Actuarial Analysis of a Proposed Unemployment Insurance Scheme in Indonesia

International Labour Organization
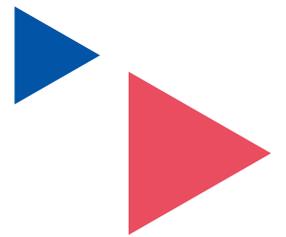
▶ # Actuarial analysis of a proposed unemployment insurance scheme in Indonesia

Alexandre Landry FSA, ACIA
Simon Brimblecombe FIA

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Abbreviations and acronyms

ALMP	Active Labour Market Policy
AME	average monthly earnings
BPJS	Badan Penyelenggara Jaminan Sosial (National Social Security System)
BPJS-TK	BPJS – Ketenagakerjaan (BPJS Employment)
BPJS-K	BPJS – Kesehatan (BPJS Health)
BPS	Badan Pusat Statistik (Statistics Indonesia)
CO-Jakarta	ILO Country Office for Indonesia and Timor-Leste in Jakarta
CPI	consumer price index
EIU	Economist Intelligence Unit
GDP	gross domestic product
IMF	International Monetary Fund
IDR	Indonesian rupiah
JHT	Jaminan Hari Tua (old age savings/provident fund)
JKK	Jaminan Kecelakaan Kerja (work injury benefit)
JKm	Jaminan Kematian (death benefit)
JKn	Jaminan Kesehatan Nasional (National Health Insurance)
JP	Jaminan Pensiun (pension)
MoM	Ministry of Manpower
PAYG	pay-as-you-go
TFR	total fertility rate
UI	unemployment insurance

▶ Acknowledgements

▶ Executive summary and recommendations

This report has been prepared within the framework of the project between the Government of Indonesia, represented by the Minister of Manpower (MoM), and the International Labour Organization (ILO). The main objective of this report is to assess the cost of implementing an unemployment insurance (UI) scheme in Indonesia and to identify which factors influence the cost of such a scheme. This report considers a specific design option for the UI scheme, as well as alternative design options and scenarios. It is based on data received as of 1 January 2020.

The role of UI has changed over time. Schemes initially sought to provide cash payments to eligible unemployed persons during periods of involuntary unemployment at a level to maintain to the greatest extent possible their standard of living. The scope of UI has since been expanded, and modern UI schemes also seek to promote return to work through the support and promotion of employment retention and reinsertion measures in the labour market. Consequently, social protection and employment policies are coordinated, and Active Labour Market Policies (ALMPs) become a key component of UI schemes.

According to international labour standards, a worker whose employment has been terminated should be entitled to UI benefits if they meet certain conditions, unless a severance allowance or other separation benefits are systematically paid. Even when this is the case, it is important that the combination of such allowances and UI benefits meet certain minimum conditions.

Consistent with the social insurance principles on which the scheme is established and in line with good practice, the UI scheme should be financed through employee and employer contributions. Contributions should be set in such a way as to support a countercyclical stabilization of the economy, namely that its revenue requirements should remain as stable as possible over time. We therefore recommend that the financing approach is as follows: *Employer and employee contributions are set at a fixed percentage rate of salary and at a level to target a reserve fund amount of two times the estimated annual benefit payment commitments in 2030.*

The proposed design option (detailed in section 3.1) includes a benefit to claimants of 50 per cent of their average insurable earnings in the previous six months paid for a maximum duration of six months. This benefit is paid to all those who become involuntarily unemployed and had contributed for a minimum of 12 months in the 24-month period preceding the termination of employment. In other words, upon involuntary termination, a person who has accrued a minimum of 12 months of contributions in the 24 months immediately preceding the termination will become eligible to receive up to six months of UI benefit payments. Table E1 presents the key parameters of the UI scheme assessed. We believe that such a benefit structure is appropriate for the context in Indonesia and provides adequate benefits; is in line with ILO Conventions and international practice; takes into account the tripartite discussions undertaken; and reflects the aims of the UI law and policy.

Table E1

Main parameters of the proposed design option

Parameter	Proposed design option
Coverage	Mandatory coverage for all employees in private sector enterprises (including construction workers as soon as possible)
Contribution Record required for benefit eligibility	A total of 12 months in the preceding 24-month period leading up to the date of claim
Eligible Reason for Termination of Employment	Involuntary loss of job or forced termination [1]
Insurable Earnings	Basic salary and fixed allowance, except for non-wage allowance (ceiling of IDR8,939,700 per month in 2020 [2])
Average Monthly Earnings (AME)	Average earnings over the 6 months prior to claim (ceiling of IDR 8,939,700 per month in 2020 [2])
Benefit Rate	50% of AME
Maximum benefit duration	6 months
Waiting period	7 days

IDR = Indonesian rupiah.

[1] If considered relevant to the stakeholders, voluntary terminations could also be accepted in circumstances where terminating was the only reasonable alternative (for example, .harassment, discrimination, major changes in work duties, terms and conditions of the job, discrimination because of membership in an association, organization or union of workers, pressure from employer or fellow workers to quit your job, etc.). Accepting additional types of terminations, however, tends to make a UI scheme more expensive.

[2] The ceiling is indexed annually in line with the GDP growth rate (in line with historic practice).

Actuarial valuation results are based on the data as of 1 January 2020 received from BPJS-TK [1] and the assumptions adopted. The results, therefore, depend on the assumptions that represent the best estimates of the actuaries based on data received and our judgment, as well as being internally consistent. Although the future is uncertain and there are specific challenges related to the first actuarial valuation of a new scheme, we believe that the assumptions are appropriate and therefore the suggested contribution rates below are appropriate.

Table E2 presents the suggested contribution rate for the proposed design option (detailed in section 3.3) as well as the minimum contribution rate that would be required to ensure the scheme's sustainability under a base (or best estimate) scenario, pessimistic scenario and an optimistic scenario (detailed in section 3.5). Presenting a range of possible outcomes allows for prudence in the context of the limited available data on which this study is based. Assessing the cost of a UI scheme does indeed require very specific data and a historical perspective of the context and labour market, which are sometimes very difficult to obtain before the programme is introduced.

[1] BPJS-TK is the abbreviation for Badan Penyelenggara Jaminan Sosial – Ketenagakerjaan, or the National Social Security System – Employment.

Table E2

Recommended contribution rate under base, pessimistic and optimistic scenarios, considering both benefit and administrative expenditures (in per cent)

	Pessimistic	Base	Optimistic
Suggested contribution rate (in per cent) [1]	4.89	1.35	0.66
Minimum contribution rate to ensure the scheme's sustainability (in %) [2]	3.91	1.08	0.54
Projected year of reserve exhaustion with a 1% contribution rate [3]	2022	2024	n.a.

n.a. = not applicable.

[1] The suggested contribution rate is the contribution rate that would be required to allow the scheme to accumulate a stabilization reserve of two times its total expenses (benefits and administrative costs) over the projection period of ten years.

[2] Refers to the contribution rate that would be just sufficient to remain sustainable over the projection period (no accumulation of a stabilization reserve at the end of the projection period).

[3] The year when contributions received would be less than projected benefit and expenses if a 1% contribution rate was applied, and therefore, when additional financing would be needed.

The recommended contribution rate for the proposed design option is therefore 1.35 per cent of insurable earnings. This contribution rate should be shared between employers and employees.

Alternative scenarios

In this report, alternative design options have been assessed. While we recommend the approach to provide the base benefit design described above, such analysis can assist policymakers in understanding the impact of changes in benefit levels.

The scenarios assessed in this report are as follows:

▶ If the benefit rate is increased to 60 per cent of earnings, the required contribution rate of 1.35 per cent under the proposed design option will increase by 0.21 per cent to 1.56 per cent. A benefit rate of 45 per cent will reduce the contribution rate by 0.10 per cent to 1.25 per cent.

▶ If the maximum benefit duration of six months under the proposed design option is increased to nine months, the required contribution rate of 1.35 per cent will increase by 0.33 per cent to 1.68 per cent. If the maximum duration is reduced to three months, the required contribution rate of 1.35 per cent will reduce by 0.49 per cent to 0.86 per cent.

The ILO remains available to provide support to design and assess further additional design options. The ILO reiterates its commitment to further assist the Government and social partners in Indonesia in defining the framework of their upcoming UI scheme with the dual objective of promoting employment and ensuring effective protection against unemployment.

Additional policy considerations

Policy considerations are detailed in Chapter 4 of this report. The following list summarizes the main additional policy considerations of the report.

▶ **Transitional arrangement:** The proposed design option requires a minimum of 12 months' contributions over the previous 24-month period to qualify for a UI benefit. Therefore, no member will accumulate enough months of contribution in the UI scheme in the first year of its implementation to become eligible for benefits.

As contributions will be paid from day one, and to ensure the UI scheme meets its objectives, we recommend that a transitional arrangement be put in place. We recommend that UI scheme members who have accumulated at least 12 months of contributions over the previous 24-month period in JKK (that is, up to the date of claim) could be eligible for compensation. The cost of this transitional arrangement is estimated to be 13.8 trillion Indonesian rupiahs under the best estimate scenario for the proposed design option. The cost of the transitional arrangement could be paid by the Government or could be financed through an increase in the contribution rate over the projection period. The required increase in the contribution rate is estimated at 0.13 per cent under the best estimate scenario.

▶ **Covering construction or seasonal workers:** We recommend that the eligibility requirement for these workers be set as a minimum of 12 months of contributions in the 24-month period up to the claim. Such a condition is fair and equitable and will reduce the potential risks of abuse from temporary or seasonal workers who could otherwise claim benefits on a regular basis if there were less stringent conditions. Coverage of construction or seasonal workers should be compulsory and not voluntary to ensure equity and to avoid selection against the scheme.

▶ **Multiple claims:** We recommend that the eligibility condition of 12 months of contributions in a 24-month period applies after any claim made by the unemployed worker. This condition should therefore be "reset" after any claim to ensure simplicity, support sustainability and fairness.

▶ **Part-time work:** When formerly unemployed workers find part-time work, UI schemes tend to adapt benefit levels to take into account this new reality but in such a way as to avoid disincentive effects. However, this requires significant compliance, record keeping and monitoring work, and we recommend that at least in the short term, no specific consideration is given to part-time workers.

▶ **Complementarity with other sources of income replacement for unemployed workers:** Appropriate coordination between the UI scheme and the existing severance pay programme will ensure that both the overall support for unemployed workers and the financing of benefits are appropriate. We recommend that further consideration be given to reforming the severance pay system to ensure this happens and to reduce compliance issues. It is also worth noting that workers who withdraw their contributions from their JHT

savings account [2] on a regular basis (that is, each time they become unemployed) will face significant financial challenges at retirement. We recommend that JHT should be focused on retirement needs, and in order to ensure that both the UI and JHT schemes meet their main objectives, it is strongly recommended to prevent any further withdrawals from JHT on the basis of involuntary termination once the UI scheme is fully implemented.

▶ **Setting future contribution rates:** Unemployment insurance schemes are short-term benefit schemes for which contributions may have to be modified more frequently than for pension schemes. It is recommended that the contribution rate of the UI scheme should be reviewed regularly after the results of an actuarial valuations are produced every two to three years, rather than having it locked-in for an indefinite period of time. The rate setting mechanism should also specify how the contribution rate is shared between employees, employers and the Government.

▶ **Proper monitoring and data collection:** Once the UI scheme is implemented, it will be important to start collecting data and statistics on its members and beneficiaries with a view to allowing a better understanding of the interactions between the demography, the economy, the labour market and the scheme's experience. Collecting such data and statistics will not only contribute to an improved monitoring of the scheme, but also provide guidance to decision-makers for policy-setting.

▶ **Extension of coverage to other workers:** The estimated cost of the scheme is defined as a percentage of insurable earnings. Therefore, if the scheme membership is extended to other workers with similar characteristics (age, sex, withdrawal experience, etc.) then the recommended contribution rate would still be broadly appropriate. If this is not the case, we recommend additional costings.

▶ **Case management and employment services:** In order to achieve one of the main goals of the unemployment insurance scheme – which is to increase employability and help employees find suitable jobs – case management and employment services play a crucial role. It is therefore strongly recommended to study how case management and employment services can be efficiently handled in Indonesia.

▶ **Compliance with ILO Conventions:** Although stakeholders can agree to adopt unemployment insurance provisions that differ from those proposed in this report, it is strongly recommended that the upcoming scheme's provisions comply with the internationally-recognized ILO Social Security (Minimum Standards) Convention, 1952 (No. 102).

The ILO remains ready, on the basis of the discussions held in the preparation of this report, to continue to work with social partners in the implementation of the UI scheme with the dual objective of promoting employment and ensuring effective protection against unemployment.

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[2] JHT is the abbreviation for Jaminan Hari Tua, which is a government old age savings/provident fund contributed to by workers and employers in formal enterprises within the private sector.

Introduction

This report presents the results of the actuarial analysis and costings made for a proposed Unemployment Insurance Scheme in Indonesia. It includes projections, policy and financing implications.

The analysis was based on data provided by the National Social Security System – Employment (Badan Penyelenggara Jaminan Sosial – Ketenagakerjaan, BPJS-TK). This report is structured as follows:

▶ Chapter 1 presents an overview of the context in which the unemployment insurance (UI) scheme is expected to be implemented. This section also highlights the main characteristics of Indonesia's population, labour force and unemployment.

▶ Chapter 2 presents the economic and demographic assumptions made under the actuarial valuation.

▶ Chapter 3 presents the results of demographic and financial projections according to the proposed design option under a base scenario, as well as under optimistic and pessimistic scenarios. This section also seeks to analyse the links between Indonesia's general labour market and the population that will likely be covered by the new UI scheme.

▶ Chapter 4 presents some of the policy considerations, and discusses the financing and funding of the proposed UI scheme.

Recommendations stemming from the actuarial analysis can be found as part of the executive summary and recommendations section above.
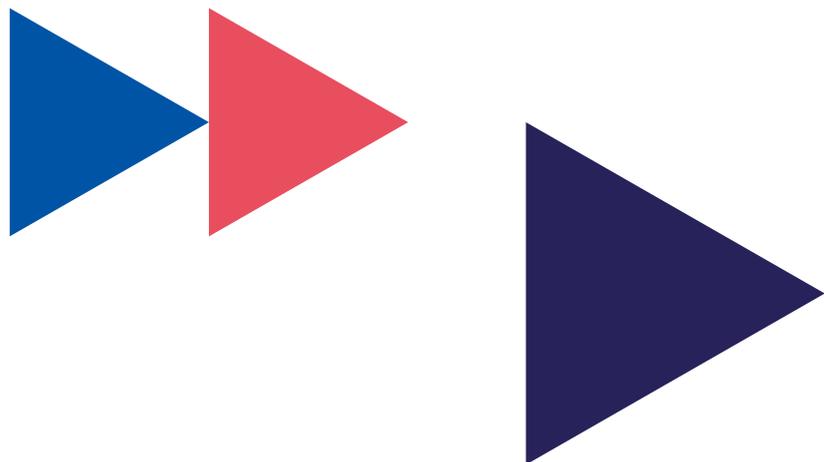
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GENERAL OVERVIEW OF THE CONTEXT

General overview of the context

As no unemployment insurance (UI) scheme currently exists in Indonesia, there is a degree of uncertainty regarding the evolution of future experience. Therefore, it is important to understand how a UI scheme would behave once introduced. This chapter intends to draw a general picture of the country's general demographic and macroeconomic environment, and presents an overview of the direction in which the country's labour market is likely to evolve, and in turn how the UI scheme's members and beneficiaries are likely to develop in the future.

