International Labour Organization

ILO brief

Policy Brief

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Actuarial Valuation of National Social Security Fund of Lao People's Democratic Republic

Key points

- Article 77 of the Law on Social Security, as amended by Decree No. 213/PO of 2018, provides that an actuarial assessment of the social security schemes must be realized every 5 years[1], and that contribution rates should be adjusted to reflect the country's socio-economic dynamics. This actuarial valuation of the National Social Security Fund (NSSF) is performed as of 31 December 2021.
- The NSSF covers three different categories of workers: (1) civil servants (referred to as public sector workers in this report); (2) employees of the private sector; and (3) voluntary insured members (who are included in the private sector scheme). The scheme provides benefits for the following contingencies: health, employment injury, maternity, sickness, invalidity, old-age, death, and unemployment. A separate ILO report presents the actuarial assessment of health insurance.

Review of experience

A review of experience of the NSSF over the period 2018–21 reveals that:

- The Government pays extra contributions in certain benefit branches to reduce the cash deficit of the branches. For that reason, in certain funds of the public sector, the contributions identified as "employer contributions" are higher than those legally required. The Long-term Benefit Fund is in deficit each year despite these extra contributions paid by the Government.
- Benefit expenditures are very low in the Employment Injury branch. It is possible that employers fail to report certain work accidents in order to avoid the fine charged by the Ministry of Labour and Social Welfare (MLSW) in the event of a work-related accident, or they to try to negotiate a compensation arrangement directly with the family without reporting the accident to the MLSW and/or the NSSF. This could also be the result of a misclassification of cases by the LSSO. It is important that this issue be addressed to ensure the scheme meets its objectives.
- Unemployment expenditures increased significantly in 2020 and 2021 following the COVID-19 pandemic.

[1] We understand that the Law on Social Security requires an actuarial valuation be carried out "every five years". We recommend that this is changed or interpreted as "at least every 5 years". This would be in line with good practice, would be more flexible and would allow for actuarial valuations to be carried out when there are material changes to the scheme.

- Administrative expenditures are shared between the public and private sector schemes according to LSSO internal rules. Most of the administrative costs have been attributed to the private sector since 2018. Moreover, administrative expenses are not separated among the different benefit branches.

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- The law is unclear regarding any financial separation of the public sector and private sector funds, even if the LSSO maintains separate accounts for the two sectors. If the public sector scheme is unsustainable in the long run, allowing this type of cross-subsidy is likely to erode the reserve of the private sector pension fund and to undermine its financial sustainability in the near to medium term. It is also not equitable, especially given the large difference in projected costs. It would be important to establish by law the NSSF as a fund clearly separated from the State budget and to separate the public and private sector funds to ringfence the reserves of the private sector scheme.

Child labour in the Southern Laos © Mongkon Duangkhiew/ILO

Demographic and economic environment of the Lao People's Democratic Republic

Population projection. The projected increase of the number of persons at pensionable age illustrates the gradual ageing of the population of the Lao People's Democratic Republic, which will affect the social security scheme.

