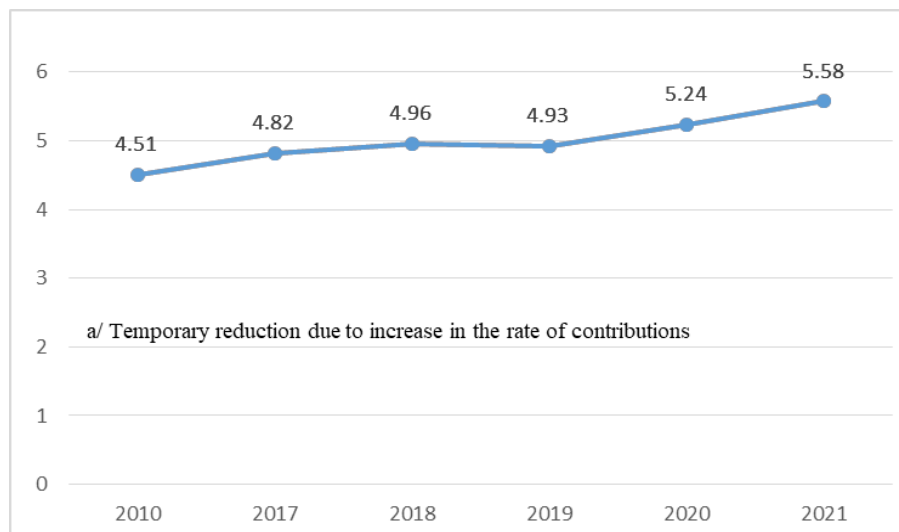
### 5. Long-Term Branch

The full set of legal amendments (10% rate and \$520 ceiling) from 4 April 2022 would strengthen the funding bases of the long-term branch but the capitalization of reserves would depend basically on the return on investment, which has been impacted by excess liquidity and the impact of COVID on the economy. Therefore, the exact duration of the Period of Equilibrium depends on the satisfactory nominal rate of return of the investment portfolio, estimated at between 2028/29, based on legal provisions in force.

#### Demographic Ratios (Pensioners ÷ Active Insured in %)



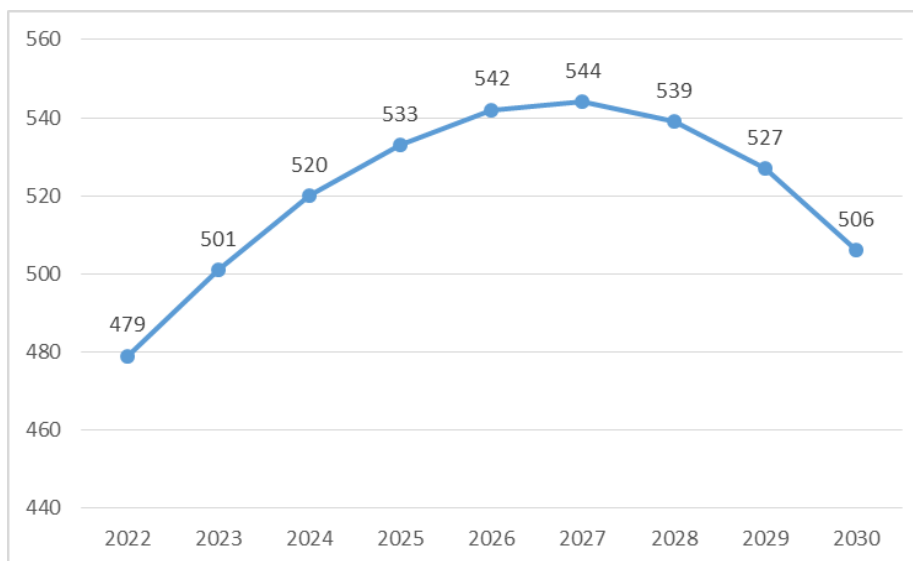
#### PAYG Ratios Benefit Expenditure as a % of Insurable Earnings



### **Preliminary Projection of Long-Term Branch Reserves**

To be updated at 31/12/2022

**(Amounts in Millions of BZ\$)**



#### **6. Investments**

The report shows an analysis of the investment portfolio, as required by the Third Schedule of the Act, Section 17. **The nominal rate of return on investments was assessed at 4.63% in 2021, but the real rate (CPI-adjusted), to only 1.39%, due to a significant increase in inflation (3.20% vs. 0.10%, the preceding year).**

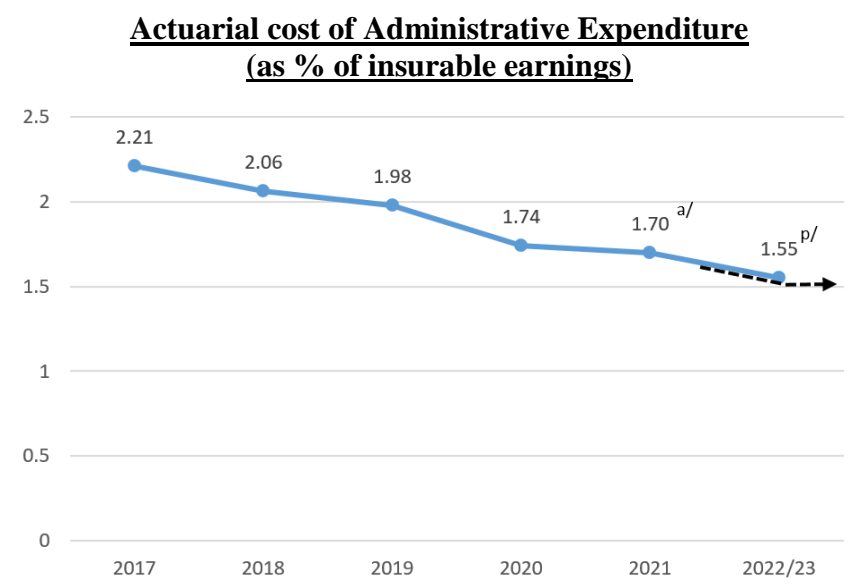
**The execution of an investment plan to maximize income without undue risk is a key task of the Board, taking into consideration the advancing maturity of the scheme.** The improved cash flow due to the legal amendments allows a strategic asset allocation to “development projects”, to achieve a more adequate balance of a portfolio concentrated in financial issues, **provided the adjusted return is more favorable than Central Government obligations.**

**The analysis shows that diversification of the investment portfolio seems advisable, with fresh funds targeted to alternative investments, preceded by i) a sound risk/reward assessment, ii) a favorable anticipated risk-adjusted return, and iii) a careful evaluation of the collateral funds, to ensure full recovery of the unamortized portion of the investment in case of default.**

#### **7. Administrative Expenditure**

The consolidated actuarial cost of administrative expenditure in the last decade exceeds standard benchmarks but has started to decrease as the increase in contributions due to the legal amendments exceeded the secular increase of administrative expenditure.

Financial data shows a reduction in administrative expenditure to 1.74% of insurable earnings in 2021. **The 10% contribution rate and the \$520 ceiling on insurable earnings activated from 4 April 2022, would decrease further the actuarial cost of administrative expenditure, approaching the target of 1.50% of insurable earnings in 2022/23.**



<sup>a/</sup> Contained due to postponement of the ceiling and the rate on contributions.

<sup>p/</sup> Projected.

## **8. Conversion of a Static into a Dynamic Scheme**

Industrialized economies usually follow a dynamic approach characterized by “automatic triggers”, with a frequency of 1-3 years, not only to the ceiling but also to pensions in force, the former related to increases to the level of wages, and the latter related to general inflation, usually designated as COLA (cost-of-living-adjustments). Developing countries have adopted “ad-hoc” adjustments with a longer frequency of 3 to 5 years; but as the schemes mature, the frequency of adjustments would become more frequent due to the actuarial requirements. These two variables (ceiling/pension adjustments) are complemented by adjustments to the rate of contributions, based on actuarial reviews. The adjustment to the ceiling and pensions in payment are aimed at ensuring the **adequacy of the scheme by providing benefits closely linked to actual earnings and the cost of living**. The rate of contributions is intended at **ensuring the financial sustainability for the scheme**.

## **9. Schedule of Proposed Amendments**

### **A. Short Term (2023/24) Self-Employed Scheme**

- Adjust contributions rate from 7% to 9% in correlation to the increase in the general scheme from 8% to 10%.
- Delete the anomalous 172 wage bands of the SE scheme and substitute by 6 notional earnings from \$120 to \$320 per week.
- Eliminate the first two wage bands in the general scheme.
- Establish a ceiling on retirement and invalidity grants.
- Establish provisions to ensure “sustainable” contributions in the SE scheme (See Section 10).
- Update the APV of the EI/Disability and Death pensions (Attached).
- Apply the same provisions as for the general scheme for retirement before age 65.

### **B. Medium term (2025/26)**

- Establish contributions as a percent of insurable earnings, and eliminate the obsolete wage bands.
- Increase gradually the qualifying conditions (number of contributions) to become eligible for age or invalidity pensions, 1000 and 250 weekly contributions respectively.
- Equalize the minimum retirement age of females to that of males (67 years) in the Non-Contributory scheme
- g) Restore a 2-day waiting period and a 70% replacement rate (ST Branch).

### **C. Long Term (2027/29)**

- Establish "trigger points" or automatic adjustments to the ceiling, the pension adjustment system, and the rate of contributions, as suggested by the stakeholders. The first two are linked to the CPI, and the rate of contributions is linked to the Period of Equilibrium or a minimum Fund Ratio (branch reserve ÷ total branch expenditure). This latter method would extend the adjustment to the contribution rate more than the PE method.
- Establish a ceiling to the minimum pension, linked to the minimum insurable earnings (50% of \$130 pw.).

#### **10. Self-Employed Scheme**

The analysis shows that the self-employed scheme is already insolvent, due to faulty design, including the “voluntary” feature of the scheme, which is conducive to adverse selection. The self-employed can qualify for a minimum pension with a low number of contributions, negatively impacting the actuarial situation of the SSB, and generating a transfer of funds from employed persons to the self-employed. The matrix of legal amendments should address these issues, including the exclusion of “housewives”, requiring a higher number of self-employed contributions to qualify for pensions, the elimination of the window of early retirement at age 60, and establishing “compliance” standards once they become voluntarily insured. Specific details are shown in Annex A.

#### **11. Non-Contributory Pension Scheme**

The actuarial cost of the NCP has been declining steadily, due to the joint incidence of mortality of pensioners and more stringent eligibility requirements imposed by the NCP Committee.

**The analysis shows a steady reduction of actuarial costs of 0.11% of insurable earnings in 2021 (0.12% in 2020) and a further reduction of 0.10% of insurable earnings in 2022**, which will bring the cost of the NCP to non-material amounts. Specific details are shown in Annex B, as well as pending amendments to the eligibility regulations.

**At a meeting held on 14 February, 2022 between the CEO/GM-P&P/Actuary, an agreement was reached to recommend to the Board a set of parametric legal amendments to contain the actuarial cost of the self-employed scheme, jointly with a set of internal operational controls, to deal with an irregular pattern of voluntary contributions.**



## II

### **LEGAL BASES AND CONSOLIDATED FINANCIAL OPERATIONS**

#### **1. Legal Bases, Coverage, and Benefit Provisions**

The social protection system in Belize, as regards cash benefits, is composed of the national social security scheme administered by the Social Security Board (SSB), as the first pillar of pension protection, the Civil Service Pension Scheme, and a limited number of complementary pension schemes, as a second pillar. The SSB operates a "defined benefit" and contributory scheme funded on a bipartite basis by employers and employees, whereas the Government system (Civil Service Pension Scheme) is non-contributory and unfunded, with payments made from current revenues. The remaining complementary schemes are usually funded on a bipartite basis. No individual retirement provisions (IRA) with tax incentives are presently envisaged as a third voluntary pillar of pension protection. The adequate planning of social protection should take into consideration these arrangements for an adequate and sustainable design of the pension system in Belize, although the present report deals exclusively with the national social security scheme administered by the SSB.

The legal bases of the social security scheme are set out in the Social Security Act (1980) and the regulations issued thereunder. The scheme commenced operations on 1 June 1981 and, except for marginal amendments to the benefit regulations, the level of benefits and contributions were not updated until 1 January 2001, when a comprehensive improvement in benefit provisions took place, including a National Health Insurance Scheme, the outdated ceiling on contributions were amended, as described below. On 1 January 2003, a voluntary self-employed scheme was introduced; in May 2003, non-contributory pensions to eligible females were introduced, and on 1 July 2003, the rate of contribution was increased from 7% to 8% of insurable earnings, to strengthen the actuarial situation of the long-term branch. Late in 2007 non-contributory pensions for males from 67 years of age were introduced and the amount of non-contributory pensions was increased to \$100 per month, affecting negatively the actuarial situation of the long-term branch. Also, a Third Schedule regulating the Investment Framework, as recommended by the Actuary, was annexed to the Act in 2007. A significant set of legal amendments were finally approved in 2019, as shown below, including step increases to the ceiling and the rate of contributions, and a reallocation of contribution income among the benefit branches.

The scheme provides a basic level of social protection, and, after a full career, the scheme is designed to provide a maximum pension of 60% of pensionable salary, which in practice should yield average replacement ratios of 50% to 55% of the last salary, due to salary progression and density of work before retirement. However, the minimum pension was increased from \$47 per week to \$49.35 per week in 2016 for pensions at that date, which represents more than 90% of the first wage band insurable earnings.

The scheme covers all employed persons from 14 to 64 years of age, with specified exceptions such as workers working less than 8 hours per week and persons in the military. Employed persons 65 years and over are covered only against employment injury. A summary of the benefit provisions is shown in Appendix A.

## **2. Summary of Legal Amendments**

As of 1 January 2021, the contributions among the benefit branches were redistributed, increasing the share of contributions to the Long-term branch and reducing the share of the Short-term branch and the EI branch. As of 4 April 2022, the pending adjustment to the contribution rate and the ceiling was approved, as shown in Table 4.

**Table 1**  
**Allocations by Branch as a percent of Contributions**

Branch	2009/2018	January 2019/ December 2020	2021
Short-Term	19.25	22.50	19.00
Employment Injury	24.50	12.50	9.00
Long-Term	56.25	65.00	72.00
Total	100%	100%	100%

**Table 2**  
**Step-Increase of the Ceiling on Insurable Earnings (per week)**

Up to June 2019	\$320
June / December 2019	\$440
January / December 2021	\$480
As from April 2022	\$520

Therefore, in accordance with actuarial recommendations, the share of contributions to the long-term branch has been increased gradually, as shown in Table 3, while the allocation to the EI branch has been reduced, based on the analysis of emerging actuarial costs, in order to contain the accumulation of excess reserves. As of 2021, the allocation to the long-term branch would be equivalent to 72% of contributions, which translates to 7.02% in 2022 and 2.20% in 2023, the latter 60% higher than the 4.50% share up to 2018.

**Table 3**  
**Actuarial Rate of Contributions by Branch**  
**(Rate as a percent of Insurable Earnings)**

Branch	Up to 2018	January / June 2019	July / December 2019	2020	2021	2022 <sup>a/</sup>	2023+
Short-Term	1.54	1.80	1.912	2.025	1.710	1.853	1.900
Employment Injury	1.96	1.00	1.063	1.125	0.810	0.877	0.900
Long-Term	4.50	5.20	5.525	5.850	6.480	7.020	7.200
Total	8.00%	8.00%	8.50%	9.00%	9.00%	9.751%	10.0%

**Table 4**  
**Percent Adjustment to the Rate and the Ceiling of Contributions**

Period	Rate Adjustments	Ceiling Adjustments
July / December 2019	8.5 / 8.0 = 6.25%	440/320 = 37.5%
2020	9.0 / 8.5 = 5.88%	480/440 = 9.09%
2021	9.0/9.0 = 0.00%	480/480 = 0.00%
2022 (as from April 2022)	10.0 / 9.0 = 11.11%	520/480= 8.33%

### **3. Operational Branches**

Three benefit branches are presently in operation: a Short-Term branch comprising sickness and maternity benefits; a Long-Term branch comprising retirement, invalidity, and survivors' benefits, and an Employment Injury branch comprising medical care, temporary employment injury benefits, and grants or pensions in the event of permanent disability or death due to employment injury. The Long-Term branch also comprises two sub-branches: a Non-Contributory pension scheme and a Self-Employed voluntary Scheme. Medical care for employment injury was provided only in government installations but as of September 1999, private medical facilities have been integrated into the available options, and at present, most of such care is dispensed by the private sector.

If the insured person is over 65 years, the employer pays \$2.60 per week for only employment injury benefits, **a rate that should be adjusted due to the high cost of medical treatment for elderly insured persons.** Investment income is allocated to each branch in proportion to the reserves of each branch at the beginning of the year, whereas other income is distributed equally among the three benefit branches.

New low-income workers are still eligible for a minimum pension of \$47 per week and pay a minimum contribution of \$0.83 per week, an anomaly that should be corrected, establishing a minimum of \$49.75. **The actuarial recommendation to phase out the first two wage bands,** which do not correlate with the minimum legal wage and cause the distortion specified above, should be implemented this year.

#### **4. Actuarial Systems**

**The regulations state that each branch shall be financially autonomous.** The short-term branch and the temporary injury benefit of the employment injury branch operate under the "assessment" or pay-as-you-go (PAYG) system of financing, as relative costs are expected to remain within a narrow range for long periods. Any adverse fluctuations or trends would be covered by a "contingency" reserve.

The reserve is established in the regulations at six months of the average benefit expenditure of the last three years for the short-term branch, and 12 months of the same average for the employment injury branch.

The survivors' and disability pensions of the employment injury branch operate under the "assessment of constituent capitals", under which the present value of pensions awarded is accounted for as the expense in a given year. The "technical" reserve should theoretically be sufficient to meet the actuarial liabilities in respect of pensions in force. This method was recommended in the actuarial valuation carried out before the inception of the scheme and should be retained, due to the distinct nature of short-term obligations and long-term disability pensions.

The long-term branch operates under the "scaled-premium" system of finance, which is a partial capitalization system under which the contribution rate should provide for increasing reserves for a given "period of equilibrium". When expenses exceed contribution income and interest, or before reserves fall below the prescribed minimum, the contribution rate should be adjusted to ensure an adequate level of capitalization.

It is noted that the phased amendments to the financing provisions would have a minimum impact on labour cost to employers, ensuring the medium-term **sustainability** of the scheme, and restoring the **adequacy** of the benefits provisions to more than 100,000 insured persons and their dependents, with a positive impact on 85% of the population of Belize.

#### **5. National Health Insurance Program**

Based on the recommendations of a National Health Sector Reform Committee, the Government amended the Social Security Act to include a new chapter to introduce a National Health Insurance (NHI). The Act was gazetted on 29 July 2000 but the financing regulations have yet to be implemented. On a transition basis, a focalized program at present is funded exclusively by Government transfers, although managed by the SSB. The program operated initially in two geographical areas (Belize City and Southern Belize) and later expanded to selective northern regions.