Section 1.1 presents an overview of Indonesia's general legal framework. Section 1.2 highlights the main characteristics of the country's population, labour force and unemployment. Section 1.3 analyses past trends in terms of gross domestic product (GDP), productivity and inflation. Finally, section 1.4 lists some of the main findings from this chapter.

1.1. Indonesia's general legal framework

In Indonesia, the Badan Penyelenggara Jaminan Sosial Ketenagakerjaan (BPJS-TK) and the Badan Penyelenggara Jaminan Sosial Kesehatan (BPJS-K) are responsible for the administration of four social security benefits (administered by BPJS-TK) as well as healthcare benefits (administered by BPJS-K). The functions of the BPJS-TK and BPJS-K include the collection of contributions, taking applications for benefit, processing claims and paying benefits. Table 1.1 presents the five existing social security schemes in Indonesia and the contribution rates for each. Social security contributions in Indonesia currently stand at a combined average total of roughly 15 per cent of salaries, with employers paying between 10.24 and 11.74 per cent and workers paying 4.0 per cent.

Table 1.1.

Social security schemes and contribution rates (in per cent)

Social security scheme	Contributions as percentage of insurable salaries [1]	
	By employer	**By employee**
Administered by BPJS Ketanagakerjaan		
Employment injury benefits (JKK)	0.24–1.74 [2]	–
Death benefits (JKm)	0.3	–
Old age savings (defined contributions) (JHT)	3.7	2.0
Pension (defined benefit) (JP)		
Administered by BPJS Kesehatan	1	0.4%
Healthcare (JKN)	4.0	1.0
Total	**10.24–11.74**	**4.0**

– = nil.

[1] Insurable salaries include fixed allowances, up to 7,335,300 rupiahs per month (in 2017).
[2] Five categories depending on risk (as specified in Appendix I of Regulation 44/2015 on Work Accidents).

The coverage rules as well as an estimate of the effective coverage under each of the benefit branches administered by BPJS-TK are presented in table 1.2.

Table 1.2.

Social security coverage, BPJS-TK, 31 December 2018

Benefit package	Legal coverage	Actual coverage
JKm, JKK, JHT, JP	Mandatory for wage workers of medium and large enterprises; Voluntary for wage workers of small and micro enterprises	11.8 million waged workers
JKm, JKK, JHT	Mandatory for wage workers of small, medium and large enterprises; Voluntary for wage workers of micro enterprises and non-wage workers	15.3 million waged workers
JKm, JKK	Mandatory for wage and non-wage workers	28.1 million wage workers [1]

[1] Detailed as 19.4 million wage earners and 8.6 million construction workers.
Source: BPJS-TK, Annual Report 2018; Labour Force Surveys (Sakernas)

As illustrated in the above table, the social security coverage of Indonesian workers remains relatively limited. In fact, the BPJS-TK only covers about 22 per cent of the country's labour force (some of whom are only partially covered) as of 2018 [3] [4]. The compliance rate across the range of social security programmes is therefore relatively limited and varies significantly from one sector to another. As an example, project-based construction workers are only covered on a bulk basis and only under the JKm and JKK, with employer contributions assessed according to the estimated value of the construction projects. The BPJS-TK does not collect and maintain individual worker records for such projects. Once projects are completed, workers do not retain any coverage. This distinguishes them from the permanent employees of construction enterprises, who are covered on the same basis as all other regular wage earners.

As of 2020, statutory severance payments and lump-sum withdrawals from JHT [5] are the two main sources of income replacement for unemployed workers. Those two main sources of income replacement are discussed in the two following sections.

1.1.1. Statutory severance payments

Indonesia's main labour law – Law No. 13 of 2003 concerning Manpower – regulates termination conditions for employees. Under this law, employers are restricted from discharging employees without cause, and must provide discharged workers with a combination of severance pay, long service pay, compensation rights pay and separation pay.

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[3] Based on those covered exclusively under JKm and JKK and assuming an estimated total number of workers of 124.0 million in 2018. More details on the labour force and employed population in Indonesia are presented in section 1.2.
[4] Based on a 2019 article published by the President Director of BPJS-TK, BPJS-TK would have a legal coverage (population covered according to the national legislation) of about 86.67 million workers in 2018 – 38.58 million workers in the formal sector and 48.09 million workers in the informal sector. See: Agus Susanto, "Indonesia's Pension in 2018 under BPJS Ketenagakerjaan", *Nomura Journal of Asian Capital Markets* 3, No.2 (2019), 10–14.
[5] JHT is the abbreviation for Jaminan Hari Tua, which is a government old age savings/provident fund contributed to by workers and employers in formal enterprises within the private sector.

According to a recent study conducted by the Asian Development Bank (ADB) [6] , the generous severance conditions in Indonesia are one of the key reasons why firms tend to employ workers on a temporary basis. Many firms choose to hire employees on short-term contracts to avoid provisions on severance pay, which are high in comparison to other countries. One reason why provisions on severance pay are comparatively high relates to the limited social assistance or social insurance programmes available for unemployed workers.

Research on severance payments indicates that compliance tends to be low, with only one-third of workers entitled to severance payments actually receiving it. [7] Moreover, when payments are received by workers were on average about 40 per cent of what should have been paid to them. As a result, the research indicated that only about 10–14 per cent of the mandated severance payments were actually paid. This highlights the degree to which the severance pay system in Indonesia is not functioning, and serves as a rationale for implementing an unemployment insurance scheme that will ensure equitable treatment and payment of benefits for all those meeting the eligibility criteria.

Consistency between severance payment law and practice and a UI scheme is an important issue that should influence the design of the UI scheme. The ILO has provided comments on the current structure of severance payments. It is important that, on the one hand, the co-existence of severance pay and a UI scheme does not lead to over-provision or double provision. But on the other hand, the existing severance pay provision – which is very narrowly applied in practice – should not be used as a reason for not providing UI benefits, nor should it be used as a reason for employers to not contribute to a UI scheme.

1.1.2. Withdrawals for job terminations under JHT

In Indonesia, JHT, a provident fund and defined contributions scheme, collects the largest proportion of contributions related to old age benefits. Under JHT, all accumulated savings can be withdrawn at retirement, but also in case of permanent disability, death or leaving the country, and since mid-2015, in cases of job termination (after being unemployed for one month). Before mid-2015, such withdrawals for job terminations were only allowed to members with at least five years of contributions.

Annual statistics from BPJS-TK show that in every year since 2016, 90 to 95 per cent of all JHT claims are reported as resulting from resignations or layoffs. Resignations represent between 72 and 78 per cent of all JHT claims each year. According to BPJS-TK, many claimants return to work for the same employer soon after their withdrawal, indicating an arranged or artificial nature of the resignations or layoffs observed in JHT withdrawals, and the possible complicity of employers. As a result, while the JHT scheme is supposed to be focused on retirement needs, less than 3 per cent of claims appear to be for retirement purposes every year since 2016. [8] Figure 1.1. presents the evolution of the JHT claims since 2016, distributed by type of benefit claim.

[6] Emma R. Allen, "Analysis of Trends and Challenges in the Indonesian Labour Market", ADB Papers on Indonesia No. 16, 2016.
[7] Vera Brusentsev, David Newhouse, and Wayne Vroman, "Severance Pay Compliance in Indonesia", World Bank Policy Research Working Paper No. 5933, 2012.
[8] Michel Bédard, John Carter, and Ippei Tsuruga, *Legal, Financial and Administrative Considerations for an Employment Insurance System in Indonesia* (ILO, 2020).

Figure 1.1.

Distribution of JHT claims, by type of benefit claim, 2016–20
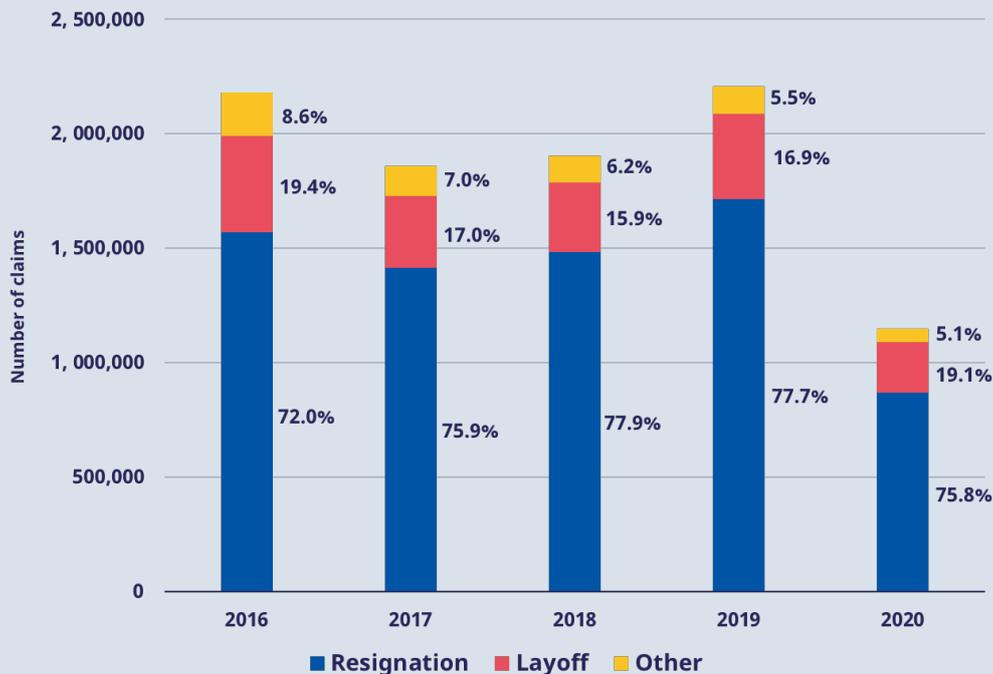
Notes: 2020 shows data for only part of the year.
"Other" refers to those who have submitted claims for reasons such as leaving the country, death, retirement and partial claims.

Source: BPJS-TK Presentation on the BPJS-TK schemes, 20 September 2020.

For many workers, JHT is thus a short-term savings scheme. For example, after one year of work, the savings that workers can access is equivalent to about two-thirds of a month's pay (12 × 5.7% [9] = 68.4%), which many may find attractive. Alternatively, in the absence of effective unemployment protection, JHT also serves as a kind of unemployment benefit.

As of the date of the publication of this report, unemployed workers in Indonesia are not effectively protected in case of job loss. Without UI provision, statutory severance payments and lump-sum withdrawals of old-age savings (JHT) are the main sources of income replacement for workers during unemployment. However, these schemes are not designed to guarantee an adequate level of benefit, and in the particular case of insolvencies, the employers' liability scheme is often an unreliable source of protection for unemployed workers.

[9] The "5.7%" refers to the contribution rate paid to JHT (3.7 per cent paid by the employer and 2.0 per cent paid by the employee).

1.1.3. Setting up a comprehensive unemployment protection system

In the recent years, stakeholders have been actively debating the possibility of establishing a comprehensive unemployment protection system that effectively harmonizes unemployment benefits, public employment services and reskilling programmes. In February 2020, the Government of Indonesia submitted an omnibus law on job creation to the House of Representatives. The House completed its deliberation and sent the bill to the President in October 2020, and the President signed the bill in November 2020. The bill stipulates the general framework in which the upcoming Unemployment Insurance (UI) scheme will be implemented (a separate government regulation is to provide the detailed provisions of the upcoming UI scheme):

▶ The UI scheme will be established and its benefits will be provided in line with social insurance principles.

▶ The UI benefits will be linked to public employment services and reskilling programmes.

▶ The maximum duration of cash benefits is six months;

▶ The Government expressed its commitment to provide initial capital; and

▶ BPJS-TK will manage the UI scheme.

The Government acknowledged the ILO's contribution to the omnibus law and requested the ILO to further support the development of the regulation related to the UI scheme. Labour inspection is one of the core functions of the Ministry of Manpower (MoM), covering every economic sector and enterprises of every size. The MoM also acts as a policy regulator and a focal point for the development of policy and plans for Social Security. Three departments within the MoM would be especially involved in the planning and design of the upcoming UI scheme:

▶ the Department for Industrial Relations and Social Protection, responsible for policy regulation on employment matters;

▶ the Department for Placement and Expansion of Employment Opportunities, responsible for Active Labour Market Policies to assist workers to obtain suitable employment; and

▶ the Department for Training and Productivity, responsible for issues involving vocational training, national standards for industry, and competency-based training and certification.

The UI scheme is expected to protect workers from the risk of out-of-work poverty, while creating incentives for individuals to enhance their skills, increase their employability and look for jobs. The coverage, adequacy and generosity of the programmes should be integrated within the UI system and contemplate the country's labour market landscape.

1.2. Population, labour force and unemployment

This section highlights the main characteristics of Indonesia's population, labour force and unemployment as of 2019, the year in which the data obtained from BPJS-TK were extracted. The overall picture presented in this section therefore pre-dates the COVID-19 pandemic. This section does not reflect the situation in Indonesia as of the date of the publication of this report, but rather intends to serve as a starting point for the cost assessment, as well as a guide for what the medium- and long-term economic environments may look like. Economic and demographic developments in 2020 are discussed in detail in Chapter 2.

1.2.1. Country's demography

This section draws heavily from the *Statistical Yearbook of Indonesia 2020* released by Statistics Indonesia (Badan Pusat Statistik, or BPS), which provides a comprehensive picture of the country's demography and economy as of 2019.

Figure 1.2 presents the evolution of the country's general population between 2010 and 2019, as well as its annual population growth.

Figure 1.2.