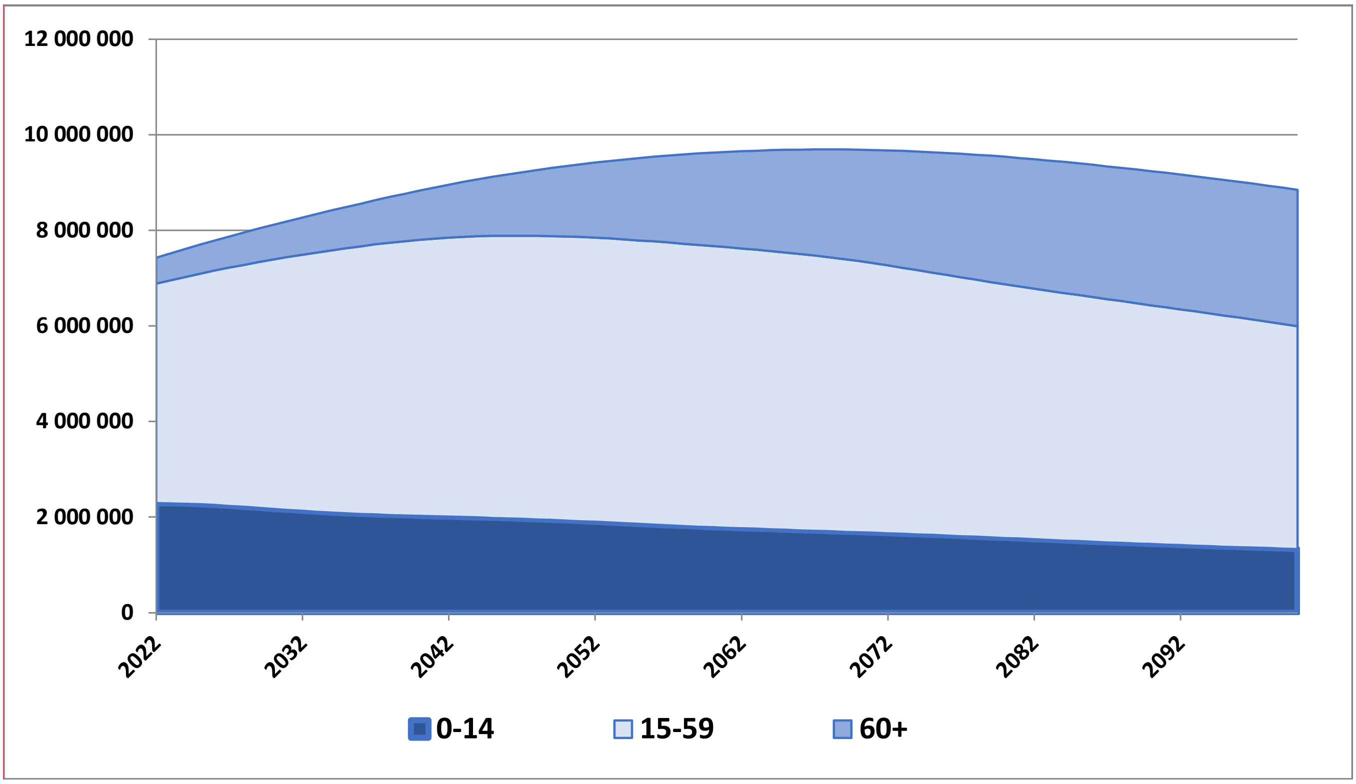
Labour force projection. Informal employment represents 86 per cent of the total employed population (Lao People's Democratic Republic, LSB 2022). For this valuation, it is assumed that the structure of the labour market will evolve in the future such that the proportion of workers in the informal economy will gradually decrease from 86 per cent of total employment in 2022 to 44 per cent in 2100. The weight of the public sector will decrease over time in a context where formal employment is projected to mainly affect the private sector. The weight of self-employment in the private sector will increase from 8 per cent of formal employment in 2021 to 12 per cent in 2100.