#### **6. Consolidated Trend of Income and Expenditure**

Accounting standards and policies are outlined in Section 46 (1) of the Act and the report of the external auditors. Also, investment income is recorded on an accrual basis, and income from associates is accounted for by the equity method.

Despite a frozen rate of contributions and the impact of COVID on the labour force and the economy, a 6.2% increase in contribution was recorded in 2021.

The financial performance is better visualized as a percent of insurable earnings, as shown in Table 6. The 9% rate of contributions plus the volatile investment income yielded a total income of 11.17% in 2021. Benefits payments increased due to the maturity of the long-term branch while administrative expenditure remained stable, yielding a total expenditure of 9.11%. The net income declined to 2.06% of insurable earnings, whereas the important “current income” (contributions less expenditure), reverted from a surplus of 0.31% to a deficit of 0.11% of insurable earnings.

**Table 5**  
**Consolidated Statement of Income and Expenditure (ex-NHI Operations)**  
**(Amounts in thousands of BZ\$)**

<b>Income</b>	2021 <sup>4/</sup>	2020	2019	2018
Contributions <sup>1/</sup>	117,475	110,428	100,181	87,043
Investment income	26,445	28,330	16,240	20,453
Other income <sup>2/</sup>	1,866	1,519	2,022	1,263
<b>Total Income</b>	<b>145,786</b>	<b>140,277</b>	<b>118,443</b>	<b>108,759</b>
<b>Benefits</b>				
Short-term branch	17,481	15,342	15,567	14,357
Long-term branch <sup>3/</sup>	72,789	64,434	59,988	54,032
Employment injury branch	6,340	5,316	5,545	5,755
<b>Benefit Expenditure</b>	<b>96,610</b>	<b>85,092</b>	<b>81,100</b>	<b>74,144</b>
Administrative and other expenses	22,309	21,684	23,978	22,415
<b>Total expenditure</b>	<b>118,919</b>	<b>106,776</b>	<b>105,078</b>	<b>96,559</b>
<b>Net income</b>	<b>26,867</b>	<b>33,501</b>	<b>13,365</b>	<b>12,200</b>
<b>Contributions less expenditure</b>	<b>(1,444)</b>	<b>3,652</b>	<b>(4,897)</b>	<b>(9,516)</b>

<sup>1/</sup> Excludes GOB contribution to the NHI Fund and NHI operations.

<sup>2/</sup> Includes interest on rental income, and surcharges for late contributions.

<sup>3/</sup> Includes non-contributory pensions.

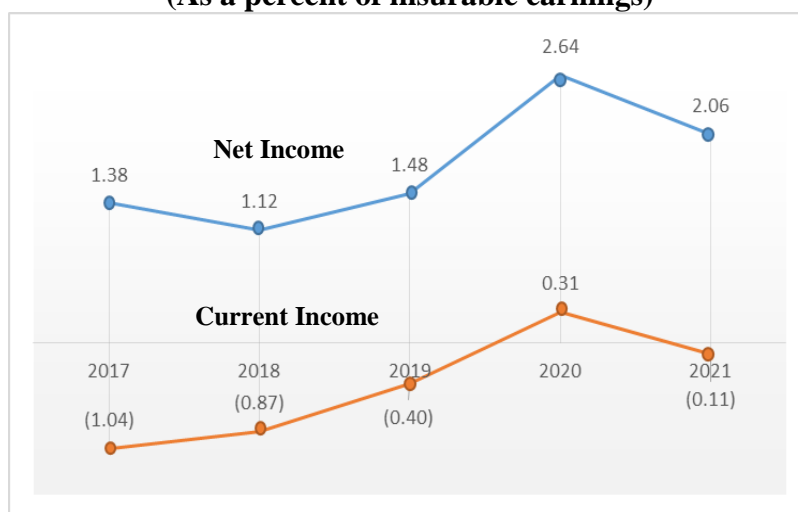
<sup>4/</sup> Pre-audited data

**Table 6**  
**Trend of Consolidated Actuarial Cost**  
**(As a percent of insurable earnings)**

	2021	2020	2019	2018
Contributions	9.00	9.00	8.25	8.00
Investment income	2.03	2.20	1.72	1.88
Other income	0.14	0.13	0.17	0.12
<b>Total income</b>	<b>11.17</b>	<b>11.33</b>	<b>10.14</b>	<b>10.00</b>
Benefit Expenditure	7.40	6.95	6.68	6.81
Administrative Expenditure	1.71	1.74	1.98	2.06
<b>Total expenses</b>	<b>9.11</b>	<b>8.69</b>	<b>8.66</b>	<b>8.87</b>
Net income	2.06	2.64	1.48	1.12
Current income <sup>a/</sup>	(0.11)	0.31	(0.40)	(0.87)

<sup>a/</sup> Contributions less expenditure

**Consolidated Net Income and Current Income**  
**(As a percent of insurable earnings)**



Net income: Total income – Total expenditure

Current income: Contributions – Total expenditure

**7. Other Income**

The rate of other income has averaged 0.14% of insurable earnings in the past three years, including interest on late contributions, and rental income. The income is distributed in equal parts among the three benefit branches, according to the provisions of Section 14(3) of the Financial Regulations. The actuarial rate will be adjusted based on future valuations if higher compliance by employers tends to reduce the penalties for late contributions.

**8. Balance Sheet and Reserves by Branch**

Table 7 shows the balance sheet, with total assets increasing steadily, a process that should continue in 2022 due to the adjustment to the contribution rate and the ceiling or insurable earnings.

**Table 7**  
**Balance Sheet of the Social Security Board (as of 31 December)**  
**(Amounts in thousands of BZ\$)**

	2021 <sup>b/</sup>	2020	2019	2018
Cash and bank balance	105,993	73,379	30,667	35,934
Short-term investments	49,200	20,077	19,842	29,988
Long-term investments <sup>a/</sup>	390,640	421,508	444,717	416,106
Accounts Receivables and others	72,808	71,888	63,420	65,256
<b>Total assets</b>	<b>618,641</b>	<b>586,852</b>	<b>558,646</b>	<b>547,284</b>
Liabilities and deferred income	(14,183)	(13,615)	(12,319)	(13,913)
<b>Net reserves and special funds</b>	<b>604,458</b>	<b>573,237</b>	<b>546,327</b>	<b>533,371</b>

<sup>a/</sup>Includes investments in Associates and loans.

<sup>b/</sup>Unaudited

As to the distribution of reserves by branch, Table 8 shows increases in the three branches with the EI reserves exceeding accepted benchmarks, whereas the Disablement and Death reserves remained relatively stable.

**Table 8**  
**Distribution of Reserves by Branch**  
**(As of 31 December, in thousands of BZ\$)**

Benefit Branch	2021 <sup>b/</sup>	2020	2019	2018
Short-term	22,602	20,567	14,571	11,848
Long-term	456,010	437,534	427,146	424,738
Employment Injury	105,971	98,672	87,756	79,461
Disablement and Death	12,193	11,277	12,397	13,656
<b>Sub-total</b>	<b>596,776</b>	<b>568,050</b>	<b>541,870</b>	<b>529,703</b>
National Health Insurance Fund	7,332	3,781	2,774	2,543
Social Security Development Fund	2,348	2,895	2,614	2,176
Pension reserve	(1,998) <sup>a/</sup>	(1,489)	(931)	(891)
<b>Total</b>	<b>604,458</b>	<b>573,237</b>	<b>546,327</b>	<b>533,371</b>

<sup>a/</sup> Actuarial valuations

<sup>b/</sup> Unaudited

## 9. Reserves as a Percent of GDP

Table 9 shows the consolidated SSB reserves as a percent of GDP, with COVID restraining the GDP increase.

**Table 9**  
**SSB Reserves as Percent of Gross Domestic Product (GDP)**  
**Current Prices**

	2021	2020	2019	2018
	(amounts in millions of BZ\$)			
GDP	3,600 <sup>p/</sup>	3,520 <sup>a/</sup>	3,779	3,742
SSB Reserves	597	573	558	512
As % of GDP	16.6%	16.1%	14.8%	13.7%

<sup>a/</sup> Decline due to COVID-19.

<sup>p/</sup> Preliminary



### 10. Rate of Return on Investments

Table 10 shows the **Rate of Return on Assets (ROA)**. The nominal rate of return declined to 4.63% in 2021, and the real (inflation-adjusted) return to only 1.39%, due to a sudden increase in the inflation rate. Due to the low inflation rate prior to 2021, the real rate of return has exceeded the 3% actuarial assumption utilized for the projection of the long-term branch, but easing inflation from 2021 might have a negative impact on the rate of return in 2022.

**Table 10**  
**Rates of Return on Financial Investments (net assets)**

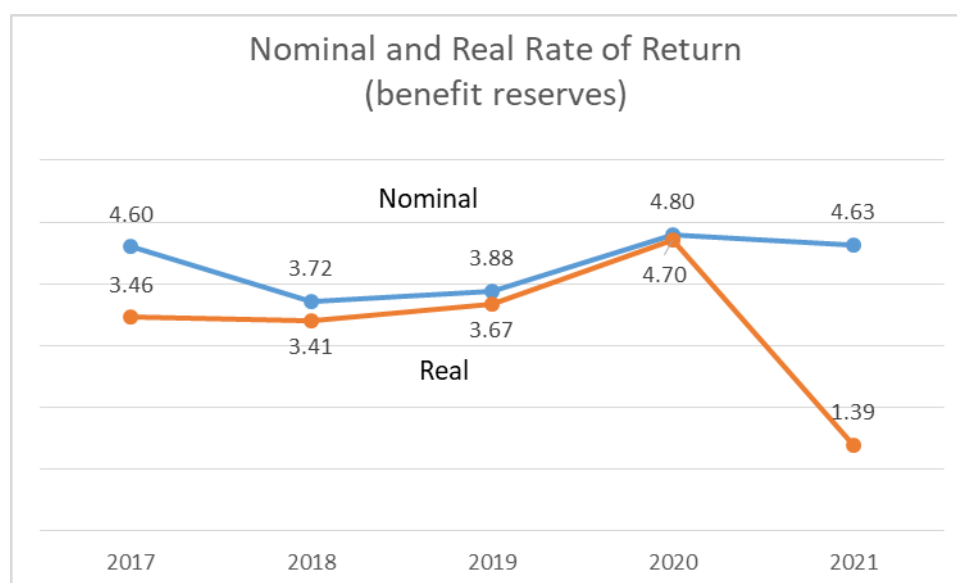
	2021 <sup>a/</sup>	2020	2019	2018
Net investment income (000)	26,445	27,900	20,880	20,443
Nominal rate of return <sup>1/</sup>	4.63%	4.80%	3.88%	3.85%
Annual inflation rate	3.20%	0.10%	0.20%	0.30%
Real return <sup>2/</sup>	1.39%	4.70%	3.67%	3.54%

<sup>1/</sup> According to the formula  $i = 2I / (R_0 + R_1 - I)$ , where I is the return on investments and R is the assets at the beginning and the end of the year, excluding financial expenses.

<sup>2/</sup> According to the formula:  $[(1 + i) / (1 + s)] - 1$  where  $i$  and  $s$  represent the interest rate and the inflation rate.

<sup>a/</sup> Preliminary

Due to the importance of the investment return, a strategy must be developed to ensure a prudent investment policy aimed at maximizing a return compatible with the safety of the capital, the latter being the primary consideration. Actuarial projections, provide a platform for a long-term investment strategy.



## **11. Administrative Expenditure**

Administrative expenditure is distributed among the three benefit branches by a weighted share of the sum of contribution income and benefit of the branch as compared to the Fund as a whole, as shown in table 11.

**Table 11**  
**Distribution of Administrative Expenditure (amounts in thousands of BZ\$)**

	2021	2020	2019	2018
Net operating expenses	22,309	21,392	23,978	20,985
Actuarial cost (total) <sup>1/</sup>	1.71%	1.74%	2.06%	2.06%
<b>Budget Performance Indicators</b>				
as % of contributions	19.0%	19.3%	23.9%	25.7%
as % of contributions + benefits	9.8%	10.9%	13.2%	13.9%

<sup>1/</sup>As percent of insurable earnings

As the ceiling and the rates of contributions have been updated, raising the level of insurable earnings and contributions, **the relative cost of administrative expenditure has declined, but reaching a standard benchmark of 1.50% of insurable earnings requires the implementation of the 10% rate of contributions and the \$520 ceiling, which became effective as from 4 April 2022.** Nominal costs are not comparable with other CARICOM schemes, as the Belize scheme operates several Branch Offices increasing the administrative tasks. The reduction of the “waiting period” for short-term claims has required the workload to process the increase in the number of sickness claims lasting less than three days.

The distribution by benefit branch of the total actuarial costs is shown in Table 12.

**Table 12**  
**Administrative Expenditure by Branch, as a percent of insurable earnings**

	2021	2020	2019	2018
Short-term branch	0.34%	0.38%	0.43%	0.41%
EI branch	0.15%	0.18%	0.20%	0.35%
Long-term branch	1.22%	1.20%	1.35%	1.30%
<b>Total</b>	<b>1.71%</b>	<b>1.76%</b>	<b>1.98%</b>	<b>2.06%</b>

<sup>1/</sup>Includes retroactive salary adjustments and restoration of contributions to the staff pension plan.

## **12. Social Development Fund and Disaster Fund**

Originally 0.15% of insurable earnings of the short-term branch were assigned to a Social Development Account, reducing the effective financing of short-term branch benefits. As of 2009, the financing of those funds has been transferred to the EI branch, as recommended by the actuary. As of 31 December, the accounts had the following balances:

**Table 13**  
**Reserves of the Social Development Funds and Pension Obligations**

	2021	2020	2019	2018
Amounts in thousands of BZ\$				
<b>Social Development Fund</b>	437	841	814	625
<b>Natural Disaster Fund</b>	2,301	2,051	1,801	1,551
<b>Total</b>	2,738	2,892	2,615	2,176
<b>Pension obligations</b>	1,998 <sup>a/</sup>	1,489	931	991

<sup>a/</sup>Actuarial evaluation (2021)

## **13. Consolidated Financial Projection**

The following table shows a preliminary projection of the SSB (all benefit branches), **based on legal provisions in force, to be updated on 31 December 2022 once the full impact of the 10% contribution rate and the \$520 ceiling as of 4 April 2022 can be assessed. It is noted that the Financial Regulations state that each branch shall be financially autonomous, as shown in the following Chapters with different kinds of actuarial reserves.** The projection shows rising reserves up to 2028/29, declining thereafter, assuming a static 10% contribution rate for the rest of the present decade. The projections combine' surpluses by the Short-term and the EI branches, and initial surpluses by the long-term branch followed by a decline in reserves in the second half of the present decade. **Amendments to the regulations would extend the capitalization of reserves for additional years.**

**Table 14**  
**Consolidated Estimate of Income, Expenditure, and Reserves**  
**(Amounts in millions of BZ\$)**

<b>Year</b>	<b>Contributions</b>	<b>Expenditure</b>	<b>Current Income</b>	<b>Investment &amp; Other Income</b>	<b>Surplus/ Deficit</b>	<b>Accumulated Reserves</b>
2021	118	119	(1)	27	26	597
2022	138	129	9	29	38	643
2023	143	140	3	30	33	676
2024	149	153	(4)	32	28	704
2025	155	166	(11)	36	25	729
2026	160	182	(21)	37	16	745
2027	167	198	(31)	38	7	752
2028	174	216	(42)	39	(3)	749
2029	181	235	(54)	40	(14)	735
2030	288	256	(68)	40	(28)	707

**Assumptions (Rates of Increase)**

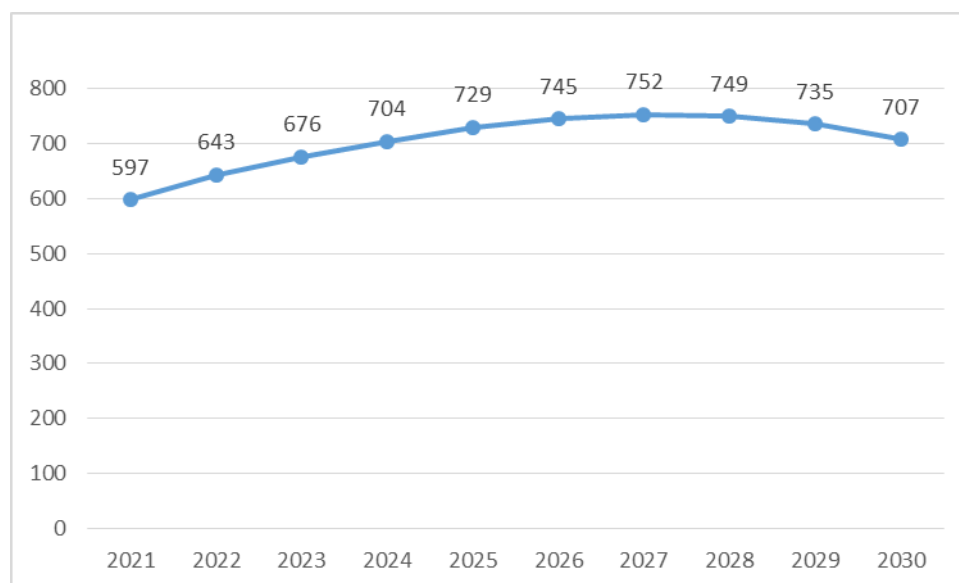
Salaries: 2.6%

Insured Persons: 1.4%

Benefits & Administration: 9%

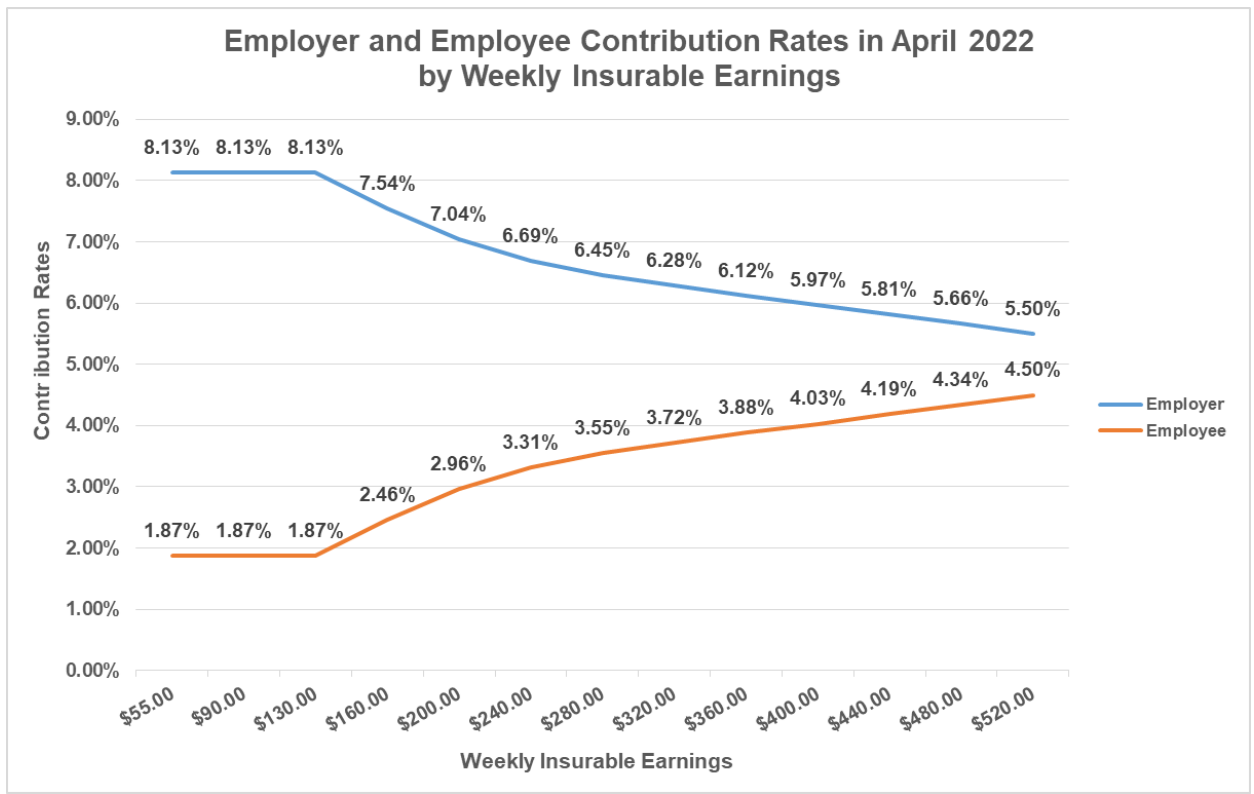
Investment income (ROA): 4% rising to 5% in 2023.