General population and annual population growth, 2010–19
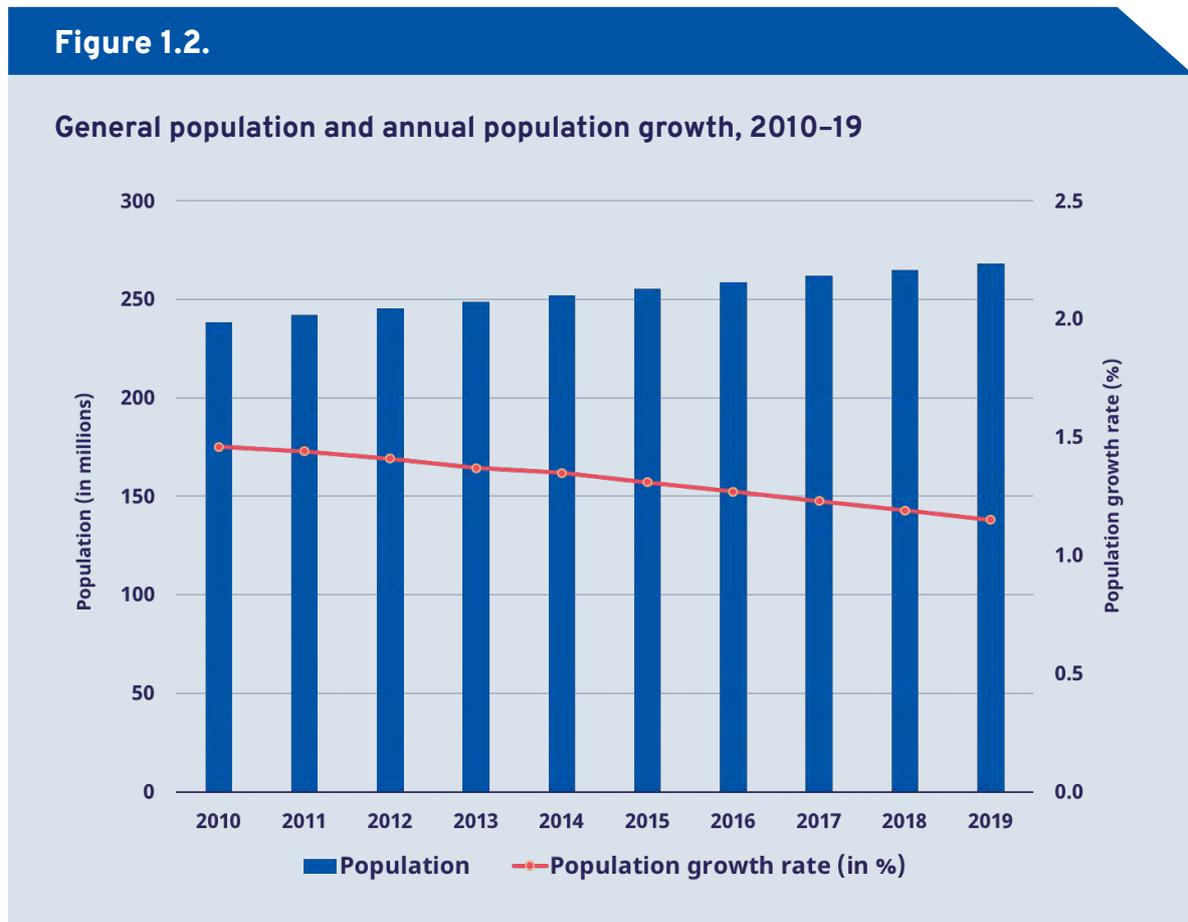
Source: Indonesia mid-year population projection based on the 2010 census, BPS.

It is worth noting that the main source of demographic data in Indonesia is a population census conducted every ten years. The last population census was conducted in 2010. Figures and estimates for 2019 are based on national projections from the 2010 census. The projections from BPS for years 2011–19 remain consistent with other external sources of information, including the United Nations (UN) World Population Prospects (2019 revision), the World Bank, the Economist Intelligence Unit (EIU) and the International Monetary Fund (IMF).

Indonesia is the fourth-largest country by population in the world. In 2019, the population of Indonesia was estimated at 268.1 million, an increase of 12.4 per cent since 2010. Indonesia's population has grown at an average rate of 1.3 per cent per annum over the period 2010–19.

Figure 1.3 presents the estimated age distribution of the general population as of 2019, by sex.

Figure 1.3.

Age distribution of the population, by sex, 2019 (in millions)
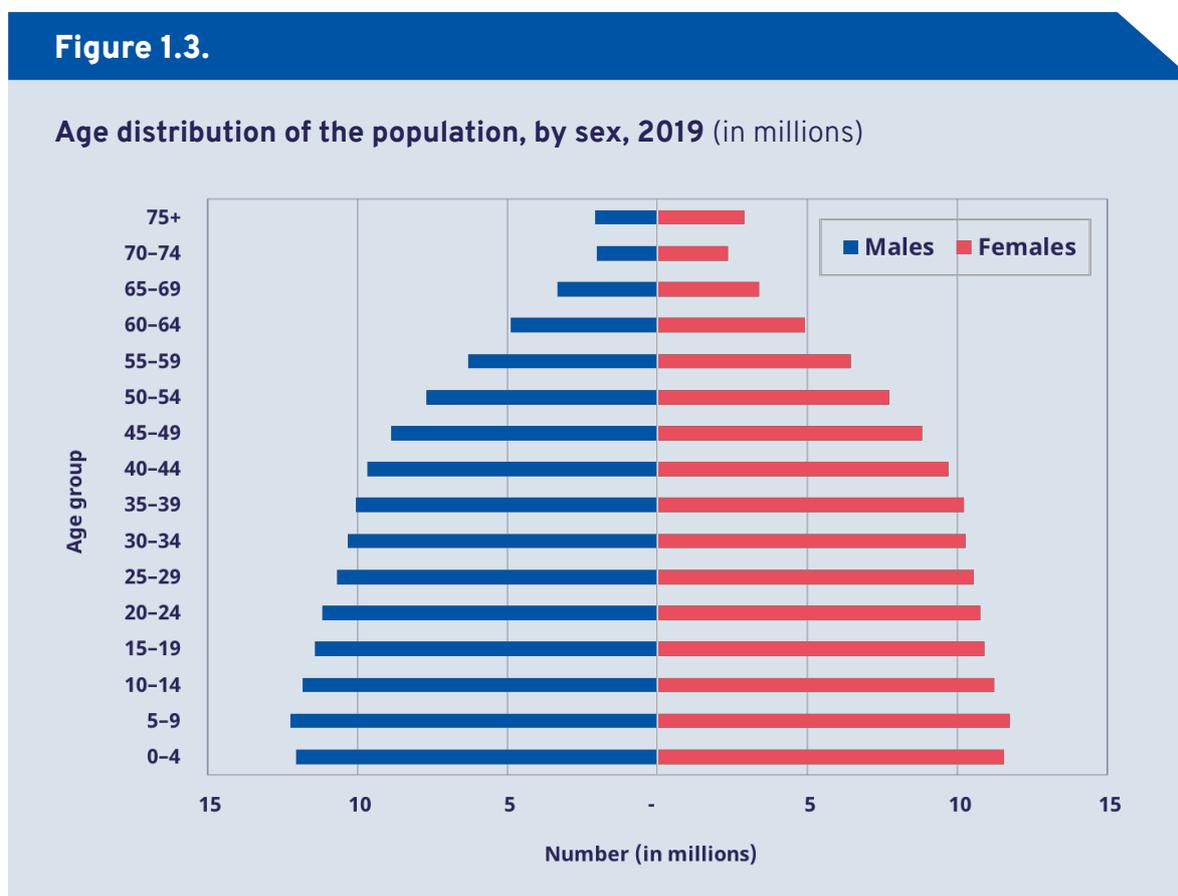
Source: Indonesia mid-year population projection based on the 2010 census, BPS.

The age distribution presented above highlights the fact that Indonesia's population remains young: 26 per cent of the population is under 15 years old and 68 per cent of the population is between 15 and 64 years old. The average age of Indonesia's population is around 30 years. It is also observed that the Indonesian population is relatively symmetric between males and females.

As almost 35 per cent of the Indonesia population was aged below 20 in 2019, it is reasonable to assume that the labour market will see a wave of new entrants during the next 10 or 20 years. This highlights one important challenge for the younger generation: if the number of job opportunities is not increased, finding jobs will become more difficult in the coming years, the competition between job candidates will increase, and the unemployment rate could increase.

1.2.2. Labour participation and employment

The main source of labour data in Indonesia comes from the National Labour Force Survey (Sakernas), which collect information on labour force statistics. Since 2015, labour force surveys have been conducted on a biannual basis, in February and August of each year.

The general labour force participation rate has remained relatively stable since 2010, varying every six months between 65.8 and 70.0 per cent. Over the period from 2010 to 2019, the average labour force participation rate was 68.1 per cent. As observed in figure 1.4, employment tends to fluctuate substantially between February and August of each year. This is discussed more in detail later in this section.

Figure 1.4.

Labour force population and labour force participation rate, 2010–19
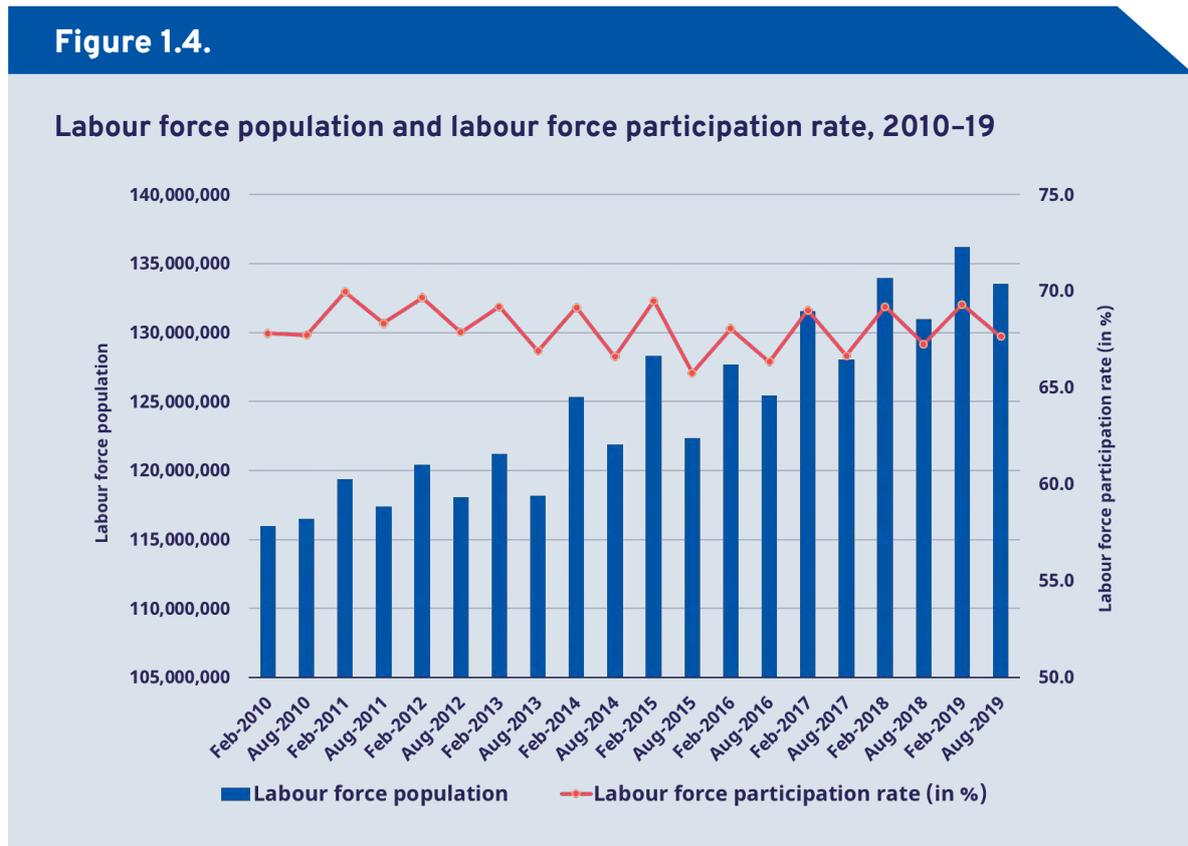
Source: BPS.

Figure 1.5 present the estimated labour force participation rates in August 2019, by age group, in Indonesia.

Figure 1.5.

Labour force participation rates, by age group, August 2019 (in per cent)

Source: Labour Force Survey, August 2019, BPS.

In August 2019, the average labour force participation rate among females was estimated at 52.0 per cent, while it reached approximately 83.3 per cent among males.

Figure 1.6 illustrates the involution of the unemployment rate in Indonesia between 2010 and 2019.

Figure 1.6.

Unemployed population and unemployment rate, 2010–19
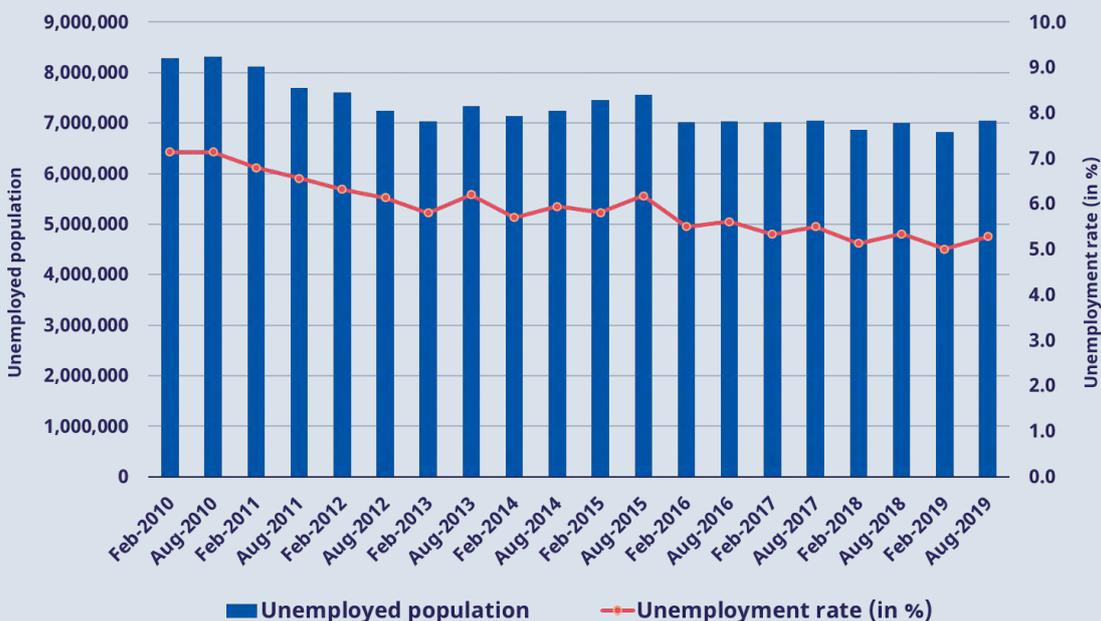
Source: BPS, Labour Force Surveys (Sakernas).

The official unemployment rate has reduced gradually over the last couple of years, from about 7.1 per cent in August 2010 to 5.3 per cent in August 2019. Overall, the unemployment rate has remained relatively low in Indonesia over the past few years. This implies that the in-flow of new entrants in the labour market each year since 2010 has not put much pressure on the Indonesia's labour market.

As previously observed, employment tends to fluctuate substantially between February and August of each year (see figure 1.4); while estimates of unemployed workers remain comparatively stable throughout the year (see figure 1.5). Figure 1.7 illustrates the fluctuations in the employed population in the unemployed population over the period 2010–19.

Figure 1.7.