Actuarial valuation of the Long-term Benefit Fund

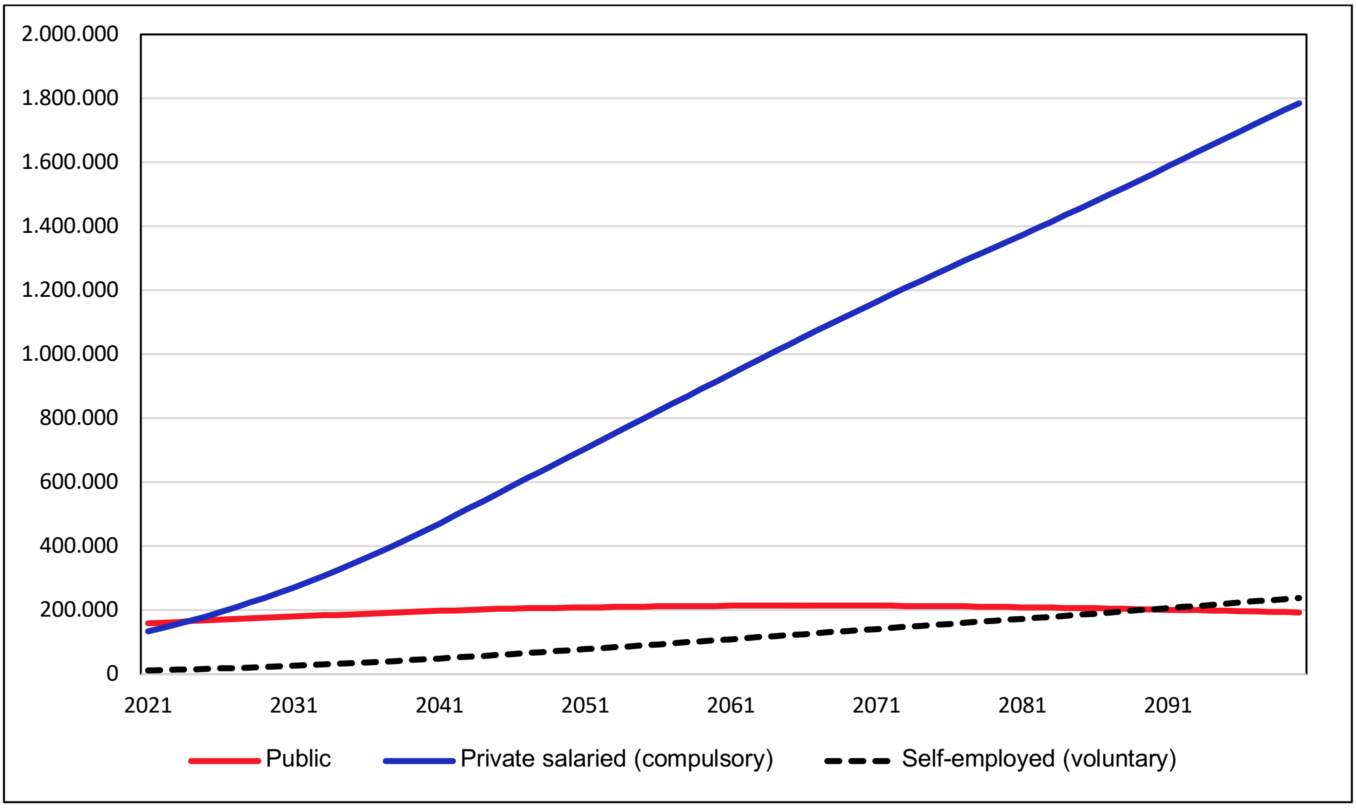
Projected PAYG rates. In the public sector, the pay-as-you-go (PAYG) cost rate (the ratio of total expenditure to total insurable earnings in a given year) is 12.9 per cent in 2022, but this ratio will increase significantly after 2040 to eventually reach 80.2 per cent in 2100, a consequence of the sharp increase in the number of pensioners, the stagnation (and even the decrease) of the number of contributors in the long term, and above all, the very generous nature of benefits. The situation is less acute for the private sector, given the projected increase of the number of contributors expected over the coming decades and the less generous benefit provisions, with a PAYG rate of 34.7 per cent in 2100. However, this projected PAYG rate can still be considered high when compared to other countries around the world.

Future evolution of reserves. For the private sector, long-term benefit expenditures will first exceed contributions in 2042. Expenditures will become larger than the total of contributions plus investment income in 2045, and the

▶ **Figure ES.1. Projected population of the Lao People's Democratic Republic, by age group (2022–2100)**



▶ **Figure ES.2. Projected number of NSSF contributors, by sector (2021–2100)**



reserve will then start to decrease. The private sector reserve will be projected to be exhausted in 2052. In the public sector scheme, there will be no accumulation of assets.