**Projection of Consolidated Reserves**  
**(Millions of BZ\$)**



**Table 15**  
**Rates of Weekly Contributions Payable by Employed Person and Employer:**  
**1 April 2022**  
**(Prepaid by SSB/Research)**

No.	Actual Weekly Earnings	Weekly Insurable Earnings	Amount of Weekly Contributions			Rate of Contributions (%)		
			Employer	Employee	Total	Employer	Employee	Total
1	UNDER \$70.00	\$55.00	\$4.47	\$1.03	\$5.50	8.13%	1.87%	10.00%
2	\$70.00 - \$109.99	\$90.00	\$7.32	\$1.68	\$9.00	8.13%	1.87%	10.00%
3	\$110.00 - \$139.99	\$130.00	\$10.57	\$2.43	\$13.00	8.13%	1.87%	10.00%
4	\$140.00 - \$179.99	\$160.00	\$12.06	\$3.94	\$16.00	7.54%	2.46%	10.00%
5	\$180.00 - \$219.99	\$200.00	\$14.08	\$5.92	\$20.00	7.04%	2.96%	10.00%
6	\$220.00 - \$259.99	\$240.00	\$16.06	\$7.94	\$24.00	6.69%	3.31%	10.00%
7	\$260.00 - \$299.99	\$280.00	\$18.06	\$9.94	\$28.00	6.45%	3.55%	10.00%
8	\$300.00 - \$339.99	\$320.00	\$20.10	\$11.90	\$32.00	6.28%	3.72%	10.00%
9	\$340.00 - \$379.99	\$360.00	\$22.03	\$13.97	\$36.00	6.12%	3.88%	10.00%
10	\$380.00 - \$419.99	\$400.00	\$23.88	\$16.12	\$40.00	5.97%	4.03%	10.00%
11	\$420.00 - \$459.99	\$440.00	\$25.56	\$18.44	\$44.00	5.81%	4.19%	10.00%
12	\$460.00 - \$499.99	\$480.00	\$27.17	\$20.83	\$48.00	5.66%	4.34%	10.00%
13	\$500.00 - OVER	\$520.00	\$28.60	\$23.40	\$52.00	5.50%	4.50%	10.00%



**III**  
**ANALYSIS OF THE SHORT-TERM BENEFIT BRANCH**

**1. Financial Operations**

Table 16 shows the financial operations of the short-term benefit branch. Deficits in the period 2016/18 were reversed due to the legal amendments, as well as the decline in reserves, which rose to \$22.6 million at the close of 2021. Lower morbidity rates of the segment of the insured person with earnings above the \$320 ceiling seem to have ensured a positive financial performance in 2021, despite a lower share of contributions as from 1 January 2021. **The 2022 benefit cost might be distorted due to the late processing of 2021 claims due to the pandemic.**

**Table 16**  
**Income and Expenditure of the Short-Term Benefits Branch**  
**(Amounts in Thousands of Belize Dollars)**

	2021	2020	2019	2018
Contributions	22,320	24,885	22,541	16,756
Investment and other income	1,578	1,258	1,037	936
<b>Total Income</b>	<b>23,898</b>	<b>26,143</b>	<b>23,578</b>	<b>17,692</b>
Maternity allowances	3,738	4,049	4,081	4,013
Sickness benefits	13,029	10,513	10,537	9,348
Maternity grants	714	781	949	996
<b>Total Benefits</b>	<b>17,481</b>	<b>15,342</b>	<b>15,567</b>	<b>14,357</b>
Operational expenses	4,408	4,672	5,275	4,535
<b>Total Expenditure</b>	<b>21,889</b>	<b>20,014</b>	<b>20,842</b>	<b>18,892</b>
<b>Income less Expenditure</b>	<b>2,009</b>	<b>6,129</b>	<b>2,736</b>	<b>(1,200)</b>
<b>Contributions less Expenditure</b>	<b>431</b>	<b>4,871</b>	<b>1,699</b>	<b>(2,136)</b>
<b>Contingency Reserve</b>	<b>22,602</b>	<b>20,567</b>	<b>14,438</b>	<b>11,848</b>

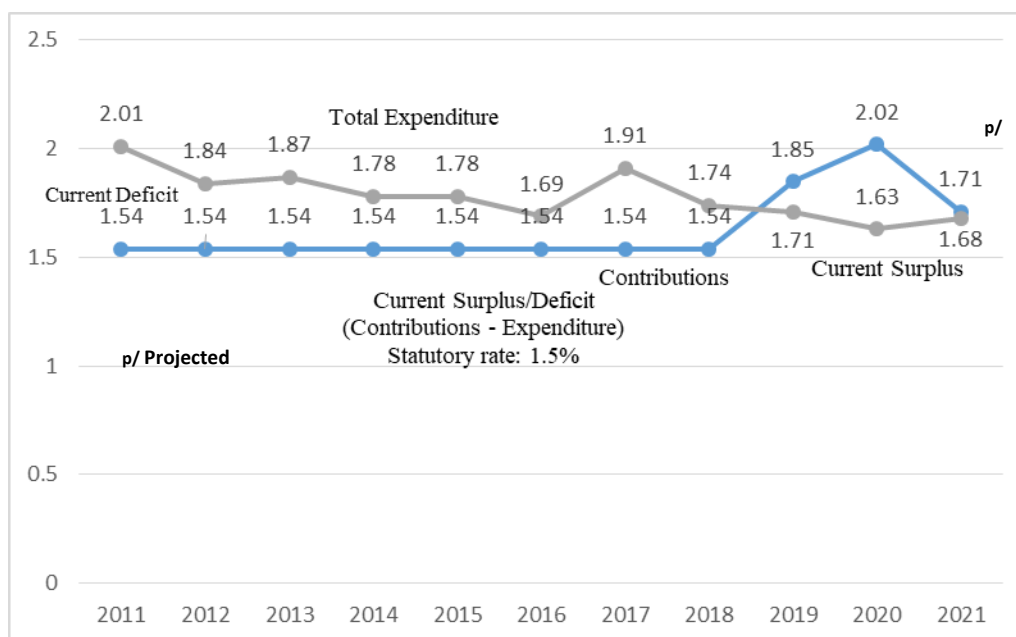
**2. Income and Expenditure as a Percent of Insurable Earnings**

Income and expenditure as a percentage of insurable earnings are shown in Table 17. The average contribution rate allocated to the branch has exceeded the total expenditure, restoring a financial structure in accordance with actuarial requirements, but the current surplus (contributions less expenditure) declined in 2021 due to the reduction in the share of contributions to 19% allocated to the branch. The updated legal amendments as of 1 April 2022 should have a positive incidence in the actuarial performance of the branch, to be assessed at the close of the current year.

**Table 17**  
**Income and Expenditure of the Short-Term Branch as a Percent of Insurable Earnings**

	2021	2020	2019	2018
Contributions	1.710	2.025	1.853	1.540
Investment & other income	0.121	0.102	0.094	0.084
<b>Total Income</b>	<b>1.831</b>	<b>2.127</b>	<b>1.947</b>	<b>1.624</b>
Maternity allowances	0.286	0.329	0.335	0.368
Sickness benefits	0.998	0.856	0.867	0.860
Maternity grants	0.055	0.063	0.078	0.091
<b>Total Benefits</b>	<b>1.339</b>	<b>1.248</b>	<b>1.280</b>	<b>1.319</b>
Operating expenses	0.338	0.380	0.433	0.417
<b>Total Expenditure</b>	<b>1.677</b>	<b>1.628</b>	<b>1.713</b>	<b>1.736</b>
<b>Income less Expenditure</b>	<b>0.154</b>	<b>0.499</b>	<b>0.234</b>	<b>(0.112)</b>
<b>Contributions less Expenditure</b>	<b>0.033</b>	<b>0.397</b>	<b>0.140</b>	<b>(0.196)</b>

**Current Actuarial Operations of the Short-Term Branch**  
**(as % of insurable earnings)**



### **3. Cost and Fund Ratios**

Section 17 (1) of the Financial Regulations set a minimum level of reserves equivalent to six months of the average benefit expenditure in the last three years. As shown in Table 18, at the end of 2021 the reserve stands above the minimum stipulated in the regulations.

**Table 18**  
**Statutory Minimum Level of Reserves (31 December)**

	2021	2020	2019	2018
	(amounts in thousands of BZ\$)			
Minimum statutory reserve <sup>1/</sup>	8,065	7,544	7,526	7,072
Actuarial reserve	22,602	20,567	14,646	11,657
Reserve ratio (actual/minimum)	2.80	2.73	1.95	1.65

<sup>1/</sup> Six months average benefit expenditure in the last three years.

**Trend of Reserve Ratios**  
**(Multiple of Statutory Minimum)**

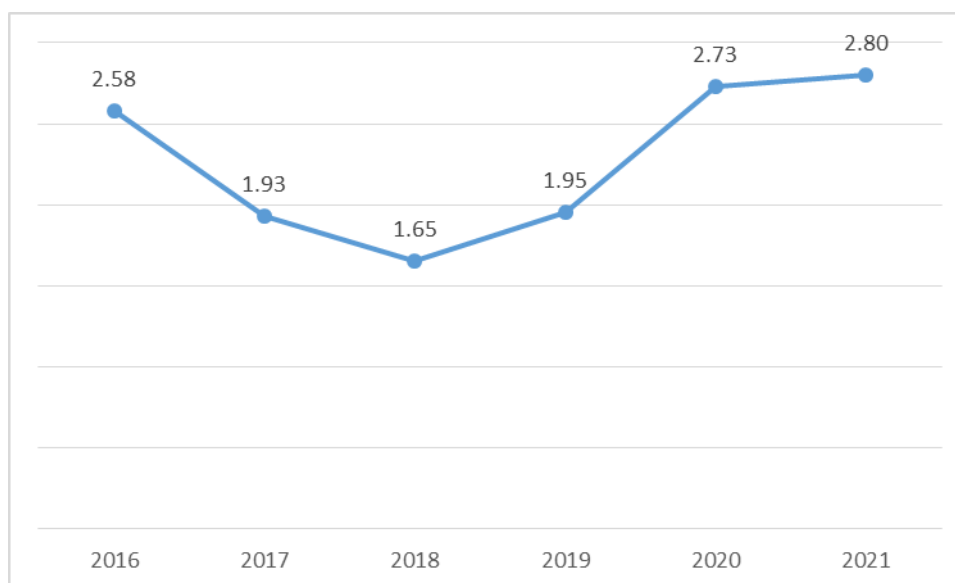


Table 19 shows the cost and funding ratios of the short-term branch, with the following summary:

- a) **An increase in the ratio of benefits is divided by contributions.**
- b) **Cost Ratios (total expenditure divided by contributions which also increased).**
- c) **The Fund Ratio remained stable, above the internationally accepted minimum of six months' total expenditure.**

**Table 19**  
**Cost and Fund Ratios of the Short-Term Branch**

	2021	2020	2019	2018
Benefits ÷ contributions	0.78	0.69	0.69	0.86
Cost Ratio	0.98	0.87	0.92	1.13
Total expenditure ÷ total income	0.92	0.77	0.88	1.07
Fund Ratio <sup>a/</sup>	1.03	1.03	0.70	0.62

<sup>a/</sup> Reserve ÷ total expenditure in the year



#### **4. Frequency and Unit Cost of Sickness Benefit**

The analysis for the period under review shows (Tables 20 and 21):

- a) **The average duration of terminated sickness cases has experienced abnormal fluctuations due to the incidence of COVID-19.**
- b) **The average “morbidity rates” (days paid per insured per year) rose from 2.68 days in 2020 to 3.55 days in 2021.**
- c) **The morbidity rates for females are higher than for males, and in-depth analysis by the Research Section, to determine causalities and cost reduction strategies is recommended.**
- d) **The average duration per new case and the number of cases per issued pensions rose in 2021, due to the incidence of the pandemic.**

**Table 20**  
**Sickness Incidence of Terminate Cases**

	2021	2020	2019	2018
<b>Insured Population</b>				
Males	64,436	63,173	67,089	65,837
Females	42,728	41,310	44,214	42,432
<b>Total Active Insured</b>	<b>107,164</b>	<b>104,483</b>	<b>111,303</b>	<b>108,629</b>
<b>Terminated Cases</b>				
Cases	4,093	2,267	3,474	3,827
Days Paid	53,990*	19,271*	27,464	28,408
Average duration (days)	13.20	8.50	7.90	7.42

\*Distorted/Covid-19

**Table 21**  
**Incidence of Sickness Awarded (New Cases)**

Granted New Cases	2021	2020	2019	2018
No. of Cases	29,029	24,037	34,550	33,204
No. of Days	380,270	280,108	340,191	332,358
Active Insured	107,164	104,483	110,937	108,629
Average days per case	13.1	11.6	9.85	10.01
Average cases per insured	0.27	0.23	0.31	0.30
Average days per insured <sup>a/</sup>	3.55	2.68	3.06	3.06
Cases / Active Insured	0.27	0.23	0.31	0.31

<sup>a/</sup>Morbidity rate

### 5. Actuarial Cost of Sickness Benefit

Table 22 shows the actual actuarial cost of sickness benefits. For the intermediate period 2020/21, a rate of 0.90% of insurable earnings has been assessed, taking into consideration that the anticipated increase in the ceiling would reduce the incidence of sickness claims.

**Table 22**

Average	Actual				
	2022/23	2021	2020	2019	2018
Cases per 100 insured	0.27	0.27	0.23	0.31	0.30
Days per insured (Morbidity rate)	3.20	3.55	2.68	3.06	3.08
Cost per case	\$450	\$448	\$430	\$305	\$282
Cost per insured	\$120	\$122	\$101	\$94	\$86
Actuarial cost <sup>a/</sup>	0.95%	1.00%	0.86%	0.87%	0.86%

<sup>a/</sup>Percent of insurable earnings.

<sup>p/</sup>Projected

### 6. Trend of Maternity Benefits

The rates of maternity allowances were as follows:

**Table 23**

#### Actuarial Cost of Maternity Benefits

	2021	2020	2019	2018
Total contributors	107,164	104,483	110,937	108,629
Female contributors	42,728	41,310	44,055	42,432
Number of allowances paid	1,110	1,233	1,439	1,466
Number of grants paid	2,359	2,583	3,157	3,334
Allowance paid per 100 females	2.60	2.97	3.25	3.42
Grants paid per 100 females	5.52	6.25	7.16	7.85
Allowances by 100 average contributors	1.04	1.18	1.31	1.35
Grants per 100 average contributors	2.20	2.47	2.89	3.07

### 7. Actuarial Cost of Maternity Benefits and Grants

The cost of maternity allowances and grants has remained rather stable in the last three years, (Table 24). For the period 2022/23, the joint average cost was assessed at 0.43% of insurable earnings.

**Table 24**

#### Actuarial Cost of Maternity Benefit

	2022/23 <sup>p/</sup>	2021	2020	2019
Actuarial cost (allowances)	0.30%	0.29%	0.33%	0.34%
Actuarial cost (grants)	0.06%	0.06%	0.06%	0.08%
Total	0.36%	0.35%	0.39%	0.42%

<sup>p/</sup>Projected

The SIB statistical data shows that the fertility rate has started to decline moderately in Belize, and the age structure of the population over 15 years is changing gradually, a trend which is also influenced by migration, with an estimate of 10% of the population over 60 years of age, as compared to 8% in 2002, a ratio that should be monitored periodically.

#### **8. Actual versus Expected Experience and Projected Actuarial Cost**

Table 25 shows a comparison between the actual and expected actuarial cost of the short-term branch benefits, with total expense in 2021 close to the estimate but with a lower surplus due to the adjustment of the contribution rate. For the next two years contributions are assessed as close to expenses, with a marginal surplus due to the incidence of investment and other income, assuming stable morbidity and fertility rates.

##### **a) Projections**

Up to 2030, the scenarios show Fund Ratios in accordance with international benchmarks and statutory provisions, as shown in Table 25.

**Table 25**  
**Actual and Expected Actuarial Cost (as % of insurable earnings)**

Benefit	Projected	Actual	
	2022/2023	2021	2020
Sickness allowance	1.05	1.00	0.86
Maternity allowance	0.30	0.29	0.37
Maternity grant	0.05	0.06	0.06
Total benefits	1.40	1.34	1.25
Administrative expenses	0.40	0.34	0.38
<b>Total</b>	<b>1.80%</b>	<b>1.68</b>	<b>1.63%</b>
Contribution rate	1.90 <sup>b/</sup>	1.71	2.03 <sup>a/</sup>
Current Surplus (deficit)	0.10%	0.03	0.40%
Investment Income	0.12	0.12	0.10
Total Surplus (Deficit)	0.22	0.15	0.50

<sup>a/</sup> To be reduced to 1.90% as of January 2021

<sup>b/</sup> Average 2021/23

## **9. Impact of the Elimination of the Waiting Period and the increase of Replacement Ratio (2024/25)**

Statistics on sickness claims show that approximately 45% lasted from one to three days, accounting for 13.6% of the total days paid and 14.4% of the amounts paid. **Therefore, the elimination of the 3-day waiting period in the legal amendments enacted in 2001 has almost doubled the number of claims processed, generating a significant increase in the administrative workload, while increasing the SSB cost of sickness benefits. Restoration of a waiting period will have no material incidence in the direct cost to employers, but it will reduce the SSB administrative expenses.** The morbidity rate (days paid per insured) should also decrease, due to a high incidence of cases in the agricultural sector, usually before the conclusion of the harvesting season.