Fluctuations in the employed population and the unemployed population, 2010–19
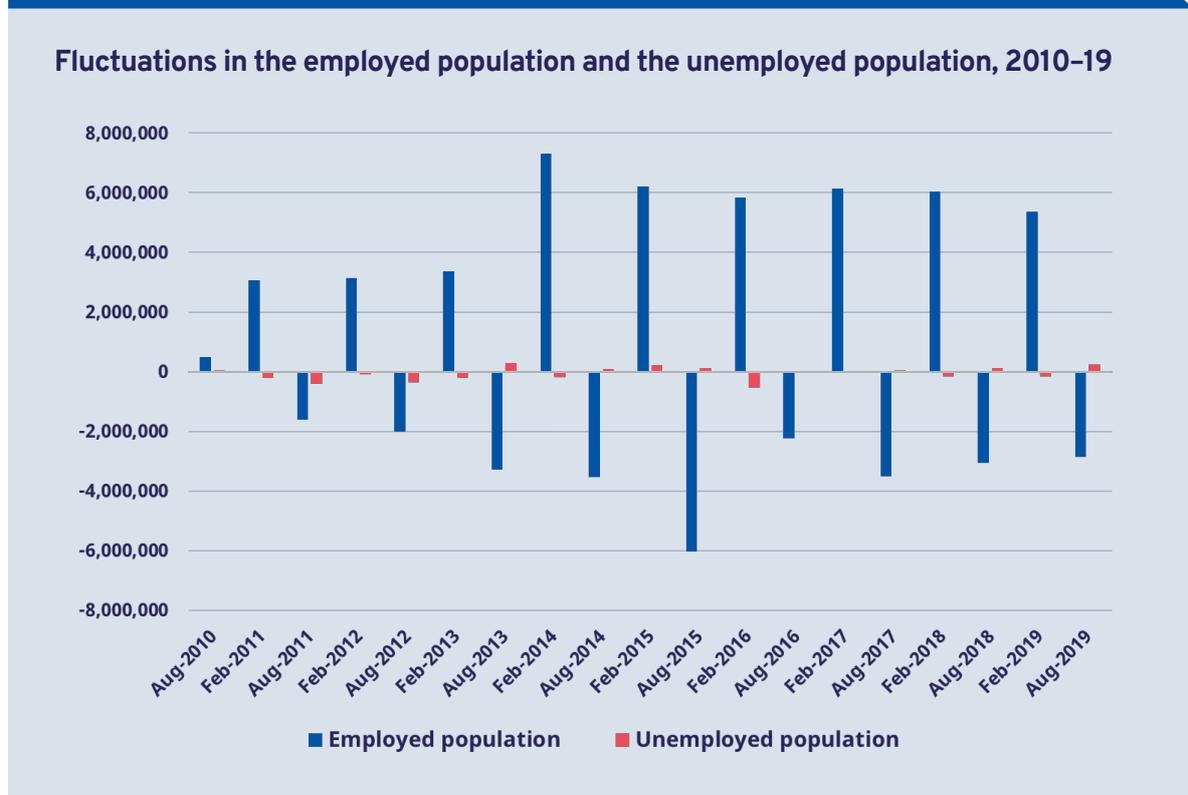
Source: BPS.

In the above figure, it is possible to observe that (as an example) the employed population increased by roughly 5.4 million persons between August 2018 and February 2019, while the unemployed population decreased by about 170,000 workers. Similarly, between February and August 2019, the employed population declined by approximately 2.9 million persons, while the unemployed population increased by roughly 230,000 workers.

It is worth noting that, although the unemployed population increase and decrease each semester by a small number (at least in comparison with the total labour force population in Indonesia), that does not mean that the actual number of separations experienced each

semester has been low. As an example, in an extreme case, separations could even be higher than the total number of unemployed persons in any semester. [10]

Normally, fluctuations in employment outcomes should be reflected in variations in the unemployment rate. However, it is possible that since Indonesia does not provide unemployment benefits, many workers tend to shift between short-term work opportunities and then exit the labour force. Such workers could be considered to be discouraged workers who are marginally attached to the labour force. These workers may also exit the labour force frequently due to their domestic responsibilities. While seasonal factors and economic performance may influence labour market outcomes throughout the year, the significant variation in labour force participation throughout the year is a concern. The combination of jobless growth and high number of workers exiting the labour market throughout the year suggests that economic growth is both generating few jobs and does not appear to be reducing the high levels of turnover in the labour market. [11]

The seasonality of the labour market means that many workers will have patchy contribution records, especially those in precarious jobs. It is therefore important that the eligibility conditions for the future UI scheme be expressed as a total number of months of contributions in a given period rather than a minimum number of continuous contributions (for example, 12 continuous months). This prevents those who are most vulnerable from not being covered, and it is a fairer and more equitable eligibility requirement than a continuous number of months of contributions.

Figure 1.8 illustrates the estimated unemployment rates in August 2019, by age and sex.

Figure 1.8.

Unemployment rates, by age group, August 2019 (in per cent)
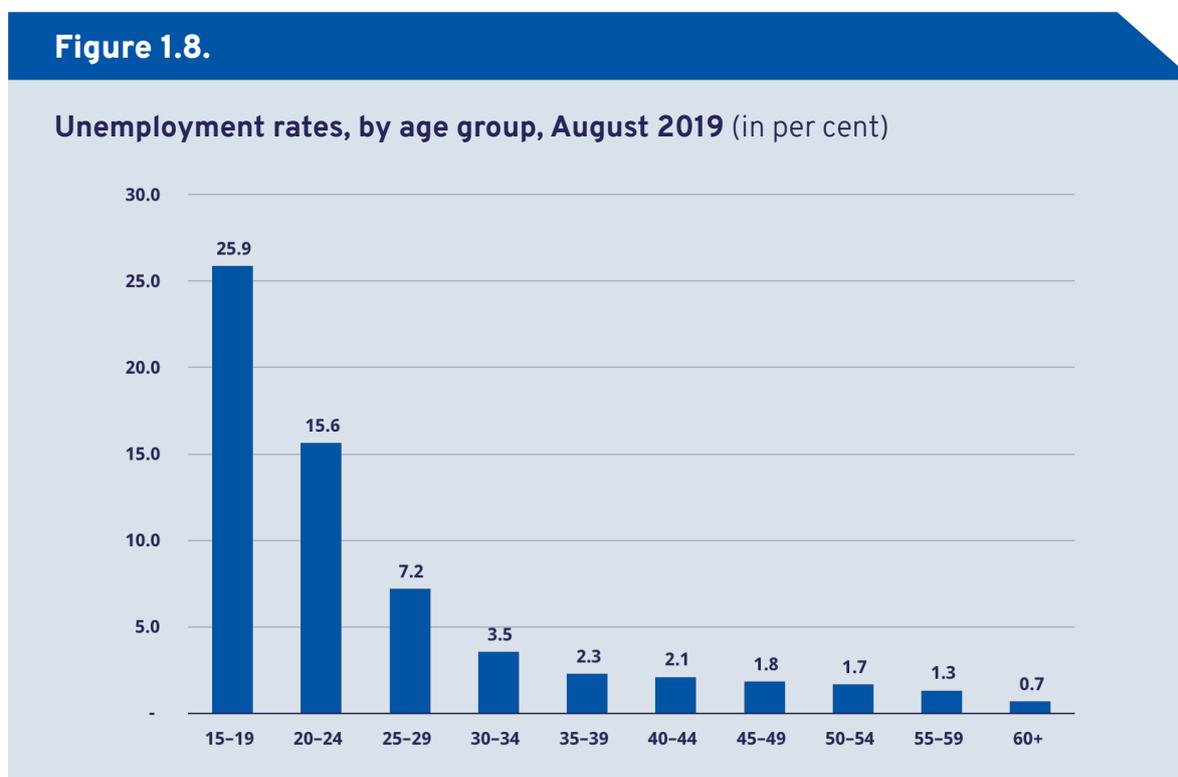
Source: Labour Force Survey, August 2019, BPS.

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[10] Such situation could occur if, for example, each month the entire pool of unemployed workers become employed and are replaced by a new pool of newly unemployed workers.
[11] Allen, "Analysis of Trends and Challenges in the Indonesian Labour Market".

As illustrated in figure 1.8, the unemployment rate in Indonesia tends to decrease with age. In August 2019, the unemployment rate among youth aged 15–24 years old (18.6 per cent) was almost seven times that observed among older age groups (an average of 2.7 per cent). This probably is due to multiple factors including barriers to entry into employment, voluntary resignations due to job mismatching and other issues related to employment policies. This may also be explained by the fact that younger workers have generally less secure and less stable jobs than older ones. According to the August 2019 Labour Force Survey, the average unemployment rate among females (5.2 per cent) was slightly less than that observed among males (5.3 per cent).

The age distribution of the unemployed population can be divided between those who have prior work experience and those who have never worked before (first-time jobseekers). Indeed, as of August 2019, first-time jobseekers represented as much as 50.1 per cent of the total unemployed population in Indonesia. Figure 1.9 illustrates the age distribution of the unemployed population in August 2019, split between those who have prior work experience ("ever worked") and first-time jobseekers ("never worked"). Although the general unemployed population is a heavily concentrated among ages 15 to 34, the profile of future claimants of the upcoming unemployment insurance scheme is likely to be less concentrated among those ages. Figure 1.10 illustrates exclusively the age distribution of the unemployed population with prior work experience as of August 2019.

Figure 1.9.

Unemployed population by age group, those who have never worked and those with a work history, August 2019
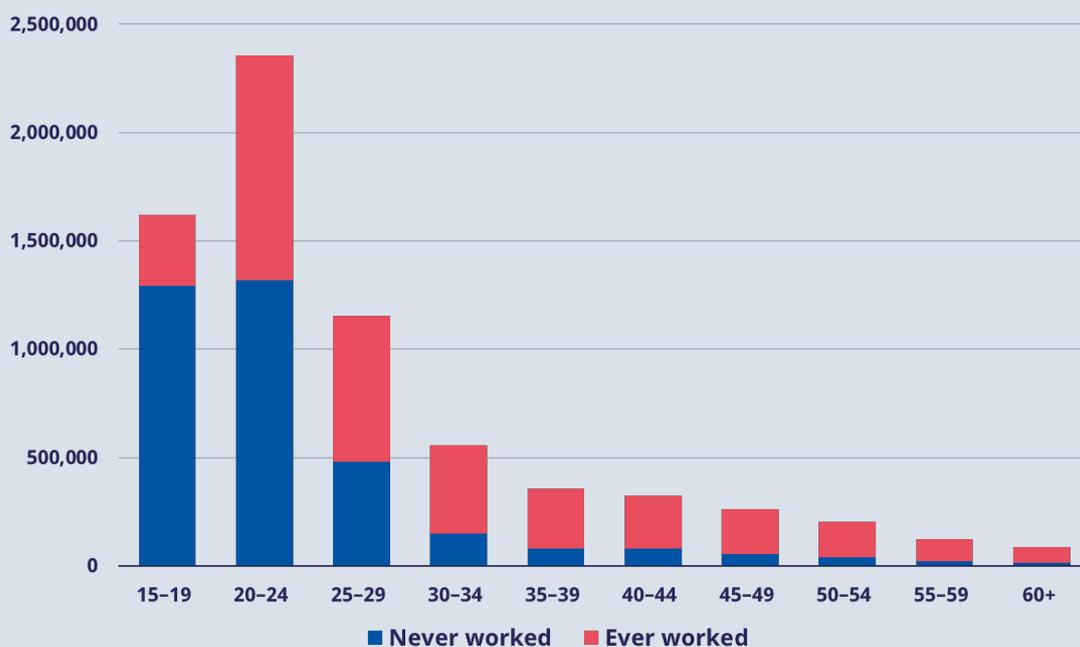
Source: Labour Force Survey, August 2019, BPS.

Figure 1.10.

Distribution by age group of unemployed population with prior work experience, August 2019 (in per cent)
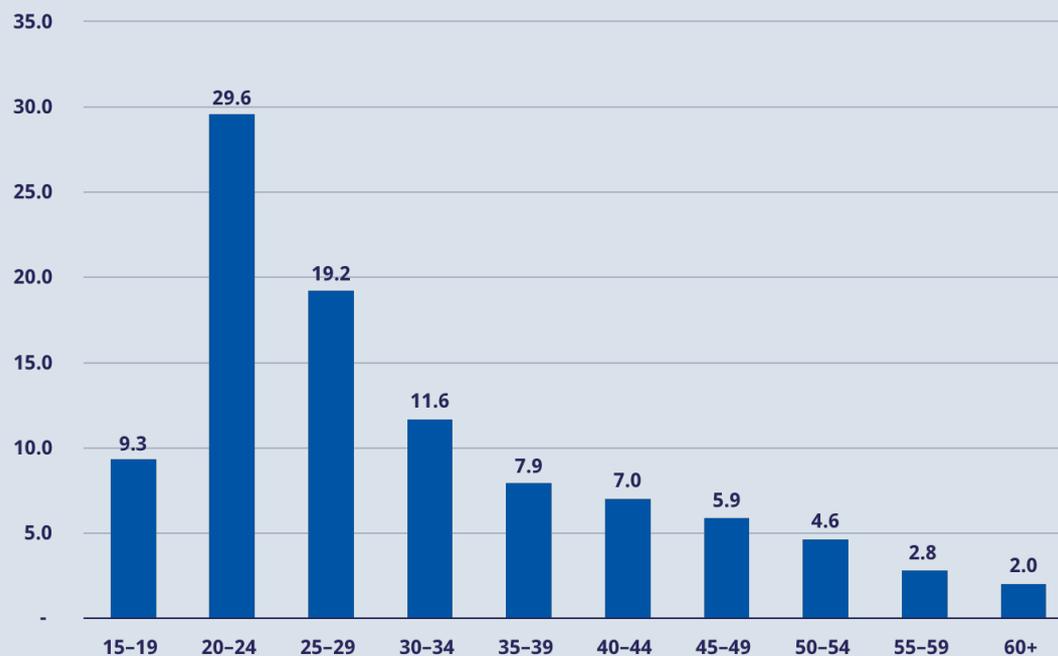
Source: Labour Force Survey, August 2019, BPS.

1.2.3. Statistics from BPJS-TK

As previously mentioned, no unemployment benefit exits in Indonesia. An analysis of the data provided by BPJS-TK on JHT membership and beneficiaries can nonetheless help understand how a UI scheme would behave in Indonesia. The data provided on JHT membership and beneficiaries remain the most credible source of information in Indonesia to assess the cost of the upcoming UI scheme. No data were obtained on statutory severance payments.

This section discusses exclusively the JHT membership and beneficiaries.

Table 1.3 presents the average number of monthly active insured members of JHT, by age group and sex, for 2019.

Table 1.3.

Distribution of average active insured JHT members per month, by age group and sex, 2019

Age	Males	Females	Total
15–19	147 817	165 129	312 946
20–24	1 419 840	1 081 246	2 501 086
25–29	2 067 446	1 131 284	3 198 731
30–34	1 833 377	803 582	2 636 959
35–39	1 636 736	676 528	2 313 265
40–44	1 268 530	495 679	1 764 210
45–49	1 014 704	330 278	1 344 982
50–54	704 924	192 543	897 467
55–59	253 295	58 005	311 301
60–64	108 945	20 215	129 160
65–69	23 153	4 149	27 302
Total	**10 478 769**	**4 958 638**	**15 437 408**

Source: BPJS-TK, detailed statistics provided on JHT scheme, 2019

An average of 15.4 million of workers contributed each month to JHT in year 2019. The number of active contributors remained largely composed of workers aged between 20 and 40 years old (69 per cent of the total number of monthly contributors in 2019).

According to the historical data on membership provided by BPJS-TK, the age distribution of the active insured members of JHT remained almost unchanged each month between January 2016 and December 2019. Figure 1.11 presents the average age distribution of the monthly JHT membership observed during the period from January 2016 to December 2019, as well as the age distribution of the monthly average of workers who have withdrawn JHT funds on the basis of having been laid off or resigning from their jobs.

Figure 1.11.