Table ES.1. Key dates for the future evolution of pension reserves

Key moment	Year	
	Public sector	Private sector
Scheme's expenditure first exceeds contributions (investment income must be used to support expenditures)	No accumulation of assets	2042
Scheme's expenditure first exceeds contributions plus investment income (reserve starts to decrease)		2045
Reserve is exhausted		2052

General average premium. The general average premium (GAP) of a scheme represents the constant contribution rate necessary to finance all scheme's benefits over a certain period. It is calculated over a period of 79 years (from 2022 to 2100). The GAP is equal to 50.4 per cent for the public sector and 21.9 per cent for the private sector. This may be compared to the contribution rates for long-term benefits at 12.25 per cent in the public sector and 5.25 per cent in the private sector. Consequently, contribution rate increases and/or modifications to benefits will be necessary relatively rapidly to ensure the long-term financial sustainability of the long-term benefit branch.

Sensitivity tests. Alternative scenarios were produced regarding: (1) the future evolution of coverage; (2) the real wage increase; (3) the rate of return of the fund; and (4) the indexation of pensions.

- **Coverage in the private sector**. Under the base scenario of the valuation, it is projected that formal employment (workers contributing to the social security scheme) will increase from 14 per cent of total employment in 2022 to 30 per cent in 2060 and 56 per cent in 2100. Private sector coverage, which represents 48 per cent of formal employment in 2021, will increase to 91 per cent of formal employment in 2100. Two sensitivity tests were performed: (1) under the first test, formal employment will increase more slowly and will reach only 35 per cent of total employment in 2100; and (2) under the second test, formal employment will grow faster, reaching 75 per cent of total employment in 2100 (private sector coverage will vary accordingly).

  Under the sensitivity test assuming a slower growth of the covered population, the GAP of the private sector would increase from 21.9 to 24.2 per cent, and the reserve would be exhausted 3 years earlier. Under the sensitivity test assuming a faster growth of the covered population, the GAP would decrease to 20.7 per cent, and the reserve would be exhausted in 2054 instead of 2052. The analysis shows that the extension of coverage has a positive financial impact on the scheme.

- **Coverage in the public sector.** Under the base scenario of the valuation, the number of public sector workers is projected to increase in line with the total population of the country. Under the sensitivity test, it is supposed that public sector employment will represent a decreasing percentage of the total population of the country, from 2.1 per cent in 2024 to 1.8 per cent in long term.

  - Under the sensitivity test assuming a slower growth of the covered population, the GAP of the public sector would be 50.3 per cent (compared to 50.4 per cent under the base scenario).

- **Real wage increase**. Under the base scenario of the valuation, the annual real wage increase is 1.5 per cent in long term. Two sensitivity tests were performed: (1) under the first test, the long-term real wage increase is lower at 1.0 per cent; and (2) under the second test, the long-term real wage increase is higher at 2.0 per cent.

A higher salary increase would have more impact on benefits than it would on contributions because of the indexation mechanism of the NSSF scheme, which is based on the variation of the average wage of insured persons. With a lower wage growth, the GAP of long-term benefits in the private sector would decrease from 21.9 to 21.2 per cent. This would not affect the year of reserve exhaustion.

The impact is more important for the public sector because of the final-salary pension formula. With a lower wage growth, new pensions are lower. The GAP of long-term benefits would decrease from 50.4 to 44.0 per cent.

Hence the present contribution rate of 2.5 per cent appears sufficient to support the fund's expenditures and to maintain an appropriate contingency reserve.

A Lao youth who works in hospitality sector © Mongkon Duangkhiew/ILO

- **Rate of return of the fund**. Under the base scenario, the nominal rate of return of the fund is 5.0 per cent from 2025 onwards. Two sensitivity tests were performed: (1) under the first test, the ultimate rate of return is higher at 6.0 per cent per year; and (2) under the second test, the ultimate rate of return is lower at 4.0 per cent per year. Higher rates of return result in a decrease of the cost of the schemes.
- **Indexation of pensions**. According to the law, pensions in payment are indexed in line with the increase in average covered earnings of all insured persons. This method results in great fluctuations of the annual indexation rate, because the rate is affected, in addition to the general wage increase in the economy, by the evolution in the number and characteristics (age and gender) of social security-insured persons. Providing pensioners with pension indexation above price inflation comes with a cost. If pensions were indexed in line with the Consumer Price Index (CPI) instead of wage increases, the GAP would be lower – at 42.5 per cent (instead of 50.4 per cent) for the public sector and at 19.1 per cent (instead of 21.9 per cent) for the private sector.