**The high replacement ratio of 80% of the average insurable earnings, as compared to 60% to 70% in other countries, also contributes to the high incidence and duration of sickness cases, particularly if the beneficiary can work in the informal sector as a self-employed without being detected by the SSB.**

The restoration of the waiting period (one to three days) and a replacement rate of 70% rather than 80% would reduce the actuarial cost, yielding a steady surplus for the short-term branch.

## **10. Short-Term Branch Actuarial Scenarios (2022-2030)** **Assumptions**

- Insured person: 1.4% p.a.
- Salary scale: 2.6% p.a.
- Expense trend stable rates (Scenarios): 3.5% / 4.0% / 4.5%
- Investments Returns (ROA): 3.5% / 4.0% / 4.5%
- Administrative expenditure: Stable Rates

The basic Fund Ratios yield higher factors than the minimum stipulated in the Financial Regulations, which are based on six months of the average benefit expenditure in the last 3 years, excluding the administrative expenditure.

**Short-Term Branch**  
**Projection of Financial Trends**  
**Cost Trend: 3.5% (Moderate/Basic)**

Year	Insurable Earnings	Rate of Contributions	Total Contributions	Actuarial Cost % of salaries	Total Expenses	Current Surplus/deficit	Interest-Other Income	Annual Surplus/deficit	Reserve at year end	Actuarial Fund Ratio a/
2018	1,088	1.540	16,756	1.74	18,892	(2136)	936	(1,200)	11,848	0.63
2019	1,116	1.856	22,541	1.71	20,841	1700	1,036	2,736	14,438	0.69
2020	1,230	2.025	24,884	1.63	20,014	4870	1,258	6,129	20,567	1.03
2021	1,305	1.710	22,320	1.68	21,890	430	1,578	2,008	22,608	1.03
2022	1,442	1.852	26,000	1.75	22,840	3,160	1,657	4,817	25,343	1.11
2023	1,500	1.90	28,500	1.811	27,169	1,331	1,740	3,071	28,414	1.05
2024	1,560	1.90	29,640	1.875	29,244	396	1,827	2,223	30,636	1.05
2025	1,622	1.90	30,818	1.940	31,471	-653	1,918	1,265	31,902	1.01
2026	1,687	1.90	32,053	2.008	33,878	-1,825	2,014	189	32,091	0.95
2027	1,754	1.90	33,326	2.078	36,456	-3,130	2,115	-1,015	31,075	0.85
2028	1,824	1.90	34,656	2.151	39,238	-4,582	2,220	-2,362	28,714	0.73
2029	1,897	1.90	36,043	2.226	42,237	-6,194	2,331	-3,863	24,851	0.59
2030	1,973	1.90	37,487	2.304	45,466	-7,979	2,448	-5,531	19,320	0.42

a/ Reserve at the end of the year ÷ total expenses

**Short-Term Branch**  
**Projection of Financial Trends**  
**Cost Real: 4% (Medium)**

Year	Insurable Earnings	Rate of Contributions	Total Contributions	Actuarial Cost % of salaries	Total Expenses	Current Surplus/deficit	Interest-Other Income	Annual Surplus/deficit	Reserve at year end	Actuarial Fund Ratio a/
2018	1,088	1.540	16,756	1.74	18,892	(2136)	936	(1,200)	11,848	0.63
2019	1,116	1.856	22,541	1.71	20,841	1700	1,036	2,736	14,438	0.69
2020	1,230	2.025	24,884	1.63	20,014	4870	1,258	6,129	20,567	1.03
2021	1,305	1.710	22,320	1.68	21,890	430	1,578	2,008	22,608	1.03
2022	1,442	1.852	26,000	1.75	22,840	3,160	1,657	4,817	25,343	1.11
2023	1,500	1.90	28,500	1.820	27,300	1,200	1,740	2,940	28,283	1.04
2024	1,560	1.90	29,640	1.893	29,528	112	1,827	1,939	30,221	1.02
2025	1,622	1.90	30,818	1.969	31,929	-1,111	1,918	807	31,029	0.97
2026	1,687	1.90	32,053	2.047	34,537	-2,484	2,014	-470	30,559	0.88
2027	1,754	1.90	33,326	2.129	37,345	-4,019	2,115	-1,904	28,654	0.77
2028	1,824	1.90	34,656	2.214	40,389	-5,733	2,220	-3,513	25,142	0.62
2029	1,897	1.90	36,043	2.303	43,686	-7,643	2,331	-5,312	19,830	0.45
2030	1,973	1.90	37,487	2.395	47,253	-9,766	2,448	-7,318	12,512	0.26

a/ Reserve at the end of the year ÷ total expenses

**Short-Term Branch**  
**Projection of Financial Trends**  
**Cost Real: 5% (High)**

Year	Insurable Earnings	Rate of Contributions	Total Contributions	Actuarial Cost % of salaries	Total Expenses	Current Surplus/ deficit	Interest-Other Income	Annual Surplus/ deficit	Reserve at year end	Actuarial Fund Ratio a/
2018	1,088	1.540	16,756	1.74	18,892	(2136)	936	(1,200)	11,848	0.63
2019	1,116	1.856	22,541	1.71	20,841	1700	1,036	2,736	14,438	0.69
2020	1,230	2.025	24,884	1.63	20,014	4870	1,258	6,129	20,567	1.03
2021	1,305	1.710	22,320	1.68	21,890	430	1,578	2,008	22,608	1.03
2022	1,442	1.852	26,000	1.75	22,840	3,160	1,657	4,817	25,343	1.11
2023	1,500	1.90	28,500	1.829	27,431	1,069	1,740	2,809	28,152	1.03
2024	1,560	1.90	29,640	1.911	29,812	-172	1,827	1,655	29,806	1.00
2025	1,622	1.90	30,818	1.997	32,392	-1,574	1,918	344	30,151	0.93
2026	1,687	1.90	32,053	2.087	35,206	-3,153	2,014	-1,139	29,012	0.82
2027	1,754	1.90	33,326	2.181	38,252	-4,926	2,115	-2,811	26,200	0.68
2028	1,824	1.90	34,656	2.279	41,568	-6,912	2,220	-4,692	21,509	0.52
2029	1,897	1.90	36,043	2.382	45,177	-9,134	2,331	-6,803	14,706	0.33
2030	1,973	1.90	37,487	2.489	49,102	-11,615	2,448	-9,167	5,539	0.11

<sup>a/</sup> Reserve at the end of the year ÷ total expenses

**IV**  
**ANALYSIS OF THE EMPLOYMENT INJURY BRANCH**

**1. Financial Operations of the Employment Injury Branch**

Table 26 shows the financial operations of the employment injury branch, which records as expenses the actuarial present value of disablement and survivor' pensions, in accordance with the actuarial method of "terminal reserves" or "assessment of constituent capital" applied to the scheme. The adjusted contribution rate from 1st January 2021 reduced the current surplus, but the reserve increased at a slower pace than in the preceding year, due to the investment income on the substantial reserve.

**Table 26**  
**Income and Expenditure of the Employment Injury Branch**  
**(Amounts in thousands of BZ\$ Dollars)**

	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Contributions	10,573	13,825	12,523	21,326
Investment and other income	5,167	5,028	3,809	2,948
<b>Total Income</b>	<b>15,740</b>	<b>18,853</b>	<b>16,332</b>	<b>24,275</b>
Disablement grants	410	331	414	484
Employment injury (short-term) <sup>a/</sup>	1,947	2,081	2,436	2,348
Disablement benefits	1,617	608	296	599
Death benefits (APV)	76	40	213	223
Funeral grants	0	4	9	9
<b>Total Benefits</b>	<b>4,050</b>	<b>3,064</b>	<b>3,368</b>	<b>3,663</b>
Operating expenses	1,933	2,212	2,456	3,727
<b>Total Expenditure</b>	<b>5,983</b>	<b>5,276</b>	<b>5,824</b>	<b>7,390</b>
<b>Income less Expenditure</b>	<b>9,757</b>	<b>13,577</b>	<b>10,508</b>	<b>16,885</b>
<b>Contributions less expenditure</b>	<b>4,590</b>	<b>8,549</b>	<b>6,699</b>	<b>13,936</b>
<b>Net Reserve (Short-term benefits)</b>	<b>105,971</b>	<b>98,672</b>	<b>87,586</b>	<b>79,401</b>

<sup>a/</sup> Includes medical expenses

APV: Actuarial present value (new cases)

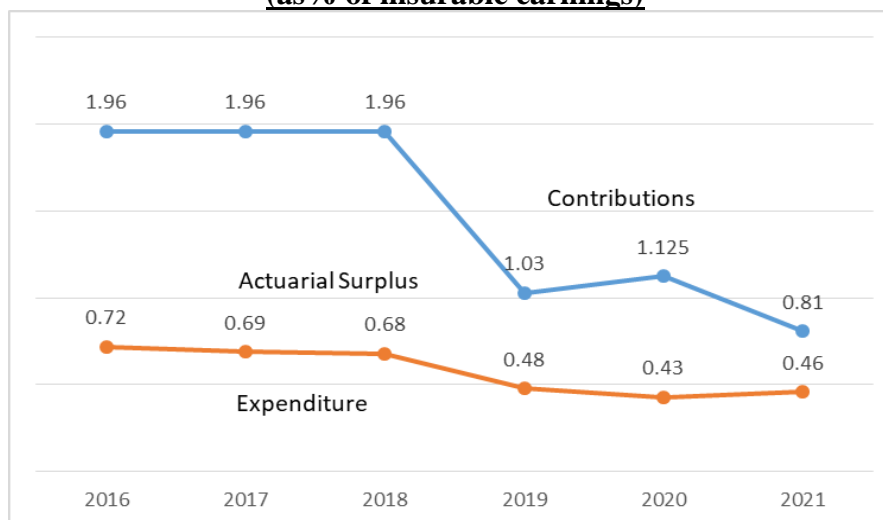
**2. Income and Expenditure as a Percent of Insurable Earnings**

Income and expenditure as a percentage of insurable earnings are shown in table 27. Total benefits in 2021 rose to 0.31% of insurable earnings (0.25% in 2019). The relative rate of contribution, which was reduced by almost one-half in 2019, still yielded a current surplus, due to the incidence of investment incomes on the accumulated reserve.

**Table 27**  
**Income and Expenditure as a Percent of Insurable Earnings (EI Branch)**

	2021	2020	2019	2018
Contributions	0.810	1.125	1.030	1.960
Investment and other income	0.396	0.409	0.313	0.263
<b>Total Income</b>	<b>1.206</b>	<b>1.534</b>	<b>1.343</b>	<b>2.223</b>
Disablement grants	0.031	0.027	0.034	0.044
Employment injury (short-term)	0.149	0.169	0.200	0.216
Disablement benefits (APV)	0.124	0.049	0.024	0.056
Death benefits (APV)	0.006	0.003	0.018	0.020
Funeral grants	0.000	0.001	0.001	0.001
<b>Total Benefits</b>	<b>0.310</b>	<b>0.249</b>	<b>0.277</b>	<b>0.337</b>
Operating expenses	0.148	0.180	0.202	0.342
<b>Total Expenditure</b>	<b>0.458</b>	<b>0.429</b>	<b>0.479</b>	<b>0.677</b>
<b>Income less Expenditure</b>	<b>0.748</b>	<b>1.105</b>	<b>0.864</b>	<b>1.546</b>
<b>Contributions less expenditure</b>	<b>0.352</b>	<b>0.696</b>	<b>0.551</b>	<b>1.283</b>

**Actuarial Cost of EI Branch**  
**(as% of insurable earnings)**



### 3. Statutory and Actual Reserves

Reserves of employment injury benefits have evolved as shown in table 28. The minimum short-term reserve of the branch, as provided for in Section 17(2) of the Financial Regulations, should be equivalent to the average benefit expenditure in the preceding three years. **Therefore, at year-end, the reserve is 30.3 times higher than the stipulated minimum, a clear indication that the branch reserves exceed the standard parameters, which are expected to remain frozen in 2022 and start decreasing thereafter as higher claims offset the reduced rate of contributions as from 2021.**



**Table 28**  
**Employment Injury Benefit Reserve**  
**(Amounts in thousands of BZ\$)**

31 December	Reserve	Statutory Minimum	Multiple Minimum Reserve
2021	105,971	3,494	30.3
2020	98,672	3,365	29.3
2019	86,804	3,447	25.2
2018	78,266	3,595	21.7
2017	64,330	3,736	17.2

#### **4. Incidence of Short-Term Injury Benefits**

Table 29 shows the incidence and cost ratios of employment injury benefits.

**Table 29**  
**Incidence of Employment Injury Short-Term Benefit**

	2020 <sup>b/</sup>	2019	2018	2017
Cases paid	1,250	1,492	1,745	1,789
Amount paid (in thousands)	\$2,054	\$2,436	\$2,348	\$2,468
Active insured persons	104,483	110,937	108,629	104,683
Cases per 100 insured	1.20	1.34	1.61	1.70
Cost per case	\$1,640	\$1,632	\$1,344	\$1,385
Cost per insured	\$19.66	\$21.96	\$21.61	\$23.64
<b>Actuarial cost (% of salaries)</b>	<b>0.169</b>	<b>0.200</b>	<b>0.216</b>	<b>0.240</b>

<sup>a/</sup>Financial Statement

<sup>b/</sup>Preliminary

The emerging trend shows that the anticipated incidence has been slightly lower than the actuarial expectations, as shown in Table 29. For the next two years, the actuarial cost estimate is assessed at 0.22%, equal to the average of the preceding three years.

#### **5. Financial Trend of the Disablement & Death Benefits**

The sub-branch operates on the actuarial funding method of “assessment of constituent capitals” or terminal reserves. Each year the actuarial present value (APV) of the cases occurring during the year is credited to the reserve of the sub-branch, jointly with the investment income earned by the reserve. The updated cumulative reserve should be sufficient to cover the cost of pensions in payment at the close of the year.

Table 30 shows the income, expenditure, reserve, and the Fund Ratio of the Disablement and Death benefits. The Disablement and Death Reserve is different from the PAYG reserve of short-term benefits, representing the amounts required to pay pensions in payment until the cessation of payment due to death, recovery, or termination of survivors' benefits, while the short-term branch “contingency reserve” is designed to cover adverse deviations in the experience.

**Table 30**  
**Income, Expenditure, and Reserves of Disablement & Death Pensions**

	2021	2020	2019	2018
APV disablement benefits	1,617,219	608,569	296,056	599,349
APV death benefits	75,821	40,138	212,662	222,682
<b>Total APV</b>	<b>1,693,040</b>	<b>648,707</b>	<b>508,718</b>	<b>822,031</b>
Net investment income	567,080	637,389	538,354	566,959
<b>Total income</b>	<b>2,260,120</b>	<b>1,286,096</b>	<b>1,047,072</b>	<b>1,388,991</b>
<u>Expenditure</u>				
Disablement pension	1,400,750	1,603,175	1,547,487	1,446,074
Death benefits	888,774	649,024	629,253	646,540
<b>Total benefits</b>	<b>2,289,524</b>	<b>2,252,199</b>	<b>2,176,740</b>	<b>2,092,614</b>
Excess of income over expenditures	(29,404)	(966,103)	(1,129,668)	(703,623)
Actuarial Reserve	12,192,891	11,277,345	12,305,656	13,655,200
Fund Ratio	5.32	5.01	5.65	6.52

<sup>a/</sup> APV of new cases ÷ insurable earnings

<sup>b/</sup> Reduction due to lower disablement claims in 2019.

## 6. Incidence of Disablement and Death Benefits

Table 31 shows the rates of accidents per 1000 insured persons due to EI accidents. The incidence of accidents shows significant volatility, according to preliminary data, including cases of permanent incapacity which account for the majority of cases awarded.

**Table 31**  
**Number of Accidents by Consequence and Rates per 1000 insured**

Year	Number of Cases			Rates for 1000 insured		
	Medical Care only	Permanent incapacity	Deaths	Medical care only	Permanent incapacity	Death
2021	1,048	207	1	9.8	1.93	0.00
2020	977	231	3	9.4	2.4	0.03
2019	1,492	197	8	13.4	1.78	0.07
2018	1,745	226	13	16.2	2.09	0.15
2017	1,789	165	12	17.1	1.59	0.12

## 7. Trend of Pensions in Payment

The statistics shown in Table 32 indicate a stable trend of pensions in payment, with new pensions awarded offset by terminations due to death and other causes, indicative of a significant number of retirees that opt to return to active employment.

**Table 32**  
**EI Pensions in Course of Payment**

	2021	2020	2019	2018
<u>Disablement Pensions</u>				
Number	512	508	489	478
Monthly amount	126,999	123,625	117,824	115,123
<u>Widows</u>				
Number	85	90	87	86
Monthly amount	32,987	34,122	33,342	32,045
<u>Orphans</u>				
Number	118	135	151	164
Monthly amount	19,801	22,003	24,602	25,886

## 8. Expected Cost of the EI Branch

The analysis shows the incidence of the allocation of contributions on the actuarial surplus, reducing the capitalization of reserves and eventually freezing the surplus reserves in the second half of this decade.

**Table 33**  
**Actuarial Cost of the EI Branch (excluding Investment Income)**  
**(as % of insurable earnings)**

Benefit	2022/23 <sup>p/</sup>	2021	2020
Employment Injury	0.30	0.15	0.17
Disablement & Death Benefits (APV) <sup>b/</sup>	0.25	0.13	0.05
Grants & Medical	0.05	0.03	0.03
<b>Total Benefits</b>	<b>0.60</b>	<b>0.31</b>	<b>0.25</b>
Administrative Expenditure	0.20	0.15	0.18
<b>Total Expenditure</b>	<b>(0.80)</b>	<b>(0.46)</b>	<b>(0.43)</b>
<b>Contributions</b>	<b>(0.89)</b>	<b>0.81</b>	<b>1.13</b>
<b>Current Surplus (deficit)<sup>a/</sup></b>	<b>0.09</b>	<b>0.35</b>	<b>0.70</b>
<b>Investment &amp; Other Income</b>	<b>0.40</b>	<b>0.40</b>	<b>0.41</b>
<b>Total Surplus</b>	<b>0.49</b>	<b>0.75</b>	<b>1.11</b>

<sup>a/</sup>Contributions less Expenditure

<sup>b/</sup>Assumes APV factors updated in 2023

<sup>p/</sup>Projected

## **9. Funded Status of the Disablement and Death Reserve**

A direct valuation of the level of sufficiency of the Disablement and Death Reserve was performed at the former triennial valuations. The assessment was carried out according to the following bases:

Mortality Table: GAM-83. Widely used in the region for group annuities, with mortality rates compatible with the Central American experience.

Mortality of Disabled Lives:  $a_x + 4$  ( $x$  = age).

Remarriage Rates (Widows): Non-material. Reduction factor (widows): 0.90 (remarriage and contingent suspension at age 50).

Basic Discount Rate: 5% (ad hoc pension adjustments).

Actuarial Reserve: \$11.277 million on 31 December 2020, extrapolated at \$12.193 million on 31 December 2021.