Average distribution of JHT membership, layoff claims and resignation claims, by age group, 2016–19 (in per cent)
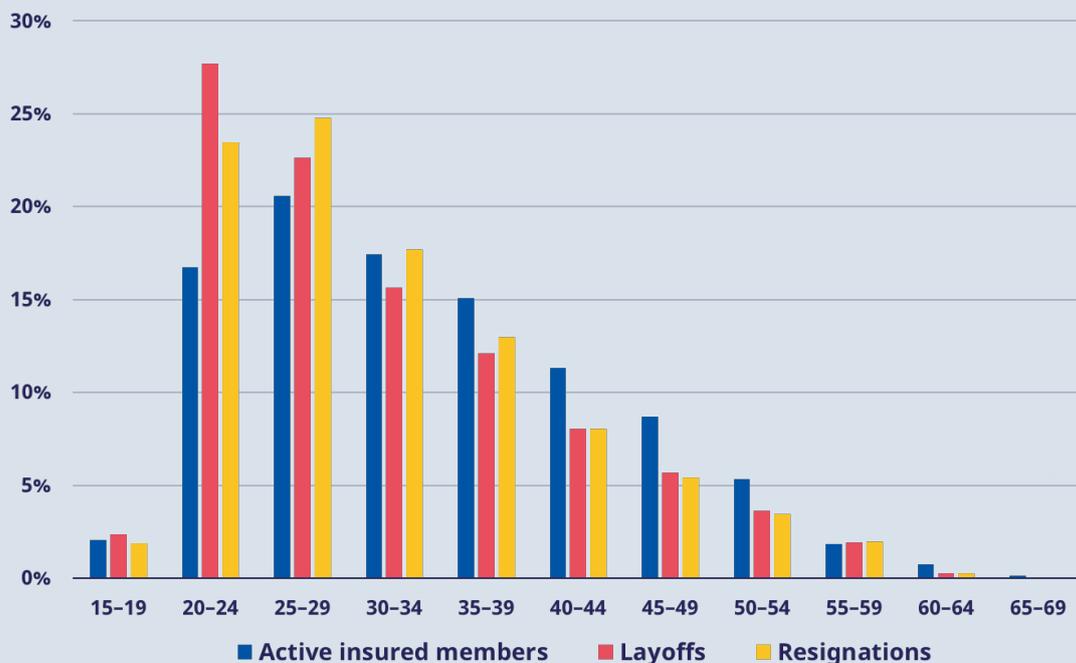
Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2016–19.

The above figure shows interesting trends, especially between ages 20 and 30: the layoff and resignation claim distributions are much more concentrated between those ages when compared to the distribution of active insured members. Although the 20–30 age group comprises 37 per cent of all active insured members, it is responsible for 48 per cent of JHT terminations each month (50 per cent of all layoff claims and 48 per cent of all resignation claims). This is largely explained by the fact that younger workers generally have less secure and less stable jobs than older workers. "JHT terminations" within the context of this discussion refers to those workers who have withdrawn their funds, and consequently no longer have an active JHT membership.

Figure 1.12 compares the age profiles of those who have withdrawn their JHT funds for reasons of layoffs and resignations in the year 2019 and over the period 2016–19, as well as the age profile of the unemployed population in Indonesia with prior work experience (as presented earlier in figure 1.10).

Figure 1.12.

Average distribution of JHT terminations due to layoffs and resignations, 2019 and historical 2016–19, and distribution of unemployed workers with prior work experience, August 2019, by age group
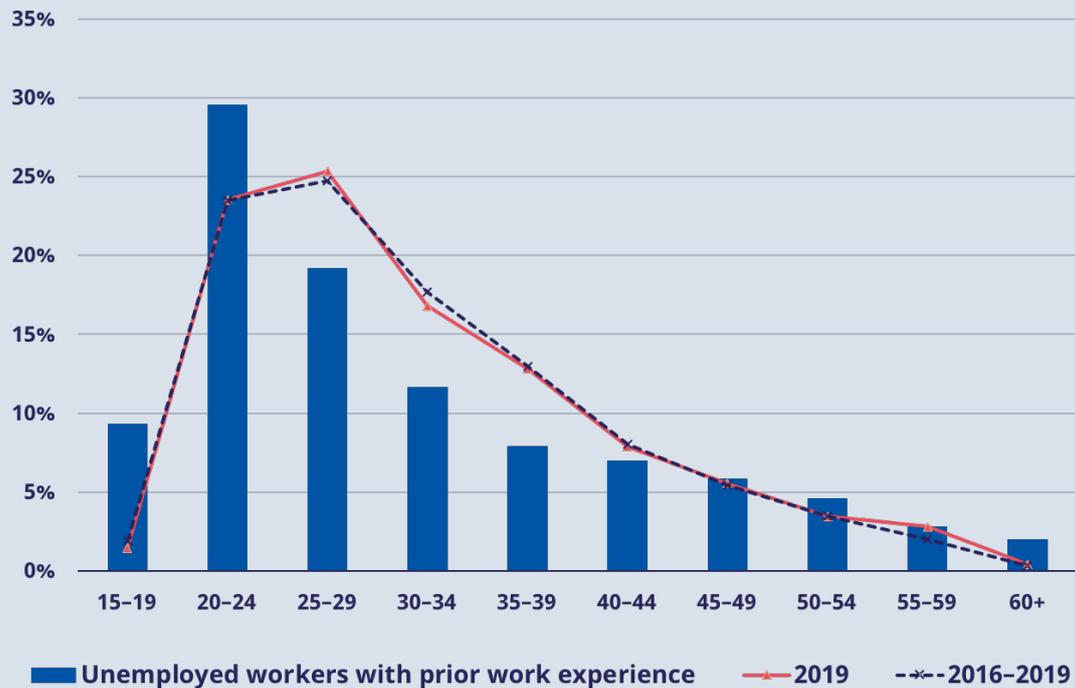
Source: Authors' calculations based on Labour Force Survey, August 2019, BPS, and BPJS-TK detailed statistics provided on JHT scheme, 2016–19.

The age distribution of JHT terminations is slightly different from the age distribution of the Indonesian unemployed workers with prior work experience (as observed by BPS in their August 2019 Labour Force Survey). The small difference is explained by a different profile of Indonesian workers in large-, medium- or small-sized enterprises, which offer mandatory coverage under JHT, compared to those working in micro enterprises or non-wage jobs and therefore not covered. JHT active members are on average older than the average employed worker in Indonesia, which explains the difference.

Table 1.4 presents the earnings distribution of the JHT membership as of 2019, distributed between the active insured members, those who have been laid off and those who have resigned.

Table 1.4.

Distribution of members' average monthly earnings, by age group and sex, 2019 (in rupiahs)

Age	Males			Females		
	Insured workers	Layoffs	Resignations	Insured workers	Layoffs	Resignations
15–19	3 226 473	3 519 951	3 184 444	2 824 819	3 326 255	2 852 054
20–24	3 231 757	3 452 505	3 064 768	3 126 267	3 313 401	2 869 701
25–29	3 634 664	3 099 648	2 956 697	3 592 571	2 922 263	2 828 377
30–34	4 128 517	3 107 976	3 113 319	3 975 561	2 862 463	2 910 021
35–39	4 596 084	3 324 351	3 444 847	4 194 026	3 056 284	3 161 933
40–44	5 145 137	3 640 610	3 955 216	4 651 357	3 282 361	3 653 302
45–49	5 850 206	3 908 073	4 472 370	5 411 322	3 386 419	3 994 599
50–54	6 630 262	4 334 353	5 204 154	6 037 802	3 293 124	4 436 651
55–59	7 427 486	5 249 421	5 896 704	6 341 085	3 642 781	5 736 220
60–64	7 912 307	5 192 579	5 344 423	6 113 042	3 201 753	4 211 662
65–69	7 080 883	4 073 488	5 338 268	6 502 564	3 341 578	3 049 187
Total	**4 520 265**	**3 466 813**	**3 488 569**	**3 947 237**	**3 137 610**	**3 054 658**

Source: BPJS-TK, detailed statistics provided on JHT scheme, 2019.

Table 1.5 presents the earnings distribution of the JHT membership as of 2019, distributed between the active insured members, those who have been laid off and those who have resigned, compared to the earnings distribution of the active insured members.

Table 1.5.

Distribution of average earnings by category compared to active members' average earnings (set = 100), by age group and sex, year 2019 (in per cent)

Age	Males			Females		
	Insured workers	Layoffs	Resignations	Insured workers	Layoffs	Resignations
15–19	100.0	109.1	98.7	100.0	117.8	101.0
20–24	100.0	106.8	94.8	100.0	106.0	91.8
25–29	100.0	85.3	81.3	100.0	81.3	78.7
30–34	100.0	75.3	75.4	100.0	72.0	73.2
35–39	100.0	72.3	75.0	100.0	72.9	75.4
40–44	100.0	70.8	76.9	100.0	70.6	78.5
45–49	100.0	66.8	76.4	100.0	62.6	73.8
50–54	100.0	65.4	78.5	100.0	54.5	73.5
55–59	100.0	70.7	79.4	100.0	57.4	90.5
60–64	100.0	65.6	67.5	100.0	52.4	68.9
65–69	100.0	57.5	75.4	100.0	51.4	46.9
Total	**100.0**	**76.7**	**77.2**	**100.0**	**79.5**	**77.4**

Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2019

The earnings of those who have been laid off in 2019 was on average about 78 per cent of the average earnings observed among the entire pool of active insured workers. Similarly, the earnings of those who resigned in 2019 have was on average roughly 77 per cent of the average earnings observed among the entire pool of active insured workers. This suggests that those whose jobs are terminated due to layoffs or resignations tend to have lower earnings than those who stay in work.

Figures 1.13 and 1.14 presents the ratio of active JHT members during period 2015–19 who have accumulated at least 3, 6, 12 and 24 continuous months of service in the JHT scheme, by age group, for males and females, respectively. "Service" within this context means that the JHT participants have an active account with the fund and have not withdrawn their money.

Figure 1.13.

Proportion of active JHT members with at least 3, 6, 12 and 24 continuous months of service, by age group, December 2015–19, males
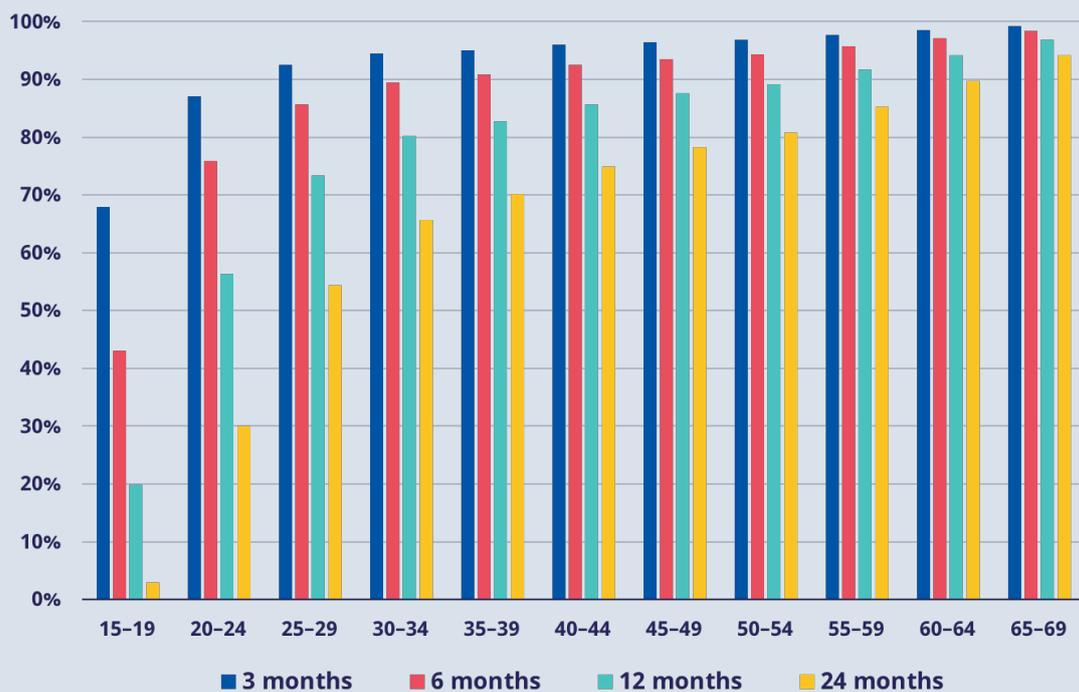
Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2019.

Figure 1.14.

Proportion of active JHT members with at least 3, 6, 12 and 24 continuous months of service , by age group, average 2015–19, females
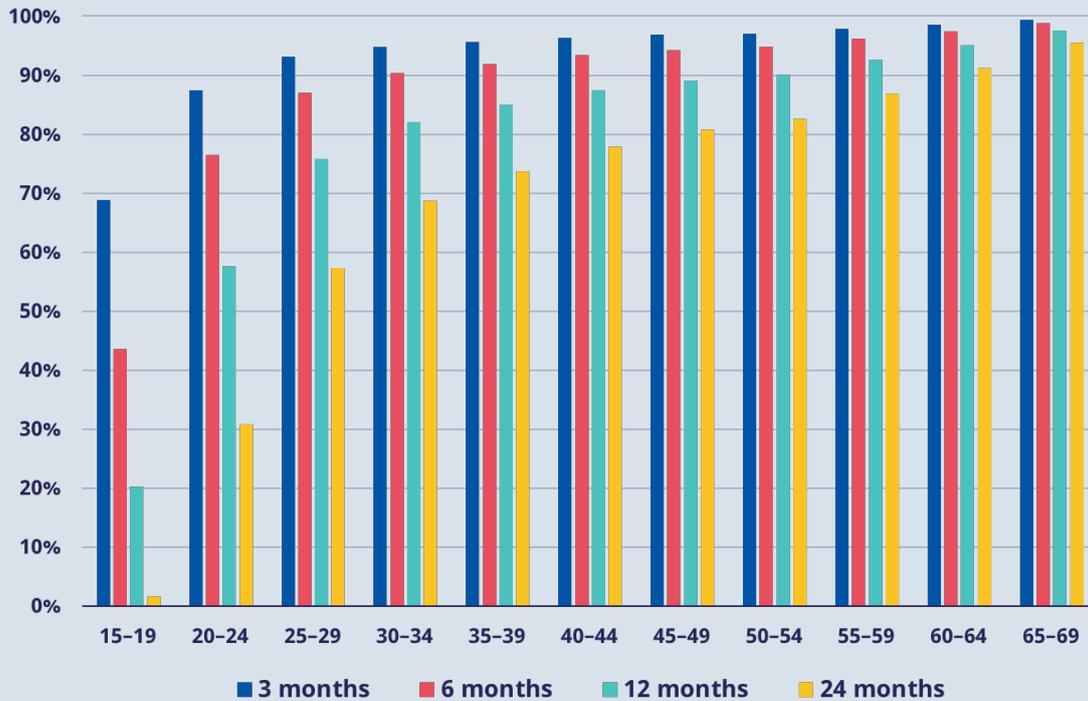
Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2015–19.

On average, in the period 2015–19:

▶ 93 per cent of active members (93 per cent of males and 92 per cent of females) had accumulated at least three months of continuous service under JHT in the previous 24 months.

▶ 86 per cent of active members (87 per cent of males and 85 per cent of females) had accumulated at least six months of continuous service under JHT in the past 24 months.

▶ 76 per cent of active members (77 per cent of males and 74 per cent of females) had accumulated at least 12 months of continuous service under JHT in the past 24 months.

▶ 60 per cent of active members (61 per cent of males and 57 per cent of females) had accumulated at least 24 months of continuous service under JHT in the past 24 months.