Actuarial assessment of the other benefit branches

Short-term Benefit Fund. The PAYG rates evolve towards 2.0 per cent for the public sector and 1.5 per cent for the private sector towards the end of the projection period.

Employment Injury and Occupational Disease Compensation Fund. The present contribution rate of 0.5 per cent could be maintained until the next actuarial valuation given that: (1) present expenditures represent a very low percentage of insured earnings; and (2) the theoretical cost is estimated to vary between 0.51 and 0.76 per cent, and these cost levels are not expected to be reached in the short run. This contribution rate should be re-assessed at the next actuarial valuation when more claims data is available.

Unemployment Benefit Fund. The PAYG rates are projected to be stable at 0.4 per cent until 2040. Hence the present contribution rate of 2.0 per cent is more than sufficient, for the moment, to support the fund's expenditures and to maintain an appropriate contingency reserve. It would be possible to reduce the contribution rate of the branch to 1.5 per cent if no changes are made to eligibility or benefit provisions. If entitlements are expanded, namely by covering voluntary resignation, then the present contribution rate of 2.0 per cent should be maintained.

The contemplated extension of NSSF coverage should bring into the social security system a certain number of persons working in enterprises where unemployment might be more frequent (smaller enterprises, sectors offering less job security and so on), hence a close monitoring of the experience should be applied.

A worker uses protective gloves to proect against electric shocks while joining steel © Mongkon Duangkhiew/ILO

Recommendations

The report presents a series of recommendations:

- The law should provide for a clear separation of social security funds between the public and the private sector, with the establishment of specific criteria for an appropriate accounting treatment by the LSSO. This is for the sake of equity and transparency.
- A more appropriate distribution of administrative expenses between the different benefit branches and the two sectors should be applied by the LSSO.
- Starting reserves for the different benefit branches as of 31 December 2021 should be established as appearing in table 2.6.
- If no changes are made to benefit provisions in the public sector, the contribution rate of the Long-term Benefit Fund of the public sector should be increased to 17.0 per cent over the period 2025–29 to at least meet the average PAYG cost for that period. While such an increase will support sustainability in the short term, it is important that reforms be made to public sector provision, as the costs identified in this report are unsustainable.
- The indexation of pensions should be based on annual CPI increases instead of the current indexation mechanism based on the annual increase of the average wage of insured members. This is to avoid important fluctuations of the pension indexation rate on a year-by-year basis while ensuring the preservation of the purchasing power of pensioners over time, and possibly reduce the cost of the long-term benefit branch. Moreover, the CPI is a reliable and readily available index that would facilitate the administrative treatment of indexation by the LSSO.
- If it is considered administratively feasible, the Government could consider changing the current practice of continuing to pay the full salary in case of sickness and maternity for public sector employees, and instead use the social security system for the replacement of earnings in these situations.
- The totality of work-related temporary incapacity benefits should be attributed to the Employment Injury and Occupational Disease Benefit Fund. The LSSO should investigate the possible inappropriate attribution of certain of these benefits to the Short-term Benefit Fund.
- The present contribution rates should be maintained for the Short-term Benefit Fund and the Employment Injury and Occupational Disease Compensation Fund. The contribution rate of the Unemployment Benefit Fund could be reduced from 2.0 per cent to 1.5 per cent if no changes are introduced to benefit entitlements (namely regarding voluntary resignation).
- In respect of the employment injury scheme, further investigation into the difference between claim amounts in the financial statements and those in scheme's data, as well as why claim amounts appear low, should be undertaken. Any incentive for employers not to declare certain events giving rise to claims should be addressed.
- The contribution rate of the Health Insurance Benefit Fund should be increased from 1.25 to 1.50 per cent.
- A financing rule should be introduced in the law for ensuring a gradual and timely increase of the contribution rates of the Long-term Benefit Fund in both the public and the private sectors, the objective being to gradually reduce the difference between the present contribution rates and the general average premium calculated for each sector. The improvement

of the financial sustainability of the long-term benefit branch should also be achieved through the revision of certain benefit provisions that may be considered too generous at present, namely the relatively generous retirement conditions applicable in both sectors (low statutory retirement age and generous early retirement conditions) and the indexation mechanism based on wage increases.