The analysis of the Disablement and Death Reserve also shows an actuarial deficit, as shown in Table 34, but the balance of the joint programs still yields an actuarial surplus of \$84 million on 31 December 2021.

Due to the substantial surplus of the EI branch, the difference can be met by an internal transfer within the branch, although due to the fluctuation of the incidence of EI disability and death, and the long-term time frame involved, such a transfer is not required at present. **The APV updated actuarial factors shown below should contribute to a gradual reduction of the actuarial deficit.**

Table 35 shows a consolidated assessment of the EI branch. The surplus reserves of short-term benefits, assessed at 29 times the statutory minimum, compensates by a wide margin the deficit of the Disablement and Death Obligations, still yielding a consolidated surplus of \$76.078 million on 31 December 2020.

**Table 34**  
**Funded Status of the EI/Disablement & Death Reserve (on 31 December)**  
**(Amounts in millions of BZ\$)**

	2021	2020	2019	2018
Present value of pensions in payments	31,007 <sup>P/</sup>	30,506	30,967	31,540
Reserve	(12,193)	(11,277)	(12,306)	(13,655)
<b>Net Liability</b>	<b>18,814</b>	<b>19,229</b>	<b>18,661</b>	<b>17,885</b>

<sup>P/</sup>Projected

**Table 35**  
**Consolidated Actuarial Assessment of the Employment Injury Brand**  
**(at 31 December)**

	2021 (Extrapolated)			2020 (Triennial Valuation)		
	(Amounts in millions of BZ\$ )					
	Reserve	Actuarial Liabilities	Surplus (Deficit)	Reserve	Actuarial Liabilities	Surplus (Deficit)
Short-term benefits <sup>a/</sup>	105,971	(3,491)	102,480	98,672	(3,365)	95,307
Disablement death benefits <sup>b/</sup>	12,193	(31,007)	(18,814)	11,277	(30,506)	(19,229)
<b>Total</b>	<b>118,164</b>	<b>(34,498)</b>	<b>83,666</b>	<b>109,949</b>	<b>(33,871)</b>	<b>76,078</b>

<sup>a/</sup> Statutory reserve (PAYG basis)

<sup>b/</sup> Actuarial reserve (present value of pensions in payment)

#### **10. Adjustment of the Actuarial Factors to determine the Disability and Survivors Pensions. Employment Injury Branch**

The analysis shows that the factors set forth in the First Schedule (Reg. 20), Tables 36 and 37 of the Disablement and Death Benefit, are outdated, as the mortality of pensioners has improved gradually since the inception of the scheme, yielding an actuarial present value (APV) lower than required to cover the cost of EI disability and death pensions. Practically, all the disability cases occur among males, while the majority of survivors are females.

The mortality assumptions of **disabled lives are estimated at the attained age plus three years but no age adjustment is required for adult survivors.**

The mortality factors have been derived from the GAM-83 (USA) mortality table, but for children, the mortality assumption has been assumed as zero with cost factors derived from temporary financial annuities rather than actuarial annuities. No automatic cost-of-living assumptions are stipulate yet in the regulations, with 3% discount factors applied in the determination of the annuities.

#### **Actuarial Bases:**

##### **A. Disabilities**

- Mortality Table: GAM-83
- Discount Rate: 3%
- Disabled mortality: Age + 3 years
- Continuous annuities:  $(\bar{a}_x = a_x - \frac{1}{2})$
- 52 weeks per year

##### **B. Children**

- Financial temporary annuities (zero mortality assumptions)

**First Schedule (Regulation 20)**  
**Disablement and Death Benefits**  
**To be updated on 1 January 2023**

Factors for calculating the actuarial present values applicable to disablement pension for widows, widowers, and parents apply factors less than 3 years, with a minimum of 20 years.

**Table 36**

<b>Factor (x weekly rate of benefit) Disablement Benefit</b>		
<b>Age Attained</b>	<b>Males</b>	<b>Females</b>
20 or less	1384	1449
21	1373	1440
22	1362	1431
23	1351	1421
24	1339	1411
25	1327	1401
26	1315	1391
27	1303	1380
28	1290	1370
29	1277	1358
30	1263	1347
31	1249	1335
32	1235	1323
33	1220	1310
34	1205	1298
35	1189	1284
36	1174	1271
37	1157	1257
38	1141	1243
39	1124	1228
40	1106	1213
41	1089	1198
42	1071	1182
43	1053	1166
44	1034	1150
45	1015	1133
46	996	1116
47	977	1098
48	957	1080
49	937	1061
50	917	1043

51	896	1023
52	876	1004
53	854	984
54	833	963
55	811	942
56	789	921
57	767	899
58	744	877
59	721	855
60	698	832
61	675	809
62	651	786
63	628	762
64	606	738
65	583	714
66	561	690
67	539	665
68	517	641
69	496	616
70	475	592
71	454	568
72	433	544
73	413	521
74	393	498
75	374	475
76	356	453
77	338	432
78	321	411
79	305	390
80	289	370
81	274	350
82	260	331
83	247	311
84	233	292
85	221	274
86	208	255
87	196	236
88	182	218
89	169	200
90	156	181
91	142	161
92	127	141
93	110	119
94	89	94
95	62	64
96	26	26

## DEATH BENEFIT

Factors for calculating the actuarial present values applicable to pensions to children.

**Table 37**

Age attained during the year	Factor by which weekly rate of benefits is to be multiplied
0	787.60
1	759.23
2	730.01
3	699.91
4	668.91
5	636.97
6	604.08
7	570.21
8	535.31
9	499.37
10	462.35
11	424.22
12	384.95
13	344.50
14	302.83
15	259.92
16	215.72
17	170.19
18	123.29
19	74.99
20	25.24



V  
**ACTUARIAL ANALYSIS OF THE LONG-TERM BRANCH**

**1. Actuarial System**

For the long-term branch, the "scaled-premium" system of finance is being applied. Under this system, the contribution rate is fixed at such a level that the income from contributions and investment is expected to exceed the expenditure on benefits and administration for a period of years referred to as the "period of equilibrium". Throughout the period of equilibrium, the annual excess of income over expenditure is accumulated in a reserve that increases steadily but declines thereafter if there are no adjustments to the contribution rate. A primary objective of the actuarial review is to ascertain the adequacy of the statutory contribution rate in accordance with the system of finance and to quantify the projected level of reserves derived from the financial development of the branch.

**2. Financial Operations**

The comparative data in Table 38 shows the trend of benefit and administrative expenditure in the period under review. The analysis shows the impact of the enhanced contribution of 2019, reversing a loss in 2018 into a surplus from 2019, and a current deficit (contributions less expenditure) continued to decline and is expected to yield a surplus in 2022/23 due to the completion of the first tranche of legal amendments as of 1 April 2022.

The increase in benefits was focused basically on retirement benefits, due to an acceleration in the number of early retirement pensions at ages 60 to 64 years, including the self-employed.

COVID-19 caused a negative impact on contributions, but the medium-term trend (2022/25) is expected to show a positive performance, due to the impact of the legal amendments. **Therefore, more precise financial trends should be quantified at the close of 2022.**

**Table 38**  
**Income and Expenditure of the Long-Term Branch**  
**(Amounts in thousands of Belize Dollars)**

	2021	2020	2019	2018
Contributions	84,582	71,889	65,117	48,962
Investment and other income	20,999	22,496	17,416	17,264
<b>Total Income</b>	<b>105,581</b>	<b>94,385</b>	<b>82,533</b>	<b>66,226</b>
Retirement benefits	56,011	49,385	44,997	39,405
Invalidity benefits	4,374	4,058	4,004	3,631
Survivors' benefits	9,148	8,095	7,900	7,627
Funeral Grants	1,941	1,371	1,333	1,361
Non-contributory pensions	1,314	1,525	1,754	2,009
<b>Total Benefits</b>	<b>72,788</b>	<b>64,434</b>	<b>59,988</b>	<b>54,033</b>
<b>Operating Expenses</b>	<b>15,969</b>	<b>14,800</b>	<b>16,314</b>	<b>14,031</b>
<b>Total Expenditure</b>	<b>88,757</b>	<b>79,234</b>	<b>76,302</b>	<b>68,064</b>
<b>Contributions less expenditure (current deficit)</b>	<b>(4,175)</b>	<b>(7,345)</b>	<b>(11,185)</b>	<b>(19,102)</b>
<b>Income less Expenditure</b>	<b>16,824</b>	<b>15,151</b>	<b>6,231</b>	<b>(1,837)</b>
<b>Actuarial Reserve</b>	<b>456,010</b>	<b>437,533</b>	<b>426,238</b>	<b>424,737</b>
<b>Fund Ratio <sup>a/</sup></b>	<b>5.1</b>	<b>5.5</b>	<b>5.6</b>	<b>6.2</b>

<sup>a/</sup> Reserves ÷ total expenditure

### 3. Income and Expenditure as a Percent of Insurable Earnings

The “current deficit” (contributions less expenditure) decreased to 0.32% of insurable earnings (0.60 in 2020) and should yield a surplus in 2023. **However, the investment income on the substantial reserve should be the main contributor to the financial performance of the long-term branch for the rest of the present decade.**

**Table 39**  
**Income and Expenditure as a Percent of Insurable Earnings**

	2021	2020	2019	2018
Contributions	6.48	5.85	5.35	4.50
Investment & other income	1.61	1.83	1.43	1.54
<b>Total Income</b>	<b>8.09</b>	<b>7.68</b>	<b>6.78</b>	<b>6.04</b>
Retirement benefits	4.29	4.02	3.70	3.62
Invalidity benefits	0.34	0.33	0.33	0.33
Survivors' benefits	0.70	0.66	0.65	0.70
Funeral Grants	0.15	0.11	0.11	0.12
Non-contributory pensions	0.10	0.12	0.14	0.19
<b>Total Benefits<sup>a/</sup></b>	<b>5.58</b>	<b>5.24</b>	<b>4.93</b>	<b>4.96</b>
Operating Expenses	1.22	1.20	1.34	1.29
<b>Total Expenditure</b>	<b>6.80</b>	<b>6.44</b>	<b>6.27</b>	<b>6.25</b>
<b>Income less Expenditure</b>	<b>1.29</b>	<b>1.23</b>	<b>0.51</b>	<b>(0.21)</b>
<b>Current surplus (deficit)<sup>b/</sup></b>	<b>(0.32)</b>	<b>(0.60)</b>	<b>(0.92)</b>	<b>(1.75)</b>

<sup>a/</sup> PAYG rate (pay-as-you-go)

<sup>b/</sup> Contributions less expenditure

#### 4. **Trend of Insured Pensions and Earnings**

The trend of insured pensions and contributions is shown in Table 40. The data shows the impact of the legal amendments on the income from contributions, but the impact of the pandemic had a negative incidence in 2020 and 2021.

**Table 40**  
**Trend of Insured Persons and Earnings**  
**(Amounts in thousands of BZ\$)**

	2021 <sup>a/</sup>	2020	2019	2018
Insured persons	107,164	104,483	110,937	108,269
Contributions	117,475	110,494	100,181	87,043
<b><u>Rate of increase</u></b>				
Contributions	6.3%	10.3%	15.1%	5.4%
Insured persons	2.6%	(5.8)%	2.5%	3.4%

<sup>a/</sup>Data impacted by COVID-19

#### 5. **Distribution of Active Insured by Wage-Band and Age-Group**

**Table 41**

	Wage-Band	Age-Group	Percent
\$110 and less	11	15/34	55
\$110/299	46	35/54	38
\$300 and over	43	55 and over	7
Total	100%	-	100%

#### 6. **Mortality Differentials Rates (Active Insured)**

The analysis shows the following gross mortality rates of active insured, by sex, with an incidence for females equivalent to one-fifth of the rates for males, indicative of the incidence of mortality among males due to crime-related issues.

**Table 42**  
**Differential Mortality Rates by Sex**

	2021/18	2021	2020	2019	2018
Males	0.31	0.39	0.29	0.28	0.27
Females	0.06	0.05	0.05	0.07	0.06
Both sexes	0.21	0.26	0.19	0.20	0.19

**Table 43**  
**Sectorial Distribution of Active Insured (2021)**

Sector	Number	Contribution
Private	80.2	70.0
Public	16.6	26.4
Other	3.2	3.6
Total	100%	100%

Table 43 shows the sectorial distribution of insured provision in 2021, with the private sector accounting for 80.2% of active insured and 70% of contributions, while the public sector accounting for 16.6% of active insured and 26.4% of contributions, indicative of higher average earnings and higher density of employment in the private sector.

## 7. Trend of Pensions in Payment

Table 44 shows the trend of pensions in payment, with a steady increase in all the categories of pensioners, a normal trend reflecting the gradual demographic maturity of the long-term branch.

**Table 44**  
**Number of Pensions in Payment (year-end)**

	Retirement	Invalidity	Survivors	Total	Rate of Increase (%)
2015	5,309	413	2,596	8,236	7.2
2016	5,827	449	2,807	8,967	8.8
2017	6,446	480	2,931	9,632	7.4
2018	6,957	500	3,040	10,497	8.9
2019	7,685	532	3,030	11,247	7.2
2020	8,290	570	3,060	11,920	6.0
2021	8,982	603	3,376 <sup>a/</sup>	12,961	8.7

<sup>a/</sup>52% widows / 48% others

The low rate of increase in the number of invalidity and orphans' pensions is due, in the first instance, to high termination rates due to the transfer of invalidity persons to retirement pensions from 60 years of age, a process that has been suspended as from 2019, and also due to terminations, as many pensioners resume work and the pension is then suspended, or by reaching the maximum qualifying age in the case of orphans.

## 8. Invalidity Pensions and Grants

Table 45 shows the incidence of invalidity pensions awarded and of invalidity grants.

**Table 45**  
**Number and Frequency of Invalidity Pensions Awarded**

	Number awarded	Incidence Rate (per thousand)
2021	76	0.71
2020	79	0.76
2019	61	0.55
2018	52	0.48
2017	58	0.54

### 9. Trend of Demographic Ratios (Pensioners ÷ active insured)

Table 46 shows the trend of demographic ratios, indicative of the gradual aging of the long-term branch.

**Table 46**  
**Trend of Demographic Ratios**  
**(On 31 December)**

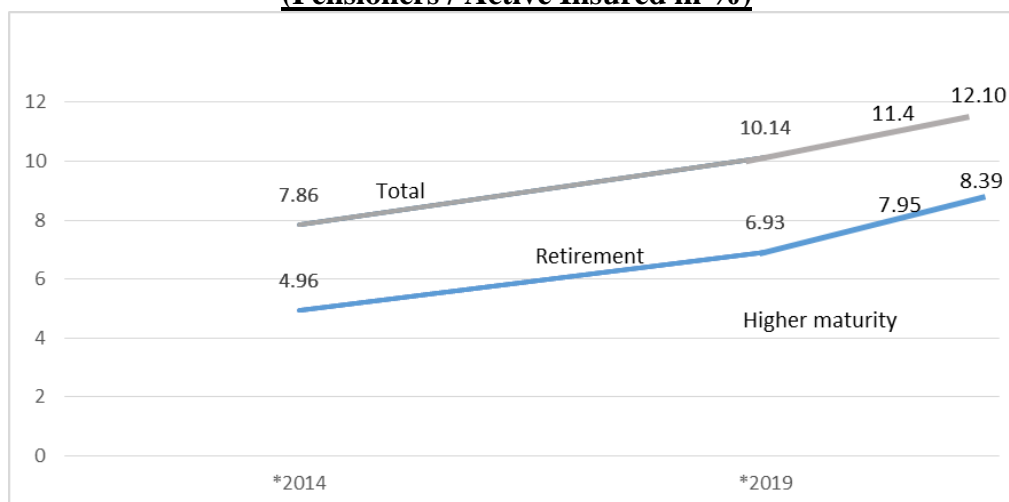
	2021	2020	2018	2016	2014
Demographic Ratios (Pensioners ÷ active contributors, in %)					
Retirement <sup>a/</sup>	8.39	7.93	6.44	5.62	4.96
Invalidity <sup>b/</sup>	0.56	0.55	0.46	0.37	0.37
Survivors <sup>c/</sup>	3.15	2.93	2.81	2.71	2.53
<b>Total</b>	<b>12.10</b>	<b>11.41</b>	<b>9.71</b>	<b>8.70</b>	<b>7.86</b>

<sup>a/</sup>Excludes NC pensions

<sup>b/</sup>Pensions transferred to an old-age category at age 60, up to 2018 only.

<sup>c/</sup>Includes orphans

### Gradual Ageing of the Long-Term Branch Demographic Ratios (Pensioners / Active Insured in %)



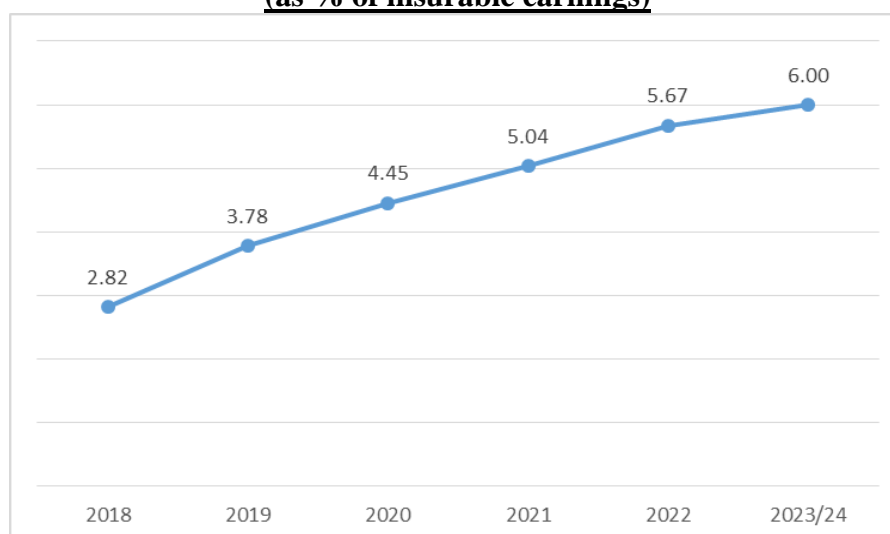
### 10. Distribution of Statutory Contributions

Deducting from the new gross share of contributions allocated to the long-term branch the estimated costs of grants, non-contributory pensions, and administrative expenditures, yields a net rate of contributions to cover the cost of retirement, invalidity, and survivor's pensions of 5.67% in 2021 and 6.0% in 2022, the latter more than double the net share in 2018.