These data are used to set the appropriate assumptions for projected proportion of those becoming unemployed who will have met the appropriate service requirements for benefit entitlements.

Figures 1.15 illustrates the historical number of JHT withdrawals for purposes of layoffs and resignations from January 2016 to December 2019. For illustration purposes, JHT combined withdrawals for purposes of layoffs and resignations are also presented.

Figure 1.15.

Historical number of withdrawals per month by layoffs, resignations and total terminations under the JHT scheme, January 2016 to December 2019

Note: "All terminations" refers to the combination of JHT withdrawals for purposes of layoffs and resignations. Data provided split terminations into two categories – layoffs and resignations.

Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2016–19.

Over the period from January 2016 to December 2019, the number of withdrawals due layoffs averaged about 29,500 (19,300 males and 10,200 females) per month and withdrawals for purpose of resignations averaged at about 128,700 (77,500 males and 51,200 females) per month. Over the same period, withdrawals for purpose of layoffs accounted for an average of 18.6 per cent of all terminations (19.9 per cent of all terminations observed among males and 16.6 per cent of all terminations observed among females).

Figure 1.16 presents the historical number of JHT withdrawals due to layoffs and resignations combined, by sex, from January 2016 to December 2019 in relation to the number of active insured workers covered under the scheme.

Figure 1.16.

Historical number of JHT withdrawals due to layoffs and resignations as a percentage of total number of active insured workers under the JHT scheme, by sex, January 2016 to December 2019
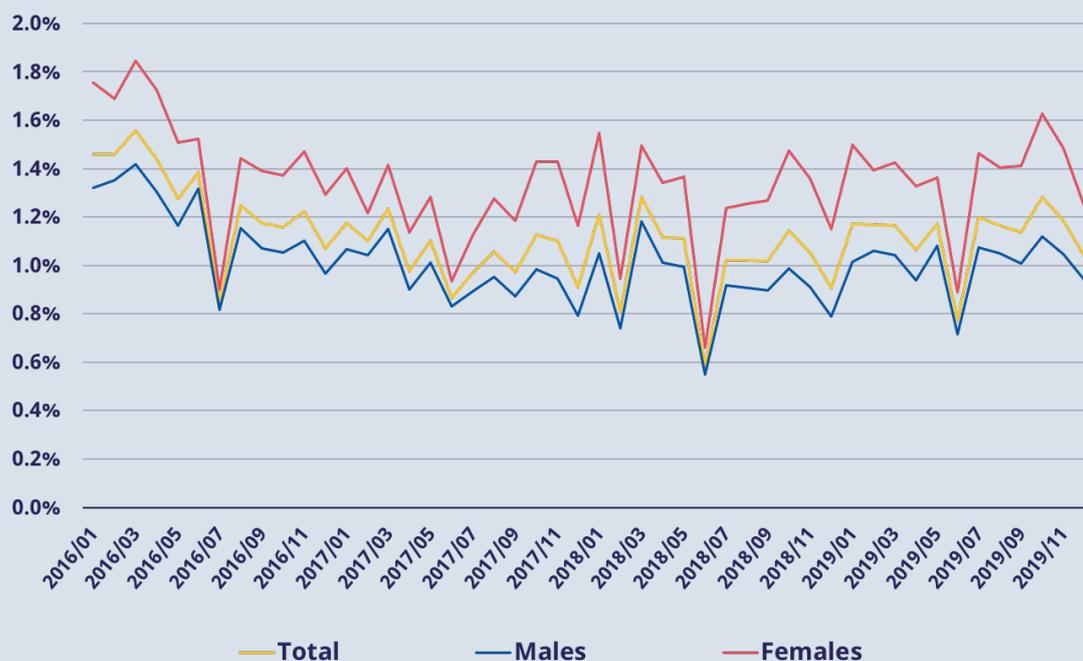
Note: "All terminations" refers to the combination of JHT withdrawals for purposes of layoffs and resignations. Data provided split terminations into two categories – layoffs and resignations.

Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2016–19.

Over the four-year period for which data were provided, the average rate of withdrawal (both layoffs and resignations) was approximately 1.1 per cent of the total number of active members insured. However, the rate has varied significantly throughout the period, ranging from approximately 0.6 to 2.5 per cent.

Although the above-statistics remain useful to assess the trends in terms of layoffs and resignations in the past few years, they are not perfect indicators of actual JHT terminations, for a number of reasons, including:

▶ These statistics refer to JHT withdrawals due to layoffs and resignations, that is, we understand that the data provided include only terminations where a payment of benefits has been made. Since members are not obliged to withdraw their JHT contributions once they are made redundant or resign (and they cannot withdraw within the first month after job termination), it is possible that these statistics underestimate the actual JHT experience in terms of layoffs. If this is the case, such an effect would increase the cost of the UI scheme.

▶ According to BPJS-TK, many claimants return to work for the same employer soon after their withdrawal, indicating arranged or artificial resignations or layoffs, and the possible complicity of employers. As such, the JHT provisions may accentuate the number of terminations observed each month compared to the real number of terminations, based on the strict definitions of layoffs and resignations. If this is the case, such an effect would reduce the cost of the UI scheme.

▶ There are reasons to believe that employers may not always properly disclose the reason for a termination. Under Indonesian Labour Law No. 13 of 2003, employers are restricted from discharging employees without cause, and must provide discharged workers with a combination of severance pay, long service pay, compensation rights pay and separation pay. In order to release themselves from their obligation to pay these benefits, the employers may disclose layoffs as resignations. It is therefore possible that the ratio of layoffs over all terminations is underestimated in the above-statistics. If this is the case, then the actual cost of the UI scheme would be higher.

▶ A job termination can be either voluntary (sometimes referred to a resignation) or involuntary (sometimes referred to a layoff). Voluntary termination may refer to a variety of actions, but most commonly, it refers to an employee's decision to leave a job of their own accord. It differs from a layoff, in which the decision to end employment is made by the employer, rather than by the employee. An employee may choose to leave a job for a wide variety of reasons. For example, a change in personal circumstances, such as family responsibilities; a choice to go back to school; or dissatisfaction with working conditions, such as a hostile supervisor, lack of recognition, lack of autonomy, or work relationships (among others). A different interpretation by the employers of the terms "layoffs" and "resignations" can lead to a misclassification of the JHT terminations, and a poor evaluation of the proportion of layoffs and resignations over the total number of terminations. The estimate of cost of the UI scheme is very sensitive to assumptions regarding the number and nature of withdrawals. For this reason, we have set out calculations on three different bases (see below).

UI, by definition, is a system where insured workers who become unemployed will receive partial replacement of their lost employment income, for a limited period of time, while they look for another job. If most or even many UI claimants are seen to receive benefits for the maximum allowed period, there is concern that either the maximum duration is too short, or that economic circumstances are especially difficult, or that unemployed workers are not making sufficient efforts to find employment.

The duration of unemployment among JHT workers who have terminated their active membership/withdrawn their JHT funds for reasons of layoffs or resignations is impossible to assess precisely. The only information that can be used to partially capture the unemployment duration among JHT workers is the period of inactivity of former contributors. The probability for inactive contributors to remain inactive during a specific number of months has been derived from JHT data and is presented in figure 1.17.

This information leads into the assumption adopted for the average duration of benefit payment for a UI claimant. While the results are sensitive to this assumption, as the benefit payment period is limited to a maximum of six months under the proposed design, and that the introduction of the plan may slightly affect average durations, the assumption adopted assumes 80 per cent of claimants would remain unemployed after six months, which is broadly consistent with the information provided to the ILO.

Figure 1.17.

Probability for inactive JHT contributors to remain inactive during a specific period of time, in months, 2019

Note: Assumes that maximum period of inactivity is 60 months.

Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2016–19.

As shown in the above figure, the JHT data on inactive contributors, truncated at 60 months [12], suggest that 81 per cent of inactive contributors are still inactive after a six-month period of inactivity. This ratio decreases to 75 per cent after nine months of inactivity, 69 per cent after 12 months of inactivity, and 49 per cent after 24 months of inactivity. JHT data on inactive contributors would also suggest an average duration of inactivity of about 20 months and a median duration of inactivity of roughly 16 months.

In the JHT database, once a member stops contributing to the scheme for reasons other than retirement, disability or death, he or she is accounted as an inactive contributor (that is, a former contributor who is no longer contributing actively to the scheme). Using the duration of inactivity (that is, the number of months since the inactive contributors' last contribution) is an

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[12] The inactivity duration distribution has been truncated at 60 months for this analysis.

imperfect measure of the unemployment duration for the following reasons:

▶ A terminated worker may find a job at any point in time in an employment sector that is not mandatorily covered by JHT. In 2019, JHT was covering only about 12 per cent of the country's employed population, meaning that the likelihood of a former JHT worker to have found a job in an employment sector that is not mandatorily covered by JHT remains high. In such cases, the JHT database would not reflect that the former worker has indeed found another job; and the worker would still be accounted as an inactive contributor in the scheme's database.

▶ To be considered "unemployed", a worker without a job has to fulfil two main conditions: (1) be actively looking for a job, and (2) be available for work. An inactive contributor (as per the JHT definition and as presented in the JHT database) may not be actively looking for a job and/or available for work.

It is worth noting that although parallels may be made between the inactive contributors and the layoffs and terminations, layoffs and especially resignations do not automatically lead to a change in a worker's economic status. Indeed, a terminated worker may find a job at any point in time, including immediately after their layoff or resignation.

1.2.4. Informal employment in Indonesia

The objective of this report is not to explicitly address the topic of informal employment, but because the design of an optimal UI scheme depends on the country's labour market features, it is essential to look at the informality of employment to understand the risks and challenges of implementing a UI scheme in Indonesia.

Figure 1.18 shows the number of formal and informal workers, as well as the share of formal employment Indonesia, as of August (or November [13]) of each year between 2005 and 2019, using the BPS measure as a proxy for formal and informal employment. The share of formal employment, according to the BPS approach, has trended upwards in Indonesia since 2009, although gains have been slight since about 2012. Still, as of August 2019, a majority of employment in Indonesia was found in the informal sector, which represented 55.7 per cent of total employment. Employment in the formal sector represented 44.3 per cent of total employment in August 2019.

BPS defines "informal sector workers" based on their working status, including self-employed without assistance, self-employed assisted by temporary workers or unpaid workers, casual workers in agriculture and non-agriculture industries, family workers, and unpaid workers.

[13] In 2005, the Labour Force Survey was conducted in November instead of in August.

Figure 1.18.

Formal employment and informal employment and Indonesia, 2005–19

Note: Year 2005 refers to the November publication; years 2006 to 2019 refer to August publications.
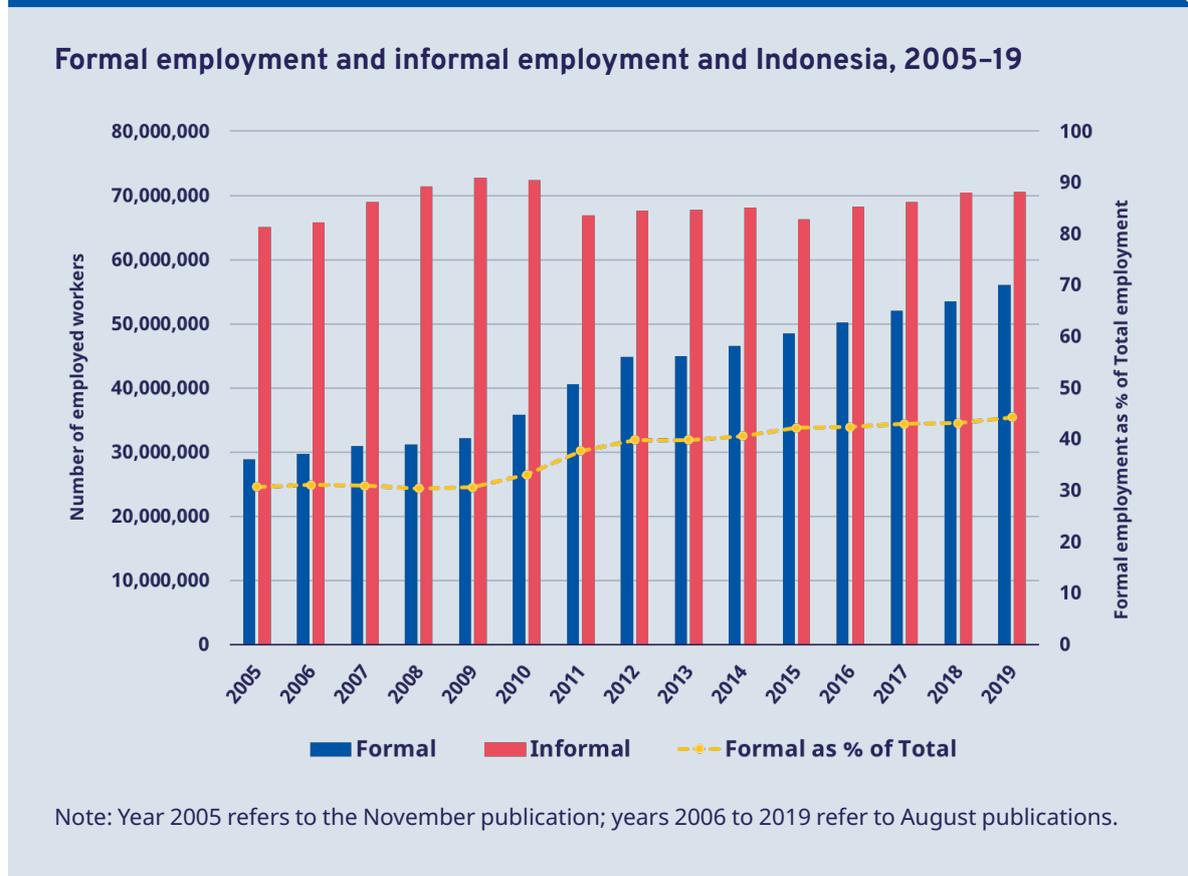
Source: Labour Force Surveys, BPS.

There are risks and challenges of implementing a UI scheme in a context with a high level of informality such as the one observed in Indonesia. UI schemes in countries experiencing high levels of informality or underemployment sometimes face significant cost pressure due to the difficulty involved in detecting UI recipients who are receiving benefits while also working in the informal sector or have part-time jobs. Double-dipping might happen when workers who have been unemployed for some time can work at a lower paid informal job or at a part-time job [14] and at the same time still receiving the unemployment benefits. In the case of Viet Nam, for example, many benefit recipients have been found to not actually be unemployed, but they are working without a labour contract for different companies. In addition, due to the higher expected benefit of unemployment insurance compared to their contribution, some Vietnamese workers even take the unemployment benefits in the short run and return to work at the same place. [15] In order to minimize the effect of the informal employment on the cost of the UI scheme, it is important that BPJS TK develops a strong administrative capacity to check the working status of the applicants and monitor that recipients are actively looking for a job. Without such controls, the UI scheme will likely be far less efficient and more costly in terms of benefit expenditure.

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[14] We will produce a supporting document covering the options with respect to part-time workers under a UI scheme.
[15] Meuthia Rosfadhila, "Developing an Unemployment Insurance Scheme for Indonesia", SMERU Research Institute Working Paper, 2019; and Giang Thanh Long and Nguyen Thi Xuan Thuy. "Unemployment Insurance in Vietnam: Design, Implementation, and Policy Issues", Japan Institute of International Affairs Social Resilience Project Report.