- In more general terms, we recommend the adoption of a Financing Policy that covers the sustainability indicators to be adopted for the different branches, target reserve levels, and the actions to take when the sustainability of a branch or the scheme as a whole is deemed to be outside an acceptable range. A Financing Policy is an essential governance tool that supports management and decision-making and reinforces sustainability. It formalizes the long-term funding objectives of the scheme, allows better understanding of the risks and financing options and improves corporate governance by increasing transparency.

In the context of reform measures described in box 4.1, tables ES.2 and ES.3 below set out the recommended contribution rates for the public and private sectors, respectively, that would allow for the maintenance of positive reserves for the next 80 years in all benefit branches.

A villager in Southern Laos harvesting vegetables from her household garden © Mongkon Duangkhiew/ILO

- For the **public sector,** the total contribution rate would have to gradually increase from its current level of 16.50 per cent (combined employee–employer) to 44.50 per cent between now and 2075 (table ES.2).

Table ES.2. Public sector – Required contribution rates under reform option2 (employer/employee combined)

Period	Long-term benefits (%)	Short-term benefits (%)	Employment injury and occupational disease (%)	Unemployment (%)	Health (%)	Total (%)
Current	**12.25**	**2.50**	**0.50**	**-**	**1.25**	**16.50**
2025–29	16.00	2.50	0.50	-	1.50	20.50
2030–34	16.00	2.50	0.50	-	1.50	20.50
2035–39	17.00	2.50	0.50	-	1.50	21.50
2040–44	20.00	2.50	0.50	-	1.50	24.50
2045–49	27.00	2.50	0.50	-	1.50	31.50
2050–54	36.00	2.50	0.50	-	1.50	40.50
2055–59	38.00	2.50	0.50	-	1.50	42.50
2060–64	38.00	2.50	0.50	-	1.50	42.50
2065–69	38.00	2.50	0.50	-	1.50	42.50

[2] Reform details set out in box 4.1.

2070–74	39.00	2.50	0.50	-	1.50	43.50
2075–79	40.00	2.50	0.50	-	1.50	44.50

- For the **private sector,** the total contribution rate would have to gradually increase from its current level of 11.50 per cent (combined employee–employer) to 19.50 per cent between now and 2075 (table ES.3).

Table ES.3. Private sector – Required contribution rates under reform option (employer/employee combined)

Period	Long-term benefits (%)	Short-term benefits (%)	Employment injury and occupational disease (%)	Unemployment* (%)	Health (%)	Total (%)
Current	**5.25**	**2.50**	**0.50**	**2.00**	**1.25**	**11.50**
2025–29	5.25	2.50	0.50	2.00	1.50	11.75
2030–34	5.25	2.50	0.50	2.00	1.50	11.75
2035–39	5.25	2.50	0.50	2.00	1.50	11.75
2040–44	7.00	2.50	0.50	2.00	1.50	13.50
2045–49	9.00	2.50	0.50	2.00	1.50	15.50
2050–54	11.00	2.50	0.50	2.00	1.50	17.50
2055–59	13.00	2.50	0.50	2.00	1.50	19.50
2060–64	13.00	2.50	0.50	2.00	1.50	19.50
2065–69	13.00	2.50	0.50	2.00	1.50	19.50
2070–74	13.00	2.50	0.50	2.00	1.50	19.50
2075–79	13.00	2.50	0.50	2.00	1.50	19.50

* Assuming no reduction of the contribution rate for unemployment benefits.

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