**Table 47**  
**Distribution of the Statutory Contribution Rate as a percent of Insurable Earnings**  
**(Excluding investment income)**

	2023/24	2022	2021 <sup>P/</sup>	2020	2019	2018
Gross rate	7.20%	7.02%	6.48%	5.85%	5.35%	4.50%
Other income	0.02	0.02	0.03	0.04	0.02	0.02
<b>Total contributions</b>	<b>7.22</b>	<b>7.04</b>	<b>6.51</b>	<b>5.89</b>	<b>5.37</b>	<b>4.52</b>
Administrative expenditure	(1.03)	(1.15)	(1.22)	(1.22)	(1.34)	(1.29)
Grants	(0.10)	(0.12)	(0.15)	(0.12)	(0.11)	(0.12)
Non-contributory pensions	(0.09)	(0.10)	(0.11)	(0.12)	(0.14)	(0.19)
<b>Net rate for contributory pension benefits</b>	<b>6.00%</b>	<b>5.67%</b>	<b>5.04%</b>	<b>4.45%</b>	<b>3.78%</b>	<b>2.82%</b>

**Projected Net Contributions allocated for contributory pensions**  
**(as % of insurable earnings)**



#### **11. Macro-Economic Trends**

The economy is characterized by a highly seasonal pattern of employment, and a significant proportion of insured persons spend part of the year either unemployed or in self-employed activities, particularly in the agricultural sector.

The total population of Belize has increased in the last decade at a pace similar to the high variant projections of the Statistical Institute of Belize (SIB). Such a rate of population increase is expected to decline in the future to 1.2% this decade. Family planning and higher educational standards should slow the intrinsic rate of fertility. From an actuarial standpoint, high fertility rates contribute to the delay in the aging of the population and, thus, the demographic ratio of pensioners over active contributors. Nevertheless, the age structure of the population has experienced a gradual change, with a demographic ratio (population 60 years and over divided by the population 15 to 60 years) that should increase steadily.

## 12. Demographic Trends and Ultimate PAYG-Cost

The ratio of pensioners to active insured persons continues to increase, an indicator of the demographic maturity of the long-term branch. Longer-term, the demographic ratio will increase steadily, a normal pattern of a maturing pension scheme, as the rate of increase in pensions in force is higher than the rate of increase of active insured persons.

The ultimate PAYG cost of a stable population can be derived by the formula:  $PAYG = DR \times \dot{P}$ , where DR is the ultimate demographic ratio and  $\dot{P}$  the average pension. Assuming a DR of 40% (1 pensioner by 2.5 active contributors), and an average pension of 50% of salary, the ultimate PAYG would be equivalent to 20% of salary. This is a theoretical estimate that would take place in approximately 60 years and be assessed in the triennial actuarial valuations.

## 13. Actuarial Projections (2022/30)

A medium-term projection up to 2030 is shown in Table 48, but due to the postponement of the 10% rate and \$520 ceiling as of 4 April 2022, an updated projection on 31 December 2022 should provide a more precise estimate of actuarial cost, once the real incidence of the amendments and the investment trend becomes available.

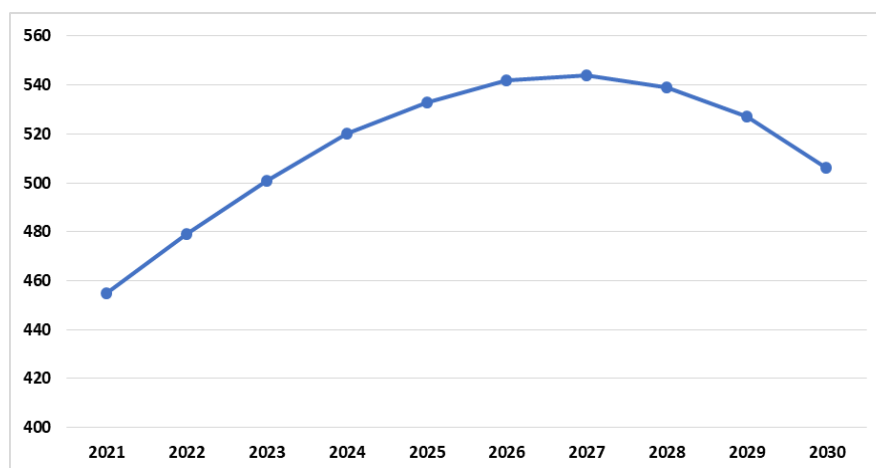
For comparative purposes, the long-term projections carried out at the 31 December 2020 triennial valuation are shown in Table 49. The joint incidence of the 2022 amendments, the impact of the pandemic, and the emerging investment returns show a lower level of capitalization of reserves than in the preceding year.

**Table 48**  
**Updated Medium-Term Projections**

Year	C	E	CI	I	S	R
2021	85	89	(4)	19	15	455
2022	99	98	1	23	24	479
2023	104	107	(3)	25	22	501
2024	108	116	(8)	27	19	520
2025	112	127	(15)	28	13	533
2026	117	138	(21)	30	9	542
2027	122	151	(29)	31	2	544
2028	126	164	(38)	33	(5)	539
2029	132	179	(47)	35	(12)	527
2030	137	195	(58)	37	(21)	506

C: Contributions  
 Ex: Expenditure: 9%  
 CI: Current Income (deficit)  
 I: Investment income (ROA = 4/5%)  
 S: Total surplus (deficit)  
 R: Accumulated reserve

**Preliminary Projection of Reserves**  
**(Amount in Millions of BZ\$)**



The updated forecast shows that the capitalization of reserves would arise almost exclusively from the investment income.

**Assumptions (Rates of Increase)**

- Salaries: 2.6%
- Insured pensions: 1.4%
- Benefits & Contributions: 9%
- Investment income (ROA): 4% rising 5%

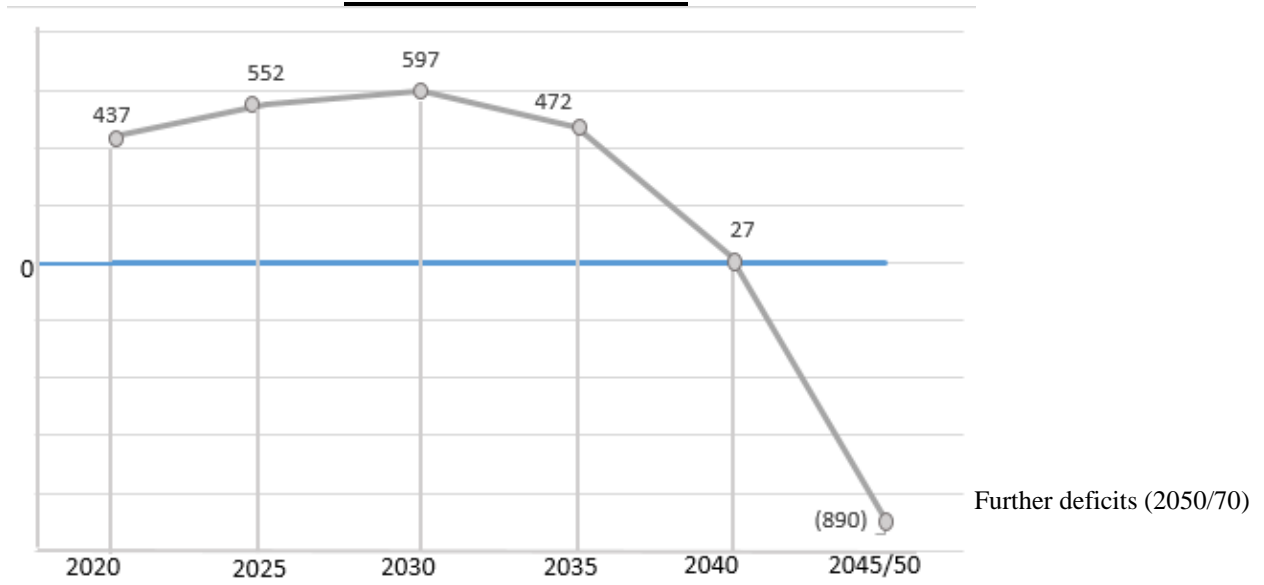
**Table 49**  
**Summary of the Long-Term Projections (2020/2070) Triennial Valuation**  
**(31 December 2020)**

	<b>Demographic Ratios</b>	<b>PAYG</b>	<b>Reserve (Millions BZ\$) <sup>a/</sup></b>
<b>2020</b>	11.4	5.2	437
<b>2025</b>	14.0	6.3	527
<b>2030</b>	17.5	7.7	596
<b>2035</b>	21.7	9.5	472
<b>2040</b>	26.8	11.6	27
<b>2050</b>	31.2	13.4	Negative
<b>2060</b>	36.4	15.4	Negative
<b>2070</b>	43.8	18.3	Negative

<sup>a/</sup> Average of Basic Cost and Low Cost



**Trend of Actuarial Reserves. Long-term Branch (Average of Basic/Low Cost)**  
**(Amounts in millions of BZ\$)**  
**2020 Triennial Valuation**



**ANNEX A**  
**PERFORMANCE ANALYSIS OF THE SELF-EMPLOYED SCHEME**

**1. Trend of Active Contributors**

The voluntary self-employed scheme started on 1 January 2003 and the number of active contributors has increased gradually in the period under review, with effective coverage of a minimal number of self-employed persons in the country. Many self-employed persons have previous credits as employed persons but the total number who have retired as self-employed is equivalent to approximately one-half the number of active SE contributions.

Global statistics show that more than 40,000 self-employed persons in Belize, of which only a fraction is actively contributing to the voluntary self-employed scheme, but on an irregular basis, with an unusual high frequency of “new registrations”.

**Table 1**  
**Registered Self-Employed and Active Contributors by Year (31 December)**  
**(Amounts in thousands of BZ\$)**

Year	Active Insured Self-employed	Rate of Increase (Decrease)	New Registrations
2018	1,564	6.6%	515
2019	1,742	11.6%	598
2020	1,624	(6.7%)	335
2021	1,453	(10.5%)	389

**2. Distribution of the Self-Employed by Wage-Group**

Table 2 shows the distribution of the active self-employed by wage-group and the comparison with the distribution of employed persons. The data shows that the proportion of self-employed persons with notional earnings in the top wage band is much lower than in the general scheme, but adjustments, as they get closer to retirement age, allow them to access a higher pension at retirement.

**Table 2**  
**Percent Distribution of Active Insured by Wage-Group (2021)**

Wage-group	Percent Distribution	
	Self-employed	Employed
Less than \$110	25	11
\$110/300	48	46
\$300 and over	27	43
Total	100%	100%

### **3. Comparative Distribution of Self-Employed and General Insured Persons**

Table 3 shows that 25% of the active self-employed are 55 years and over, as compared to only 7% in the general scheme, an indicator of “adverse selection”, to obtain a “financial gain” by participating in the “voluntary” self-employed scheme at later ages.

**Table 3**  
**Differential Age Distribution of Employed and Self-Employed Person by Age Group**

Age-Group	Self-Employed	Employed
15/34	17%	55%
35/54	58%	38%
55 +	25%	7%
<b>Total</b>	<b>100%</b>	<b>100%</b>

### **4. Statistic of Benefits to the Self-Employed**

Table 4 shows the number of benefits awarded to the self-employed, with a higher frequency than for employed persons as for age pensions.

**Table 4**  
**Benefits Awarded to Self-Employed Insured Persons**

Benefit Type	Number of Claims Allowed			
	2021	2020	2019	2018
<b>Total</b>	<b>287</b>	<b>255</b>	<b>287</b>	<b>325</b>
<b>Short Term</b>	<b>172</b>	<b>164</b>	<b>211</b>	<b>233</b>
Sickness Benefit	138	132	192	208
Maternity Benefit	18	14	13	12
Maternity Grant	16	18	6	13
<b>Long Term</b>	<b>104</b>	<b>84</b>	<b>66</b>	<b>76</b>
Funeral Grant (NC)	3	5	6	5
Invalidity	3	3	3	4
Retirement	89	69	51	60
Survivors	9	7	6	7
<b>Employment Injury</b>	<b>11</b>	<b>7</b>	<b>10</b>	<b>16</b>
Injury Benefit	7	5	9	16
Disablement	3	2	1	0
Death	1	0	0	0

### **5. Frequency of Short-Term Claims by the Self-Employed**

Table 5 shows the frequency of short-term benefits by the active self-employed persons. Table 6 shows the differential rates of claims of short-term benefits, with a lower incidence by the self-employed, which could imply a “preference” for retirement pensions, rather than short-term benefits.

**Table 5**  
**Frequency of Short-Term Claims by the Self-Employed**

Year	Averaged Insured	Total Claims	Incidence Rate	Sickness Claims	Incidence Rate
2018	1,564	233	14.9%	208	13.3%
2019	1,742	211	12.1%	192	11.0%
2020	1,624	164	10.1%	132	8.1%
2021	1,453	181	12.5%	145	9.9%

**Table 6**  
**The ratio of Short-Term Benefits to Active Insured Person per category**

	Employed	Self-Employed
2018	0.38	0.16
2019	0.38	0.13
2020	0.29	0.11
2021	0.33	0.12

Table 7 shows that in only 16 years, the maturity of the self-employed scheme as measured by the ratio of pensioners to active contributions is much higher than the maturity of pensioners in the general scheme. Although a proportion of former self-employed pensioners also had previous credits as employed persons, the disparity in the demographic ratios shows the “window of opportunity” offered by the voluntary self-employed scheme, allowing insured persons to activate their self-insured status and take advantage of the liberal provisions of the scheme, to obtain life pensions lasting 20/25 years after credited contributions for ten years and over. The negative impact on the sustainability of the long-term branch is shown below.

**Table 7**  
**Comparative Demographic Ratios (General Scheme and Self-Employed Scheme)**

Pensions	Self-Employed Scheme		
	(Pensioners ÷ active contributors), in %		
	2019	2020	2021
Retirement	21.7	28.4	37.2
Invalidity	1.3	1.8	2.2
Survivors	2.1	2.7	3.5
<b>Total</b>	<b>25.1</b>	<b>32.9</b>	<b>42.9</b>

## 6. Retirement Age of Self-Employed Persons

A total of 89 retirement pensions were awarded to the self-employed in 2021, as compared to 69 in 2020, which shows the rising actuarial cost of the SE scheme, of which the majority were awarded at 60 years of age. This clearly shows that most self-employed persons opt to retire at 60 years of age with no penalty, an anomaly to be addressed.

## 7. Estimated Financial Performance

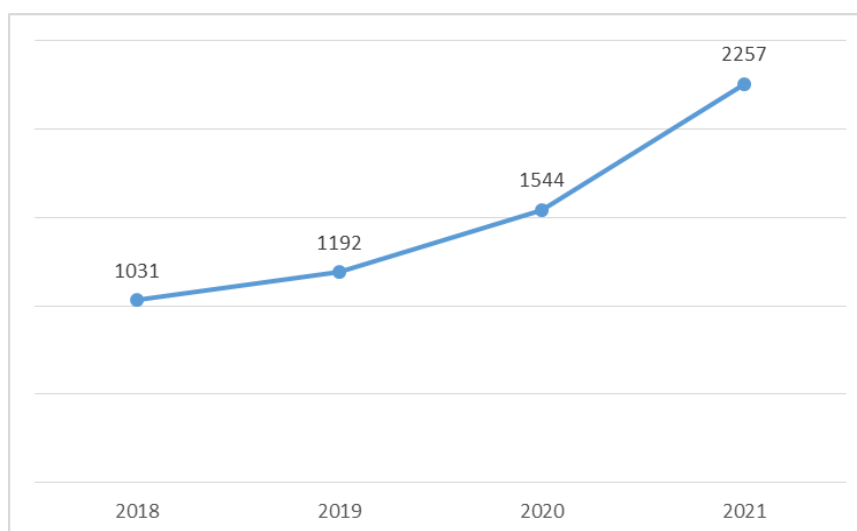
Table 8 shows the widening gap between contributions and expenditure of the self-employed scheme with recurrent deficits.

**Table 8**  
**Financial Performance of the Self-employed Scheme**  
**(Amounts in thousands of BZ\$)**

	2021	2020	2019	2018
Contributions	782	755	939	807
Benefit Expenditure	(2,839)	(2,100) <sup>a/</sup>	(1,931)	(1,638)
Share of administrative expenditure	(200)	(200)	(200)	(200)
<b>Total expenses</b>	<b>(3,039)</b>	<b>(2,300)</b>	<b>(2,131)</b>	<b>(1,838)</b>
<b>Net surplus (deficit)</b>	<b>(2,257)</b>	<b>(1,544)</b>	<b>(1,192)</b>	<b>(1,031)</b>

<sup>a/</sup>Preliminary

### **SE Operational Loss (in thousands of BZ\$)**



## 8. Actuarial Cost of the Self-Employed Scheme

The scheme is financed by 7% of insurable earnings that should increase to 9%, by 2023, in correlation to the 10% rate in the general scheme. Such deficits are funded by internal transfers from the general scheme that will worsen over time the actuarial situation of the long-term branch.

**Table 9**  
**Estimated Actuarial Cost of the Self-Employed Scheme**  
**(In percent of insurable earnings)**

	2023	2021/22	2020	2019	2018
Contributions	9.0%	7.0%	7.0%	7.0%	7.0%
Short-term benefits	1.1	1.1	1.1	0.9	1.4
Long-term benefits	16.0	15.0	14.5	13.5	12.4
Administrative expenditure <sup>a/</sup>	1.3	1.3	1.3	1.5	1.7
Total expenditure	18.4	17.4	16.9	15.9	15.5
Surplus (deficit)	(9.4%)	(10.4%)	(9.9%)	(8.9%)	(8.5%)

<sup>a/</sup>Macro-estimate

**9. Self-Employed Scheme.**

**Adoption of Wage Bands to determine Weekly Contributions. Substitution of unitary weekly income for Wage Bands**

The second schedule of the Self-Employed Pension Regulations shows an anomalous set of individual weekly contributions derived from 262 dollar by dollar weekly income. The table below shows the adoption of the wage band system applied in the general scheme, but excluding the outdated first two wage bands. It is also noted that in the general scheme the bipartite contributions have increased to 9% of insurable earnings, with the 10% rate still pending. Therefore, **a similar adjustment should be applied in the Self-Employed scheme**, as shown below. In view of the excessive actuarial cost of the SE scheme, which is much higher than in the general scheme due to adverse selection, the same contribution rate as in the general scheme should also apply.

Another option is to exclude from the SE scheme the coverage of “employment” injury, an event that can’t be verified in the absence of an employer allowing for a 1% reduction in the stated contribution rate in effect at the general scheme.

**Table 10**  
**Self-Employed Scheme**  
**Adoption of Wage Bands to determine Weekly Contributions**  
**Second Schedule (Regs. II)**

	Weekly Income	Weekly Insurable Earnings	Weekly Contribution			
			7% <sup>a/</sup>	8% <sup>b/</sup>	9% <sup>b/</sup>	10%
<b>1</b>	Under 70	55*	3.85	4.40	4.95	5.50
<b>2</b>	70 < 110	90*	6.30	7.20	8.10	9.00
<b>3</b>	110 < 140	130	9.10	10.40	11.70	13.00
<b>4</b>	140 < 180	160	11.20	12.80	14.40	16.00
<b>5</b>	180 < 220	200	14.00	16.00	18.00	20.00
<b>6</b>	220 < 260	240	16.80	19.20	21.60	24.00
<b>7</b>	260 < 300	280	19.60	22.40	25.20	28.00
<b>8</b>	300 < 320	320	22.40	25.60	28.80	32.00

<sup>a/</sup> In effect on 1 January 2022

<sup>b/</sup> Adjustment pending

\*To be deleted

**ANNEX B**  
**ASSESSMENT OF THE NON-CONTRIBUTORY PENSION SCHEME (NCP)**

**1. Background**

The payment of Non-Contributory Pensions (NCP) was transferred from the Ministry of Social Services to the SSB in July 2003. In December 2007, the Government decided to add eligible males as beneficiaries of NCP and increased the payment to \$100 per month, which caused a significant increase in the number of beneficiaries and benefit expenditure. A financial assistance scheme funded by the Long-Term branch, effective entitlement controls by the NCP Committee has caused a steady decline in the number of active beneficiaries and the actuarial cost of the scheme.