That said, Indonesia should not be discouraged from implementing a UI scheme because of the mere possibility of abuse related to the high levels of informality in its economy. Studies suggest that because UI benefits increase unemployed workers' income, they need to devote less time to informal jobs and, as a result, they spend more time securing a new job in the formal sector. [16] On this basis, UI benefits give the unemployed workers a great opportunity to not fall into informality.

The introduction of a UI scheme supports other initiatives to increase the number of formal workers, which in turn increases the contribution base, strengthens support for UI and reduces the negative impacts of the informal sector on UI schemes referred to above. In addition, a UI scheme encourages employers to formalize staff and reduces unfair competition, which currently exists between those declaring employees and those that are not.

Also, it could be argued that most workers who terminated their employment in the formal sector will seek a new job in the formal sector. Indeed, various studies suggest that workers transitioning between jobs are most likely to remain in the same type of employment. Also, it can be observed that not all jobs are available to the same degree of magnitude in both the formal and informal sectors in Indonesia. As an example, the largest proportion of Indonesian workers work in the agricultural, forestry and fishing industry (27 per cent of all workers), and 87 per cent of them are informal workers. [17] On the other side of the spectrum, public administration and defense, the financial and insurance industry, the education sector, health and social work activities, and the electricity and gas industry account for 12 per cent of the Indonesian workers, and 97 per cent of them are formal workers. [18] In that sense, not every worker has the same number of employment opportunities in both formal and informal sectors.

1.3. Other macro-economic indicators

This section complements the previous one by analysing the past trends in terms of GDP, productivity and inflation.

Indonesia's real GDP increased at an average growth rate of 5.4 per cent annually in the last decade (2010–19 inclusive), yet two very distinct periods can be identified over that period. The economy expanded, on average, at 6.2 per cent annually between 2010 and 2013; while it grew at a slower pace in subsequent years, at an average of 5.0 per cent per year in the period 2014–19. As observed in figure 1.19, reduced economic growth was experienced in the period 2014–19 compared to the period 2010–13. Between 2014 and 2019, Indonesia's real GDP has increased at a relatively constant pace each year, between 4.9 and 5.2 per cent per annum.

[16] David Bardey, Fernando Jaramillo, and Ximena Peña. "Unemployment Insurance in the Presence of an Informal Sector", *The World Bank Economic Review* 29, Supplement No. 1 (2015), 126–134.
[17] Labour Force Survey (Sakernas), August 2019, as per BPS, *Statistical Yearbook of Indonesia 2020* (2020). Informal workers refer to own account workers, employers assisted by temporary workers/unpaid workers, casual workers and family workers/unpaid workers.
[18] Labour Force Survey (Sakernas), August 2019, as per BPS, *Statistical Yearbook of Indonesia 2020*.

Indonesia's real GDP is projected to reduce by 1.0 per cent in 2020, according to the projections made by the Government and the ADB. [19] The necessary containment measures, implemented to slow the pandemic's spread, together with lower global demand, have already had a significant impact on economic activity in 2020.

Figure 1.19.

Real GDP growth, 2010–20 (in per cent)

Source: BPS statistics (2010–19) and Ministry of Finance projections for 2020.

The evolution of the productivity growth rate was derived from the real GDP growth rates and the evolution of the employed population in Indonesia. According to statistics provided by the BPJS, the employed population grew on average at a pace of around 1.9 per cent per year in the period 2010–19. This implies that the workers' productivity grew at an average rate of about 3.4 per cent per annum over the same period. [20] Figure 1.20 illustrates employment numbers as well as the employment growth rate, the real GDP growth rate and the implicit productivity growth rate for the years 2010–19.

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[19] ADB, "Indonesia and ADB". Estimate as of September 2020.
[20] This assumption is based on the fact that over the same period, real GDP grew at approximately 5.4 per cent annually. This also assumes that the wage share of GDP remained constant in the period 2010 19.

Figure 1.20.

Employment, employment growth rate, real GDP growth rate and implicit productivity growth rate, 2010–19
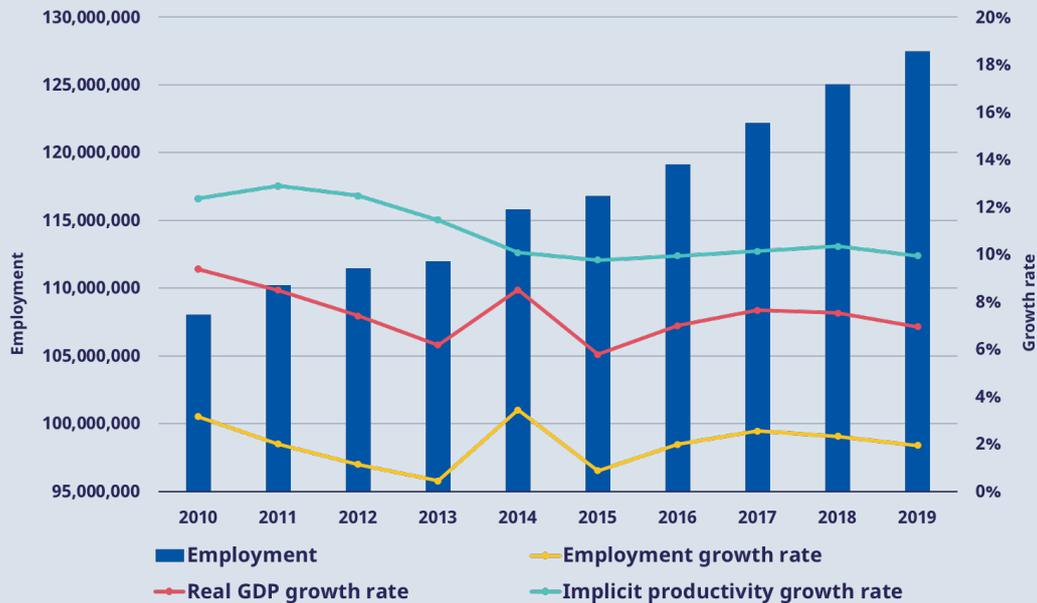
Source: Authors' calculations and BPS statistics.

Annual inflation growth rates remained higher in the first portion of the last decade (2010–14) compared to what was observed subsequently (2015–19). The inflation increased at an average annual rate of 6.3 per cent in the period 2010–14, and at an average annual rate of 3.2 per cent in the period 2015–19. The Government estimates an average annual inflation rate of 2.0 per cent for the year 2020. For illustration purposes, figure 1.21 presents the annual inflation growth rates derived from the Consumer Price Index (CPI) from 2010 to 2020.

Figure 1.21.

Annual inflation growth rates, 2010–20
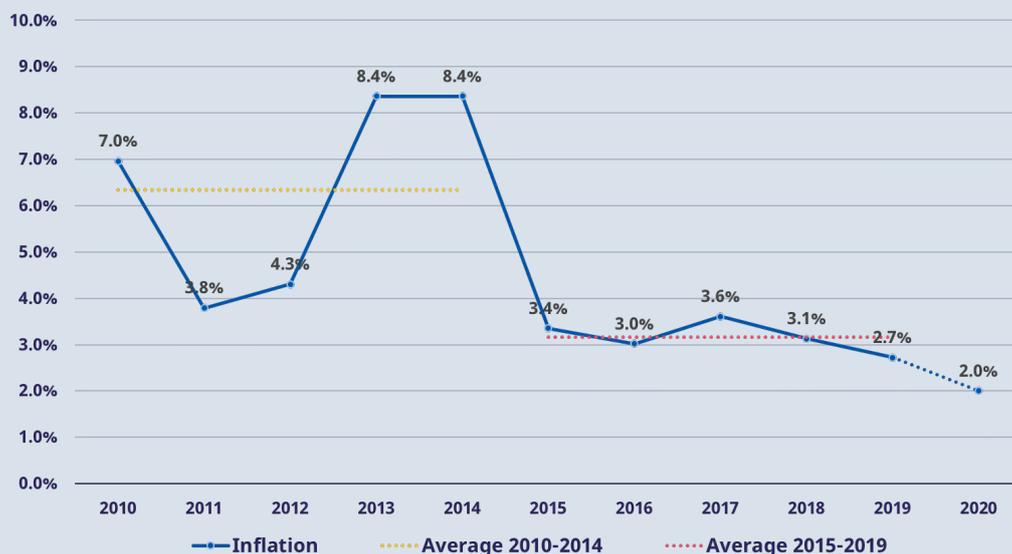
Source: BPS statistics (2010–19) and Bank of Indonesia's projections for 2020.

Figure 1.22 presents the Government's daily bond yields over the period 2010–19 for the following maturity: less than 12 months, 12 months, 2 years and 10 years. For comparison purposes, the annual inflation rate is also presented.

Figure 1.22.

Government's daily bond yields (less than 12 months, 12 months, 2 years and 10 years) and annual inflation rate, 4 January 2010 to 30 December 2019 (in per cent)
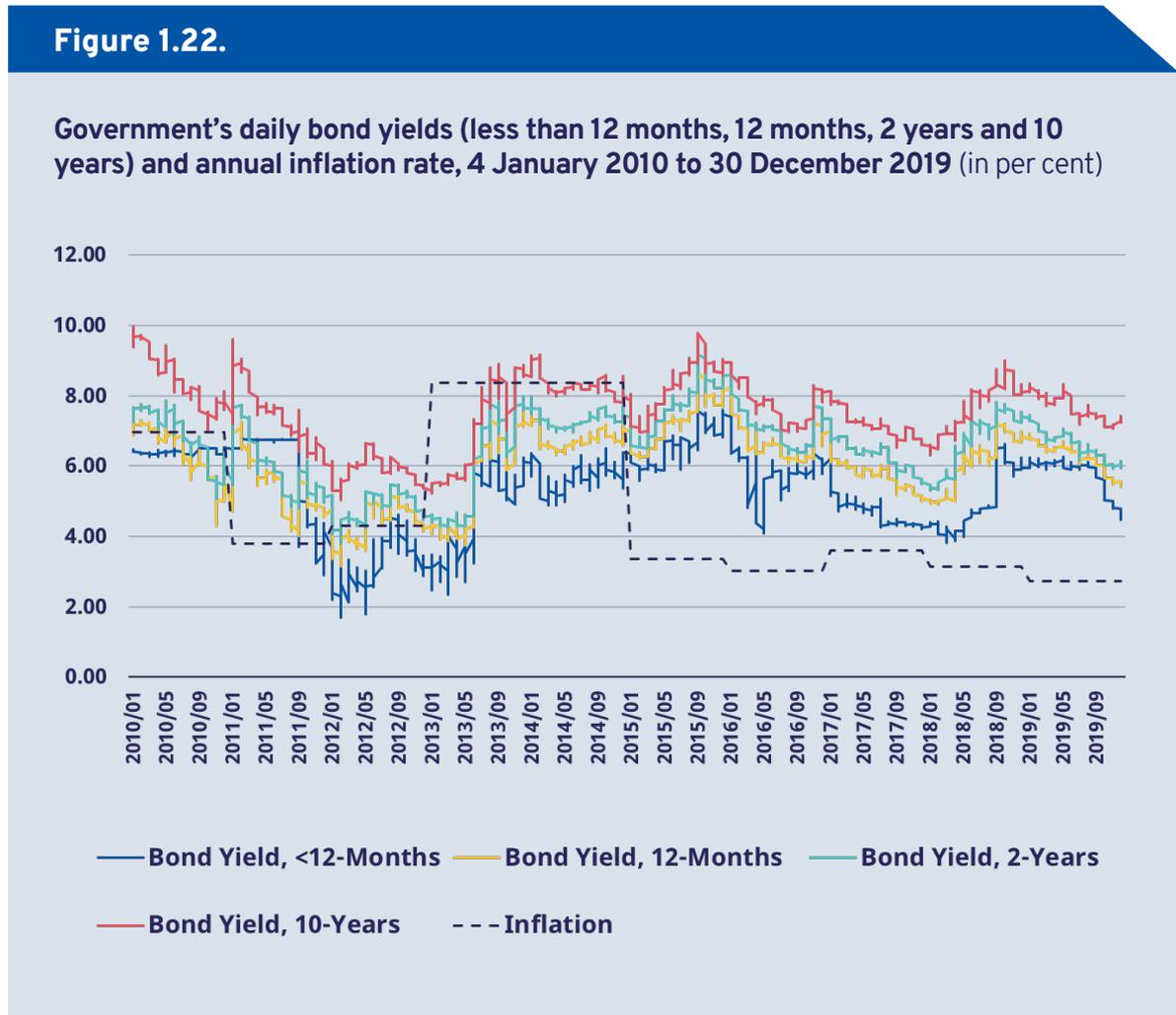
Source: Indonesia Bond Price Agency and BPS.

The spreads on the Government bonds of a maturity of less than two years compared to the inflation were on average negative over the first portion of the last decade (2010–14). In fact, real rates on the Government bonds have averaged to -1.1 per cent, -0.6 per cent and -0.2 per cent respectively for bonds having a maturity of less than 12 months, 12 months and 2 years. Since 2015, the spreads on the Government bonds of a maturity of 10 years are now significantly higher. Over the second portion of the last decade (2015–19), real rates on Government bonds have reached (on average) 2.3 per cent, 3.1 per cent and 3.6 per cent for bonds having a maturity of less than 12 months, 12 months and 2 years, respectively.

The yield curve of Government bonds in October 2020 was different compared to what was observed in the last months of 2019. Figure 1.23 compares the Government bond yield as of end of year 2019 and at the start of October 2020. The Government bonds of maturity periods shorter than ten years have significantly decreased in the first nine months of 2020. The spreads on Government bonds compared to inflation is now estimated at about 1.4 per cent and 2.5 per cent, respectively, for bonds having a maturity of 12 months and 2 years.

Figure 1.23.

Government bond yield movements, end of year 2019 and October 2020, by time to maturity (in per cent)
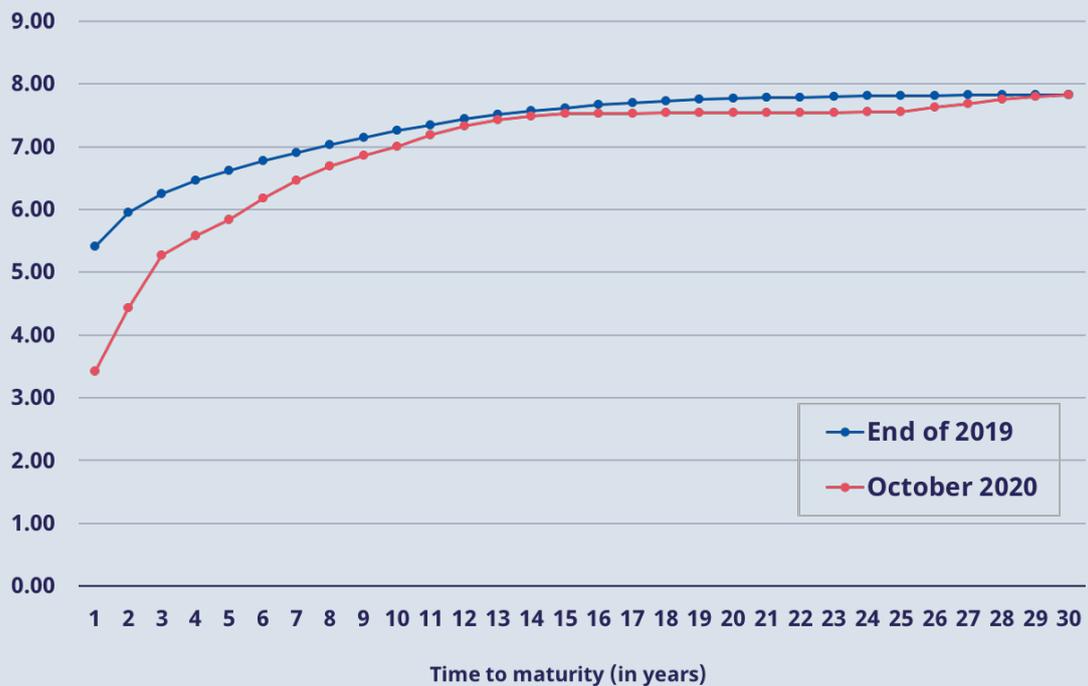
Source: Indonesia Bond Price Agency.