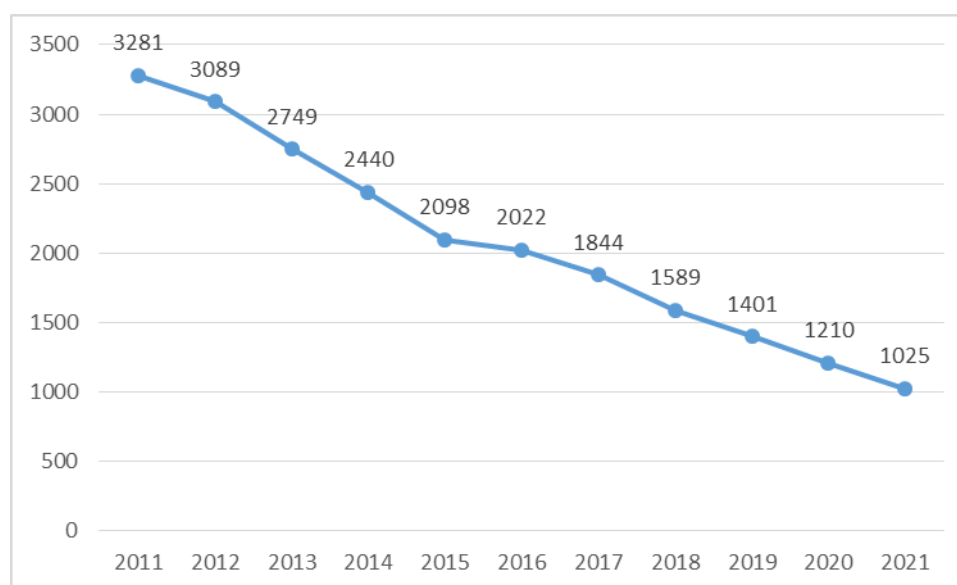
**2. The trend of Pensions in Payment**

The total number of NCPs has declined steadily from a peak of 4,934 early in 2008 to 1,025 pensions in payment in December 2021. The mortality of pensioners and more thorough evaluation procedures contributed to offsetting the abnormal surge of pensions awarded during the initial phase of operations.

**Table 1**  
**Trend of NCP Pensions (on 31 December)**

	2021	2020	2019	2018
<u>Number of pensions in payment</u>				
Males	328	388	457	525
Females	697	822	944	1,064
<b>Total</b>	<b>1,025</b>	<b>1,210</b>	<b>1,401</b>	<b>1,589</b>

**Trend of NCP Pensions**





### 3. Financial Trends

Table 2 shows the trend of benefit expenditure of non-contributory pensions with a steady reduction in benefit expenditure and a lower incidence in long-term actuarial cost.

**Table 2**  
**NCP Benefit Payments**  
**(Amounts in thousands of BZ\$)**

Year	Expenditure (BZ\$)	Rate of Increase (decrease) in %
2018	2,009	(12.5)
2019	1,754	(12.7)
2020	1,525	(13.1)
2021	1,380	(9.5)

### 4. Rates of Award and Terminations

Table 3 shows the rates of terminations and awards in the past three years.

**Table 3**  
**Rates of Award and Terminations of NCP (In percent)**

	2021	2020	2019	2018
Death	(7.70)	(8.5)	(7.9)	(8.5)
Other	(6.06)	(5.8)	(3.2)	(5.8)
<b>Sub-total</b>	<b>(13.76)</b>	<b>(14.3)</b>	<b>(11.0)</b>	<b>(14.3)</b>
New awards	0.90	0.8	0.3	1.7
Net increase (decrease)	(12.8)	(13.5)	(10.8)	(12.6)

### 5. Actuarial Cost of the Scheme

The actuarial cost of benefits has evolved as follows, excluding management expenses. The anticipated actuarial cost as of 2021 is non-material, estimated at less than 2% of total benefit expenditure of the long-term branch.

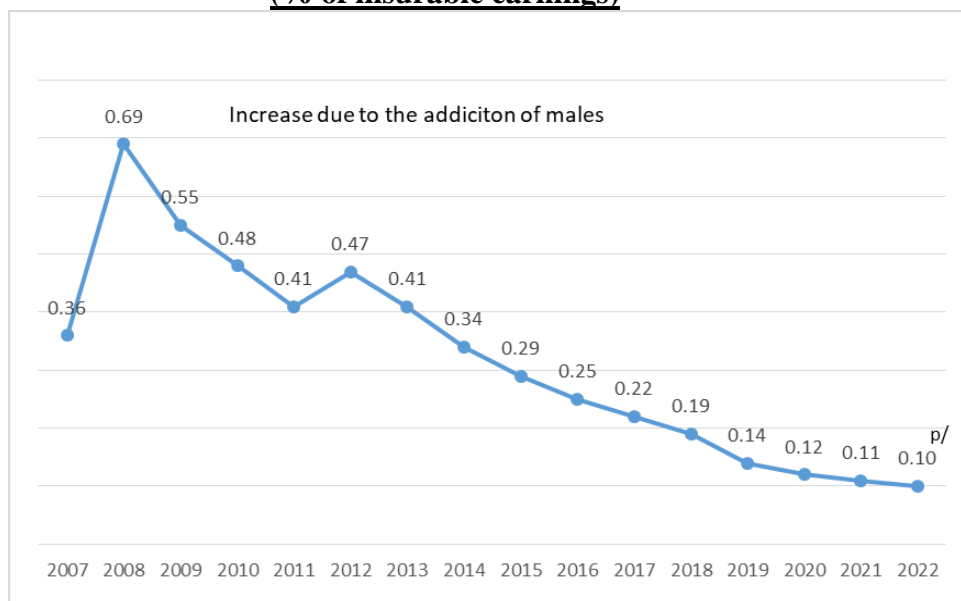
**Table 4**  
**Actuarial Cost of NCP Benefits**

Year	Percent of insurable earnings
2018	0.19%
2019	0.14%
2020	0.12%
2021	0.11%

More strict evaluation procedures and the mortality of pensioners have exceeded the award of new pensions to a significant extent, with actuarial costs declining to only 0.11% on 31 December 2021 (0.12% in 2020).

Assuming a restricted pace of revaluation of pensions in payment, the long-term trend of the scheme is assessed at 0.10% of insurable earnings, including the incidence of the recent legal amendments raising both the ceiling and the rates of contributions. Raising the initial eligibility age to 67 years for females would reduce further the actuarial cost.

**Actuarial Cost of NCP Scheme**  
**(% of insurable earnings)**



<sup>a/</sup> Projected

## **6. Conclusions and Recommendations**

The analysis shows that more strict reduction procedures by the Committee and the incidence of a recent legal amendment, raising the ceiling and the rate of contributions, have caused a steady decline in the actuarial cost of the scheme. Further reductions are forecast from 2021 due to the impact of legal amendments. The actuarial cost of benefits is assessed at 0.10% of insurable earnings for the period 2021/22, or 1 cent for each dollar in contributions from 2021.

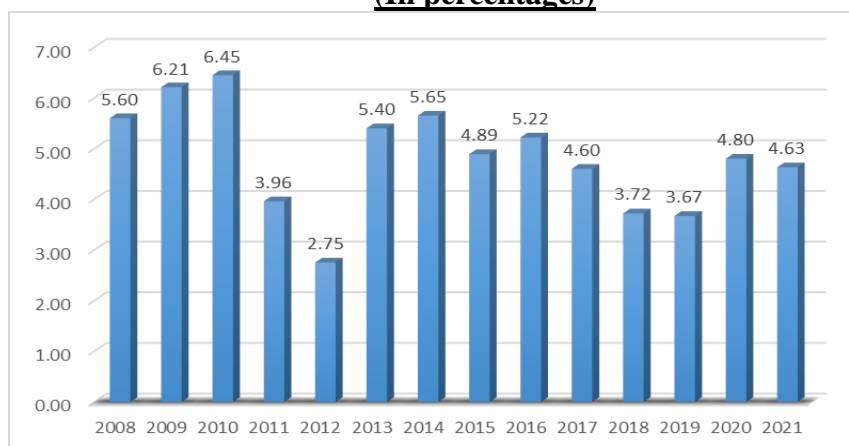
**ANNEX C**  
**ASSESSMENT OF THE INVESTMENT PORTFOLIO**  
**(Third Schedule of the Act, Section 17)**

**1. Objective of the Analysis**

Pursuant to the legal provisions, an analysis is presented below of the investments, the strategic assets allocation, and related technical issues, as required by the Third Schedule of the Social Security Act, as a supplement to the statutory actuarial valuation. Chapter II of the report shows the rate of return on assets both on a nominal basis and an inflation-adjusted basis, the latter decreasing to 1.39% in 2021 due to a sudden increase in inflation after several years of almost flat rates.

The chart below also shows that if inflation doesn't come down from 2023, nominal returns above 5% per year would be required on the investment portfolio to meet the basic actuarial assumption of a 3% real return.

**Nominal Rate of Return on Investments**  
**(In percentages)**



**2. Investment Portfolio**

The SSB investments are made on a “pooled-fund” basis rather than by branch and then distributed in accordance with the assets of each branch, as an interpretation of the provision of Section 14(2) of the Financial Regulations. In the last fiscal year, the Board increased the allocation in Associates and long-term investments and reduced the proportion in other categories.

At year-end, the liquidity of the portfolio almost doubled with cash and short-term investments increased to one-fourth of the portfolio, a situation that should be corrected by expanding the asset allocations to medium and long-term investments, a strategy allowed by the increase in the contribution rate as of 1 April 2022 that should also guarantee higher rates of returns.

**Table 1**  
**Percent Distribution of the Assets (31 December)**

	2021	2020	2019
Cash equivalents	17.0%	12.5%	5.5%
Short-term investments	8.0	3.4	3.6
Long-term investments	30.0	38.2	34.1
Investment in Associates <sup>a/</sup>	33.0	33.6	45.5
<b>Sub-Total</b>	<b>88%</b>	<b>87.7</b>	<b>8.87</b>
Other assets	12.0	12.3	11.3
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<sup>a/</sup>Includes utilities

### **3. Public Sector Investments**

The strategy under the consideration of the SSB is to allocate additional funds to “development issues” rather than “financial issues”. The amendments setting a 10% contribution rate and a \$520 per week ceiling allow a long horizon of the investment portfolio, with rising cash flows until the second half of 2022. An expansion of the investment portfolio, including additional allocations in Central Bank obligations to the agricultural sector. However, it is reiterated:

Higher allocations to GOB bonds offer a rate of return that should allow the key actuarial assumption of a 3% real return on a long-term basis, after inflation. Such allocation offers a risk-adjusted return higher than most gages, loans to private enterprises, or utilities.

It is also noted that the SSB is essentially a subordinate provider of loans to private enterprises and not a substitute for the traditional banking sector lending activities. The Board is also advised to require the return of dividends and interest in cash, as no recapitalization of shares is feasible due to the SSB's need for liquid returns. Avoiding allocation in a single entity above 20% of assets should also be required, in compliance with ISSA guidelines.

#### 4. Enhancement of Development Issues

The sectoral structure of the investment portfolio shows a skewed distribution in favour of **Financial Issues** as compared to **Development Issues**, the former comprising a large proportion of the portfolio.

An analysis of the medium-term cash flows shows the advisability to restructure the distribution of the investment portfolio by:

- Freezing temporarily the allocation to utilities and targeting fresh funds to productive sectors of the economy. This would cause a gradual reduction of the **relative distribution** of the investments in utilities, as shown below.
- Prioritizing the investment of fresh funds targeted to GOB bonds, and the sectors that enhance economic development, exports, and employment creation.
- The analysis also shows that the financial statements on 31 December 2021 adequately meet the Cash Working Balance outlined in Section 19 of the Financial Regulations, as well as the Liquidity Position.

#### 5. Liquidity of the Investment Portfolio

In view of the increased actuarial maturity of the scheme, the Board is advised to seek an adequate level of liquidity on new investments. Actuarial liquidity means that the investment could be realized in cash when actuarially required.

The actuary also advises cautionary measures in non-liquid assets as collateral on commercial loans, such as land or fixed assets, which might have a fair value lower than the appraisal value in case of a forced liquidation. Financing parameters for collateral loans could range from 40% to 70% depending on the type of property, and could even be lower for collateral such as land.

The actuary further advises avoiding additional purchases in local shares (utilities), as no active securities market is effective in Belize, as well as the higher risk of a shareholder as compared to a bondholder or depositor. Allocations of high-quality shares or bonds abroad could be evaluated in due course, as a diversification policy of the investment portfolio.

**The significant reduction in the rates of interest payable by the local banks, due to excess liquidity and restrained demand by personal and institutional borrowers, is having a negative incidence on the rates of return.** Indicators show that rates of interest in the US will increase significantly in 2022, with several adjustments on the agenda by the Federal Reserve Board.

The Board should assess the feasibility of negotiating with the banking sector the establishment of “special deposits”, for loans to private enterprises or individuals (earmarked), at the same rates that “active” interest rates are payable by borrowers, allowing the banks an adequate profit margin, yielding a net SSB return that might be higher than the “passive” rates payable on term deposits. To this effect, the SSB financial area should inform the Board, periodically, of the on-going rates charged by the banks on personal and institutional loans, plus closing costs.

As the GOB has a direct subsidiary obligation to guarantee the financial solvency of the SSB, **the purchase of additional Treasury Notes or Bonds is deemed a more secure investment than private-sector obligations.**

#### **6. Scenarios of Risk-Adjusted Returns. Sharpe Ratio Scenarios**

$$S_a = \frac{E [R_a - R_b]}{\sigma_a}$$

$S_a$  = Sharpe Ratio

$E$  = expected value

$R_a$  = asset return

$R_b$  = risk free return

$\sigma_a$  = standard deviation of the asset excess return

The Sharpe ratio measures the performance of an investment such as security or portfolio compared to a risk-free asset, after adjusting for its risk.

The Sharpe ratio is calculated as follows: Subtract the risk-free rate from the return of the portfolio. The risk-free rate could be a U.S. Treasury rate or yields, such as the one-year or two-year Treasury yield. Divide the result by the standard deviation of the portfolio’s excess return.

Does a good Sharpe ratio indicate a high degree of expected return for a relatively low amount of risk? Usually, any Sharpe ratio **greater than 1.0** is considered acceptable good by investors. A ratio higher than 2.0 is rated as very good. A ratio of 3.0 or higher is considered excellent.

**Standard Deviation (x = Nominal Return on Assets / SSB Financial Statements)**

$$SD = \sqrt{\frac{\Sigma(x - k)^2}{N - 1}}$$

<b>SSB / Belize</b>			
<b>Standard Deviation (Portfolio)/Post-ante</b>			
Year	x	x-k	(x-k) <sup>2</sup>
2021	4.360	88	7,744
2020	4.800	528	278,784
2019	3.880	(392)	153,664
2018	3.720	(552)	304,704
2017	4.600	328	107,584
SD = K	21.36 / 5 = 4.272	-	852,480

**Total Portfolio: (Standard Deviation / Post-ante)**

852,480 / 4 = 213,120 = **0.461650** = SD mid-way but 0 and 1.

**Sharpe Ratio (Sensitivities)**  
(Total Portfolio)

**SR = (Rp-r) / S D**

K = Risk-free Rate (Belize). 2/4% Scenarios

2%	: S =	4.272 - 2 / SD =	<b>4.92</b>
3%	: =	4.272 - 3 / SD =	<b>2.76</b>
4%	: =	4.272 - 4 / SD =	<b>0.58</b>

The consolidated results show that the variability of the Sharpe Ratio depends on the Risk-Free return in Belize. With 2% or 3% the Sharpe ratio shares adequate ratios. With 4% the ratios are not satisfactory.

### Examples / Belize

The segmentation by asset classes on as follows:

<b>Financial Statements on 31 December 2021</b>		
Atlantic Bank (CDs): Average Rate	= 3.50%	-
Central Bank of Belize: Average Rate	= 4.42%	(Float Rate)
	= 5.00 %	(Fixed Rate)
Sharpe (CDs)	$\frac{(3.50 - 2.00)}{0.95}$ (Assumed) =	1.58
Sharpe (FR/ Bonds)	$\frac{4.42 - 2.00}{0.70}$ (Assumed) =	3.46
Sharpe (Fixed Rate / Bonds)	$\frac{5.00 - 2.00}{0.8}$ =	3.75

#### **Conclusion**

Assuming SD of 0.95 (CDs), 0.70 (Floating Rates bonds), and 0.80 (Fixed Rate Bonds), the **post-ante** analysis shows that the Fixed Rates Bonds have performed better than the other higher Sharpe Ratio.

For a **theoretical example** of an investment in a mortgage or load

Load:	$7.00 - 5.00 / 0.60 =$	3.33
Mortgage:	$7.00 - 4.00 / 0.70 =$	4.28

For a loan in load, the interest rate showed higher than 7% for the risk-free operation to equal the mortgage.

## **7. Cash Working Balance and Liquidity Requirements**

Section 19 of the financial regulations stipulates a “**cash working balance**” of two months' average expenditure over the preceding three years. On 31 December 2021, the unaudited financial statements show a cash position in excess of the statutory minimum.

In addition to the minimum **cash working balance**, **liquid assets** also include short-term investments in CDs and related items. Emerging scenarios concerning the proposed allocation to development issues on the SSB liquidity position should be assessed periodically.



**ANNEX D**  
**ACTUARIAL ASSESSMENT OF THE NATIONAL**  
**HEALTH INSURANCE PROGRAM**

**1. Background**

As stipulated in Part VI of the Social Security Act, the Board has been entrusted with the management of the National Health Insurance (NHI). However, the financing regulations have yet to be enacted and transitional pilot projects have been in operation in specific areas of Belize City, then in the Southern Region (Stann Creek and Toledo Districts), and gradually in the Corozal District as of 2016.

**2. The Health Care Model in Belize**

Belize has a multiple health care model based on three pillars, namely: a) services provided by the MOH, b) limited regional services provided by the NHI, and c) private services directly or through insurance companies or facilities offshore.

The NHI program is limited in coverage; its restricted primary health care package of benefits (excluding surgery, general hospitalization, and other services), was founded in its entirety by the SSB until December 2007, co-financed with GOB transfers from 2008, and entirely by GOB funds as from 2009.

**3. Financing of the Program**

In the first phase, the program was financed by the SSB, which implied a substantial financial burden to the SSB of about BZ\$40 million. From a fiscal standpoint, the redistribution of income was very regressive, as funds contributed by all stakeholders were utilized to benefit a small segment of the population, regardless of their social insurance status.

As of late 2006, in view of the financial inability of the SSB to earmark additional funds for the roll-out (expansion) to additional geographical areas, the Government began to supplement the funds allocated by the SSB with transfers from the MOH budget and direct Government transfers. As recommended in the actuarial assessment, no further SSB subsidies were feasible, and as of 2009, the program has been financed exclusively by GOB transfers to the SSB, and residual reserves from previous SSB transfers, which have been consumed.

#### 4. Actuarial Systems

The program operates on a pay-as-you-go basis, with income based on GOB contributions equivalent to expected expenditure, and a margin for a contingency reserve. The same system would be applied if the financing model were expanded to include additional sources of revenue.

#### 5. NHI Financial Trends

The financial trend is shown below, with a significant surplus of \$7.275 million in 2021 twice the 2020 surplus due to steady contributions and reduced utilizations, the latter due to the impact of COVID-19 on the key demand parameters. Updated indicators in 2022 would provide more accurate financial trends.

**Table 1**  
**Financial Trends of the National Health Insurance Fund**  
**Amounts in thousands of BZ\$**

	2021	2020	2019	2018
Total contributions (GOB)	17,700	16,265	17,950	17,800
Payments to providers (benefits)	13,249	14,544	16,706	16,305
Operating expenses <sup>a/</sup>	1,036	873	1,013	957
<b>Total expenditure</b>	<b>(14,285)</b>	<b>(15,417)</b>	<b>(17,719)</b>	<b>(17,262)</b>
Excess of income over expenditure	3,415	848	231	538
NHI Reserves	7,275	3,613	2,774	2,543
In benefit months	6.59	2.98	1.99	1.87

<sup>a/</sup>Excludes claims pending payment

#### 6. Financial Ratios

Key financial ratios have evolved as shown in Table 2.

**Table 2**  
**Key Financial Ratios**

	2021	2020	2019	2018
Benefits as % of contributions	74.8%	89.4%	93.1%	92.6%
Total expenses as % of contributions	80.7%	94.8%	98.7%	98.1%
Operating expenses as % of benefits	7.8%	6.0%	6.1%	5.9%
Fund ratio (reserves ÷ total expenditure)	0.51	0.23	0.15	0.15
* In months	6.1	2.8	1.7	1.7

The analysis shows a Fund Ratio equivalent that increased substantially on 31 December 2021, realizing the internationally accepted minimum benchmark of six months' expenditure. The ratio would decline if outstanding claims were deducted from the reserves. A key task of the NHI is to maintain an adequate Fund Ratio to cover potential increases in claims.

## **7. Summary of Financial Operations by Region**

Table 3 shows a summary of the financial operations by region, according to the NHI activity reports. Expenses in Southside Belize account for the greater part of the total, as several services are provided only in Belize City. The proportion of expenses in the Northern Region decreased to 10% of the total (11% in 2020), which might increase in correlation with the expansion of services in that area.

**Table 3**  
**Financial Operations by Region**  
**(Percent distribution)**

	2021	2020	2019	2018
South Side Belize City	48	47	44	47
Southern Region	35	36	39	38
Northern Region	10	11	11	9
Total purchasing expenses	93	94	94	94
Administrative expenses	7	6	6	6
Total expense	100	100	100	100

## **8. Cost of Benefits by Type of Service**

Table 4 shows the cost of benefits by type of service and region. Services in the Southern and Northern Regions are limited to Primary Care, Ophthalmology, and hospital deliveries. PCP accounts for 71% of total benefits expenditure. Pharmaceuticals, Imaging, and Lab tests expenditure declined in 2020 due to the pandemic, with a normal pattern to be restored in 2021.

**Table 4**  
**Benefit NHI Expenditure by Specific Service, (in thousands of BZ\$)**

	2021	2020	2019	2018
Primary Care (PCP)	10,566	11,453	12,152	11,655
Pharmacy	989	886	1,069	1,246
Imaging	399	389	633	636
Lab tests	832	862	1,469	1,378
Ophthalmology	126	67	271	222
Others	334	65	635	780
Total	13,246	13,722	16,229	15,917

## 9. Membership Data

Table 5 shows the membership (beneficiaries) data, with a static number of beneficiaries in 2021.

**Table 5**  
**NHI Membership Southside Belize, Southern Region, and Northern Region**  
**(31 December)**

	2021	2020	2019	2018
BFLA	13,142	13,122	13,162	12,775
BMA	12,293	12,413	12,438	11,997
Integral	12,389	12,265	12,295	11,909
M. Roberts	11,904	11,997	12,037	10,526
<b>Sub-total</b>	<b>49,728</b>	<b>49,797</b>	<b>49,932</b>	<b>47,207</b>
Dangriga	16,295	16,369	16,401	15,790
Independence	15,823	15,721	15,752	14,524
Punta Gorda	13,498	13,336	13,373	12,594
San Antonio	10,098	10,056	10,107	9,611
Mercy Clinic	3,076	3,156	3,156	2,842
Corozal +	21,266	21,201	21,215	18,105
<b>Sub-total</b>	<b>80,056</b>	<b>79,839</b>	<b>80,004</b>	<b>73,466</b>
<b>Total</b>	<b>129,784</b>	<b>129,636</b>	<b>129,936</b>	<b>120,673</b>

## 10. Actuarial Cost of the Program

Table 6 shows the actuarial costs as a percent of the wage base, showing estimated actuarial costs of 3.64% (4.18% in 2020), assuming a “notional” wage base of 30% of the total SSB insurable earnings.

**Table 6**  
**Estimated Actuarial Cost of Benefits**  
**(Amounts in thousands of BZ\$)**

	2021	2020	2019	2018
SSB wage base	1,305,278	1,230,212	1,216,456	1,088,300
NHI beneficiaries	129,784	129,636	129,936	120,673
NHI wage-base (30%) <sup>1/</sup>	391,583	369,063	364,937	326,490
NHI benefit expenditure (\$)	13,249	14,544	16,706	16,305
Administrative expenditure (\$)	1,036	873	1,013	957
<b>Total expenditure</b>	<b>14,285</b>	<b>15,417</b>	<b>17,719</b>	<b>17,262</b>
Cost as % of NHI wage-base	3.64%	4.18%	4.86%	5.29%
Cost per member per year	\$110	\$119	\$136	\$143

<sup>1/</sup>Estimated average wages of the low-income and indigent segment of the NHI target population. Subject to re-assessment.

NHI has been covering a rather limited range of benefits, excluding key services such as general hospitalization, surgery, drugs for outpatients, etc. Adding this to the package of benefits would entail additional costs to be borne by the GOB.

The total cost of a comprehensive package of benefits to the total population of the country (universal coverage) would amount to approximately 7.5% to 8.5% of the SSB insurable earnings, or BZ\$60 million. Deducting from this amount the GOB budget for healthcare with the Ministry of Health and other statutory bodies, along with private health ensuring policies, would provide general indicators of additional resources required to set up a universal National Health Insurance Plan in Belize, funded by contributions and/or earmarked taxes.

#### **11. Cost Estimates of the Rollover**

The additional cost to the GOB would depend on the proportion of beneficiaries to be covered, whether 100% or a lower proportion. A specific analysis should be carried out to assess the utilization and cost of the pending rollover.

#### **12. Conclusions and Recommendations**

The GOB has in place a program for residents of a section of Belize City's southern Region and the Corozal District, financed by budget transfers. The reserve ratio increased substantially on 31 December 2021. **The analysis shows that the NHI has been able to expand services to the Corozal District with static funds, generating a reduction in actuarial costs.**

The estimated average actuarial cost has declined to 4.18% of the national wage base of the targeted population. Primary health services account for about three-quarters of benefit expenditure. Closer coordination of services with the Ministry of Health might improve the cost ratios.

The actuarial cost to cover additional geographical areas under alternative financing scenarios was assessed in an actuarial report submitted by the actuary in June 2008 (NHI Assessment of Actuarial Costs and Financing Options), which should be updated based on emerging trends.

**The authorities have not yet adopted a decision on the remaining roll-out strategy or the financing of the scheme for 2022/24, and more comprehensive actuarial assessments should be carried out once policy decisions in this respect are adopted. The administrative cost of the scheme of 6% of benefits is lower than accepted benchmarks.**

**As per Part II of the Social Security Act, the NHI scheme is managed by the Board, but financing is the responsibility of the Government. Therefore, the scheme is cost-neutral to the SSB, despite marginal supervisory and financial support by the SSB.**

## ANNEX E

### SUMMARY OF BENEFIT PROVISIONS

#### **A. Sickness Benefit**

Eligibility:	Insured persons rendered temporarily incapable of work, over 14 years and not older than 65 years of age, and in insurable employment when becoming incapacitated for work.
Contribution Conditions:	Not less than 50 contributions paid, and in insurable employment on the day of the incapacity with 5 weeks of contributions in the preceding 13 weeks.
Duration of Payment:	From the first day of incapacity (as from 1 January 2003) and for a continuous period of sickness not exceeding 39 weeks or 234 days. (Paid from the third day in 2001 and the second day in 2002). From the first day in 2001 and 2002, the incapacity lasts for 14 days or more.
Rate of daily benefit:	80% of average weekly insurable earnings divided by 7 the first 156 days, and 60% the remaining 78 days (Sundays included).
Average weekly insurable earnings:	Total weekly insurable earnings on which contributions were paid in the preceding 13 weeks divided by the number of weeks for which contributions were paid.

#### **B. Maternity Benefits**

##### **(a) Maternity Allowance**

Eligibility:	Payment to an insured woman in case of pregnancy and confinement.
Contribution conditions:	Not less than 50 contributions paid since the appointed day (1 June 1981) and in the period of 39 consecutive weeks immediately preceding the sixth week before the expected date of confinement; not less than 30 contributions must have been paid or credited (of which 20 must have been paid).
Starting date of payments:	Not earlier than 7 weeks before the expected date of confinement.
Rate and duration of weekly benefits:	80% of average weekly insurable earnings, for a period of 14 weeks.
Average weekly insurable earnings:	Total weekly insurable earnings on which contributions were paid in the 39 weeks preceding the sixth week before the expected date of confinement, divided by the number of weeks for which contributions were paid.

**(b) Maternity Grant**

Payable to an insured woman or a husband on the occasion of his wife's confinement if his wife is not entitled to the grant.

**Eligibility:** Not less than 50 contributions paid since the appointed day and 25 contributions paid in the 50 weeks immediately preceding the week in which the confinement occurs.

Amount of grant: \$300 per child (payable only once in respect of any contribution year).

**C. Retirement Benefit****(a) Retirement Pension**

**Retirement age:** As from 60 years of age, and retired from insurable employment (last condition not required if an insured person has attained 65 years). **New provision: Eligibility jointly with a survivor's pension.**

**Contribution condition:** 500 paid or credited weekly contributions, of which 150 have been paid.

**Rate of pension:** 30% of average insurable earnings plus 2% for every 50 contributions (excluding special credits) in excess of 500 up to 750; and 1% for every 50 contributions in excess of 750 (plus an overall 5% adjustment / to be deleted).

**Average insurable earnings:** Sum of weekly insurable earnings during the best three years in the last 15 years (or lesser period of contribution years if contributions not made for 15 years) divided by 150.

**Minimum pension:** \$49.35 per week as of April 2016.

**Maximum pension:** 60% of average insurable earnings.  
**Retirement Grant**  
Payable to insured persons retiring after the age of 60 years and not qualifying for a retirement pension.

**Contribution conditions:** Not less than 26 contributions paid.

**Amount of grant:** Six times the average insurable earnings for every 50 contributions paid or credited, or 2½ times the sum of such earnings divided by the number of weeks of contributions for each unit of 50 such contributions.

**Minimum grant:** \$800.

**D. Invalidity Pension****(a) Invalidity Pension**

**Invalidity:** Insured person under the age of 60 years who is incapable of work due to a specific disease or bodily or mental disablement which is likely to be permanent, and who has been incapacitated for not less than 13 consecutive weeks immediately preceding the week in which the benefit is claimed.

Contributions conditions:	Not less than 150 contributions <u>paid</u> and not less than 110 contributions paid or credited in the last five years, and not less than five contributions paid in the last 13 weeks.
Special credits:	Claimants satisfying contribution conditions are awarded special credits equal to 25 contributions for each year between the age of the claimant and 60 years.
Rate of pension:	If more than 500 contributions are paid or credited, as for retirement pension; otherwise, 25% of average insurable earnings with 150 to 299 contributions plus 1% for every 50 contributions in excess of 299 up to 499.
Minimum pension:	\$49.35 per week as of April 2016.
Maximum pension:	60% of average insurable earnings.

**(b) Invalidity Grant**

Payable to an invalid person not qualifying for an invalidity pension.

Contribution conditions:	Not less than 26 contributions paid.
Amount of grant:	As for retirement pension.
Minimum amount:	\$800.

**a. Funeral Grant**

Qualifying conditions:	Insured persons entitled to or in receipt of sickness or maternity benefit, or in receipt of, or satisfying the contribution for, a retirement or invalidity pension.
Contribution conditions:	50 contributions paid; 150 contributions paid in respect of Funeral Grant for deceased spouse and deceased dependent child.
Amount of grant:	\$1,500 deceased \$1,000 deceased spouse. \$ 500 deceased dependent child.

**b. Survivor's Benefit**

Survivor's Pension

Qualifying conditions: Deceased received retirement or invalidity pension or would have been entitled to invalidity or retirement pension if he had become incapacitated or retired at the time of his death.

Qualifying conditions of Beneficiaries:

- (a) Widow: On the date of her husband's death she was pregnant by the deceased or had the care of a child of his under 16 years of age, or on the date of his death she had been married to the deceased for not less than 3 years and
- i) she is over the age of 50 or,
  - ii) she is permanently incapable of self-support and was wholly dependent on her deceased husband.



Period of Pension

During the period while she has the care of a child, and if aged 50 or over when she no longer has care of a child, for her lifetime thereafter or until remarriage. For one year if the widow does not qualify for a longer period.

(b) Widower: Married to the deceased, not less than 3 years, permanently incapable of self-support, and wholly dependent on his deceased wife.

(c) Unmarried Child: Until 16 years of age, (or until 21 years, if receiving full-time education, whichever is earlier).

(d) Invalid Child: Unmarried, permanently incapable of self-support, and wholly dependent on the deceased.

Rate of Benefit: Widows and Widowers: 66%; each child 25%, or 40% if invalid; parents – 40%.

Minimum pension: \$49.35 per week.

Maximum pension: 100% of the pension paid or payable to the deceased. Otherwise, each share is reduced proportionately.

(b) Survivor's Grant

Payable to beneficiaries if they are not entitled to pensions on the death of an insured person who satisfied the contribution conditions for retirement or invalidity grant. The grant is payable in the same proportion as the survivor's pensions and the total amount of the grant is the same as the retirement grant.

**E. Employment Injury Benefits**

The following benefits are included:

- Injury benefit (temporary incapacity for work), including accidents occurring "to and from work".
- Disablement benefit (permanent disability).
- Medical care is required as a result of employment injury.
- Constant-attendance allowance.
- Survivor's pension and funeral grant.

Average insurable earnings: earnings for which the last four contributions have been paid divided by four (or two or three as the case may be).

No contribution conditions are required and the rates (or the amounts) of benefit are as follows:

a) Injury benefit: 80% of the average insurable earnings from the first day of incapacity up to a maximum of 26 weeks.

Minimum pension: \$49.35 per week.

Disablement benefit

- degree of disability  
25% or more Periodical payment equal to 60% of the average weekly insurable earnings times the degree of disability.
- degree of disability  
less than 25% Lump-sum grant equal to 260 times the average weekly insurable earnings times the degree of disability.

Medical care:	Provided free of charge in public or private facilities or abroad provided the Board gives prior approval.
Constant-attendance allowance:	25% of the amount of the disablement benefit for 100% disability, as per Section 21 of the Act and Section 45 of the Benefits Regulations.
Funeral grant:	\$1,500.

**F. Non-Contributory Pensions**

As from age 65 females, and age 67 males (as of December 2007), and meeting the conditions to qualify for pensions. The monthly amount of \$100 increased from \$75, as of November 2007.

**ANNEX F**  
**GLOSSARY OF TERMS**

Adapted from the ILO/ISSA publication “Actuarial Practice in Social Security”,  
Plamondon, Drouin, Pérez Montás, etc. (2002)

**Assessment of Constituent Capitals**

A financial system applied to employment injury (EI) benefits under which the annual cost of the scheme is determined as the present value of all future payments relative to pensions awarded during that year. Under that system, a reserve is continuously maintained equal to the present value of pensions in payment. This is sometimes designated as “the terminal funding” system of finance.

**Defined-benefit scheme**

A scheme under which the benefit is a defined amount, which depends on the number of contributions or insurance years and the number of insurable earnings.

**Defined-contribution scheme**

A pension plan under which contributions are paid to an “individual account” for each participant. The retirement pension is “undefined” and is dependent on the capitalized balance and the value of annuities at retirement, usually through for-profit entities (financial institutions or insurance companies).

**Financial system**

The systematic arrangement for raising the resources necessary to meet the financial obligations of a scheme. This is an expression often used to refer to the selected method of financing long-term pensions under a defined-benefit scheme (pay-as-you-go, partial funding, or full funding).

**Level or average premium**

A financial system based on a theoretical constant contribution rate that can be applied indefinitely or for the projection period. It is calculated by equating the present value of projected future contributions of active insured persons and new entrants, plus the value of existing reserves, to the present value of the projected future benefit and administration expenses.

**Pay-as-you-go rate (PAYG)**

The ratio of the total expenditure of a scheme to the sum of insurable earnings of that scheme. The PAYG financial system is usually applied to short-term benefits.

**Period of equilibrium**

As stated below in the “scaled premium system”, in actuarial valuations of a national pension scheme, the period of equilibrium measures the number of years when reserves will be increasing. At the end of the period of equilibrium, income from contributions and investments equal benefits and administrative expenditure, according to the actuarial assumptions. Without an adjustment to the contribution rate, assets will need to be liquidated to pay current expenditure, and reserves will begin to decrease.

**Scaled premium system**

A financial system for pensions under which contribution rates are increased throughout the life cycle of a pension scheme on a step-by-step basis (where the duration of each individual “step” is called the “**period of equilibrium**”). In a more narrow definition, the contribution rate is calculated for a defined period of years, that is, a “period of equilibrium” (which often ranges from ten to 25 years), with the objective of equating, at the end of the period of equilibrium, the income from contributions and the investment income to the expenditure on benefits and administration.

**State Plan**

A term used in accounting standards for a pension plan sponsored by a State or Government on a not-for-profit basis, and therefore with indefinite duration, as opposed to pension plans sponsored by an enterprise that can become insolvent if the enterprise fails.

**Terminal funding**

A financial system under which a premium equal to the present value of a pension is paid at the time the pension starts. The premium is set aside as a reserve to guarantee future benefit payments.