2

DEMOGRAPHIC AND MACRO-ECONOMIC ENVIRONMENT

Demographic and macro-economic environment

The projected evolution of future income and expenditure of a UI scheme is strongly linked to changes in the country's demography, economy and labour market. The demographic and macroeconomic models and their assumptions are core elements of the actuarial valuation of an unemployment insurance scheme.

Unlike pensions, UI benefits are payable for a limited period (generally not more than one year) and are generally characterized by annual expenditure that in the short and medium terms is more volatile than the expenditure of a pension scheme. In a pension scheme, an ageing population typically results in rising costs as the scheme matures, but cost increases from year to year are more stable than a UI scheme. As UI schemes are not subject to the same long-term demographic changes, the revenue and expenditure of an unemployment insurance scheme is normally projected for a period not exceeding ten years. However, UI scheme expenses are more volatile in the short term in response to economic trends. For example, benefits can easily double during a recession or economic shock compared to a period of healthy economic growth.

Therefore, current macro-economic conditions have a direct impact on the revenue and expenditure of a UI scheme. Due to the uncertainty of economic forecasting, any long-term projection of UI schemes would be difficult. For this actuarial valuation, a projection period of ten years has been used, which is standard practice for such scheme valuations. This section therefore presents the demographic and macro-economic assumptions over ten years of projection. Such a period of projection not only allows conclusions to be drawn on the sustainability of the scheme, but also contributes to providing a good picture of the scheme's sensitivity to assumptions or changes to benefits.

This section also tries to incorporate the short- and medium-term impacts of the current COVID-19 pandemic on the projections. The short- and medium-term volatility created by this unprecedented crisis adds an extra layer of uncertainty to the economic projections shown in this section. Nonetheless, the future will always be shaped by short-term variations, and projecting over a ten-year period should – under normal circumstances – cover different economic environments and business cycles (that is, periods of economic recession, stagnation and expansion), which is normally appropriate and sufficient to assess the cost related to a UI scheme. The cost assessment of the different design options also takes into consideration the outcomes of various economic and demographic scenarios, as detailed later in this report.

▶ 2.1. General population

A projection of the general population is used for the purposes of determining the evolution of the scheme's members and for developing the general macroeconomic framework.

Simplified assumptions have been used to project the general population. Indonesia's population disaggregated by age group and sex as of 2019 (the latest estimated age distribution of the population comes from BPS and covers the year 2019) has been projected every year up to 2030 using the assumptions described below.

According to the various surveys and censuses produced over the period 2000–12 in Indonesia, the total fertility rate (TFR) has ranged between 2.25 and 2.60 children. The BPS estimates the 2019 TFR at 2.28 children. For this study, TFRs have been projected consistently with the past estimated trends, decreasing gradually from at 2.28 children in 2019 to 2.10 children in 2030. This assumption is consistent with the current age structure of Indonesia's population. It does not affect directly the projections given that these are undertaken over a ten-year period but is important that these are consistent with long-term projections used for other social security projections when undertaken.

Life expectancy at birth was estimated at 69.7 for males and 74.1 for females in 2020. [21] Taking into account future longevity improvements, it is projected that life expectancy at birth will reach 71.3 for males and 76.0 for females in 2030. Sex-specific mortality rates have been taken from the age-specific "life table survivors" and "life expectancy" tables from the United Nations World Population Prospects 2019.

Little data exist on migration in Indonesia. According to the United Nations World Population Prospects 2019, Indonesia is experiencing net negative migration (more emigration than immigration) in the past few years. The net migration rate for Indonesia in 2019 is estimated at -0.373 per 1,000 persons. Over the projection period of 2020–30, it has been assumed that the net migration rate will remain at similar levels. As such, migration is likely to have low to no impact on the projection of the number of members to be covered by the UI scheme, at least over the short to medium terms. In the longer term, migration rates will impact the make up of the population.

It is worth noting that these assumptions are not key drivers in the demographic and financial projection of a UI scheme. Indeed, fertility, mortality and migration have low to no impact on the projection of formal employment over the next 10 to 15 years in the country.

Figure 2.1 illustrate the trends in terms of the annual population growth rate over the period 2010–19, as well as over the period 2020–30 under the demographic assumptions used in this study. The population is projected to increase from about 271.0 million to approximately 296.9 million between 2020 and 2030, resulting in an average annual growth rate of 0.9 per cent over the projection period of 10 years.

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[21] Figure estimated using a linear interpolation between the 2015–20 estimates and the 2020–25 estimates in the United Nations World Population Prospects 2019. It is also consistent with the trends estimated on the general life expectancy in Indonesia over the 2010–19 period, as presented in BPS, *Statistical Yearbook of Indonesia 2020*.

Figure 2.1.

Population annual growth rate, 2010–19 and 2020–30 (projected)
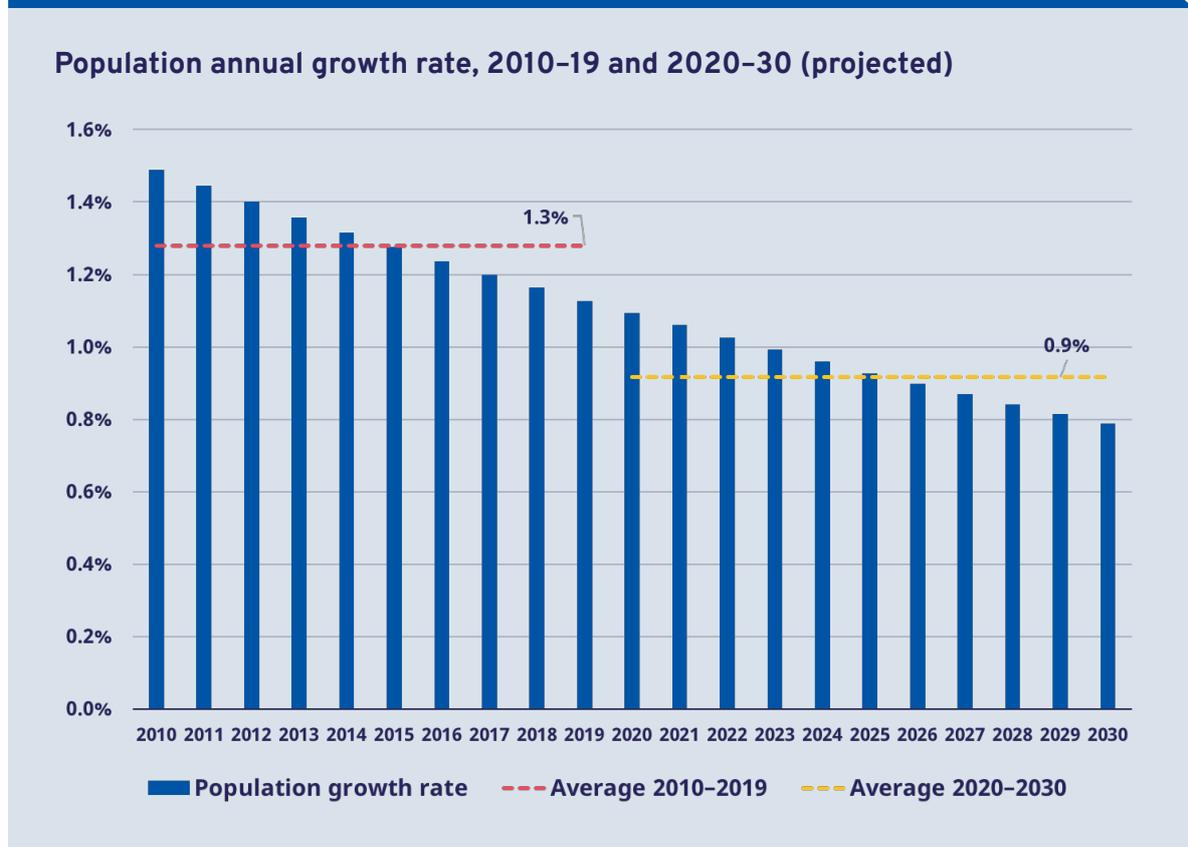
Source: BPS statistics and authors' projections.

Table 2.1 presents the estimated evolution of the Indonesia's population aged 15 to 69 between 2020 and 2030. The population aged 15 to 69 inclusive is projected to increase from about 190.3 million to approximately 211.7 million between 2020 and 2030, resulting in an average annual growth rate of 1.1 per cent over the projection period of ten years. The upper limit of 69 years of age reflects a measure of the potential working age population; in reality there are very few workers aged over 65 and they have low earnings compared to other members.

Table 2.1.

Projected population of Indonesia, by age group and sex, 2020, 2025, 2030 (in thousands)

Age	Male			Female			Total		
	2020	2025	2030	2020	2025	2030	2020	2025	2030
15–19	11 447	11 851	12 154	10 913	11 279	11 691	22 359	23 130	23 845
20–24	11 196	11 366	11 773	10 746	10 843	11 214	21 942	22 209	22 986
25–29	10 747	11 082	11 258	10 553	10 646	10 751	21 301	21 728	22 008
30–34	10 343	10 621	10 960	10 261	10 448	10 549	20 604	21 069	21 509
35–39	10 069	10 205	10 487	10 205	10 150	10 344	20 274	20 355	20 831
40–44	9 735	9 906	10 047	9 783	10 074	10 028	19 518	19 980	20 075
45–49	9 010	9 517	9 696	8 963	9 619	9 916	17 974	19 137	19 612
50–54	7 880	8 705	9 213	7 917	8 756	9 413	15 797	17 461	18 625
55–59	6 503	7 471	8 278	6 653	7 657	8 489	13 156	15 127	16 767
60–64	5 083	5 991	6 914	5 168	6 334	7 315	10 251	12 325	14 229
65–69	3 521	4 464	5 299	3 591	4 780	5 889	7 111	9 244	11 187
Total	**95 534**	**101 178**	**106 078**	**94 753**	**100 586**	**105 597**	**190 287**	**201 764**	**211 675**

▶ 2.2. Macro-economy

The various surveys and censuses produced in recent years have contributed to providing a comprehensive picture of the country's demography and employment. The Labour Force Surveys of February and March 2019 highlight the situation in Indonesia in 2019; since then, however, the situation in Indonesia has evolved significantly, with the country facing some economic challenges resulting from the COVID-19 pandemic that has been going on since the beginning of 2020. The necessary containment measures, implemented to slow the pandemic's spread, together with lower global demand have had already had a significant impact on economic activity in 2020.

Most economists agree that 2020 and 2021 will be years of high volatility for Indonesia's economy and for the world's economy. It remains nonetheless difficult to have a detailed update of the main economic and labour market indicators since the beginning of the COVID-19 pandemic in Indonesia.

For the specific purposes of this study, the latest economic projections made by the Minister of Finance as of September 2020 and indicators and projections published by the Asian Development Bank (ADB), Economist Intelligence Unit (EIU), International Monetary Fund (IMF)

and the Word Bank have been used as a starting point for the base economic scenario. The views of the Minister of Finance on the future development of the economy in the short and medium terms, which are consistent with the EIU, IMF and World Bank, have been reflected in the base scenario. The economic uncertainty makes it necessary, however, to present the cost assessment of the UI scheme under two other economic scenarios (pessimistic scenario and optimistic scenario). Section 2.2.1. presents in detail the base economic scenario assumed in this study. Optimistic and pessimistic scenarios are discussed in sections 2.2.2 and 2.2.3.

2.2.1. Base scenario

Based on data received and our judgement, we believe that the base scenario is a cautious best estimate scenario. It takes into account Ministry of Finance, ADB, EIU, IMF and World Bank views over the first few years of the projection period with respect to economic and labour market development. The base scenario assumes the economy will begin to recover in 2021.

The Ministry of Finance revised in September 2020 its real GDP growth projection for the year to a range of between -0.6 and -1.7 per cent. For 2021, the Ministry estimates the economic growth at 4.5 to 5.5 per cent. The base scenario assumes that real GDP will decrease by 1.0 per cent in 2020 and strengthen from 2021, with real growth of 5.3 per cent in 2021 and 2022, 5.4 per cent in 2023 and 5.5 per cent from 2024. From 2025, the GDP growth rate is assumed to gradually reduce from 5.5 per cent per year in 2025 to 5.0 per cent per year in 2031.

The job market will inevitably be impacted by the economic downturn in 2020: according to the National Development Planning Agency (Bappenas), the unemployment rate, which was estimated at 5.3 per cent as of August 2019, will increase to an average of 9.2 per cent in 2020. Under the base scenario, the unemployment rate is assumed to reach an average of 9.2 per cent in 2020, and decrease slowly thereafter, reaching 7.8 per cent in 2021, 6.8 per cent in 2022, 6.1 per cent in 2023 and 5.7 per cent in 2024. From 2025 onwards, the unemployment rate is assumed to be constant at 5.3 per cent (the unemployment rate that was experienced in 2019, prior to the COVID-19 pandemic). Studies suggest that during periods of contraction, informal job holders are those that are impacted the earliest and the most strongly compared to those holding formal jobs. This is also likely to be the case in Indonesia: the Labour Law better protects workers with certain contracts and statuses, and for these workers the separation rules make it more difficult for formal sector employers to terminate their employment. However, given the limited data, it was impossible to distinguish the unemployment rate that applies to workers with different employment statuses, and therefore, a global assumption is required for future projections.

The productivity growth rate assumed in the base scenario has been derived from the assumptions related to the real GDP growth rates and the unemployment rates described above. [22] Implicitly, the productivity growth rate is assumed at 2.0 per cent for 2020, 2.5 per cent for 2021, 3.0 per cent for 2022, 3.5 per cent for 2023 and 4.0 per cent for 2024. From 2024, the productivity growth rate is set in a way to ensure consistency with the real GDP growth rate assumption and unemployment rate assumption previously described.

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[22] This assumes that relationships hold between GDP, productivity and employment.

The EIU (August 2020) projects inflation, as measured through the CPI, to remain below the midpoint of Bank of Indonesia's 2–4 per cent target band until mid-2021, as domestic demand remains muted. The base scenario assumes that inflation will drop to 2.0 per cent in 2020, but that price pressures will increase thereafter as a result of a stronger growth in domestic demand from 2021. Inflation is projected to reach 2.8 per cent in 2021, 3.2 per cent in 2022, 3.6 per cent in to 2023 and 4.0 per cent in 2024. It is assumed that the inflation rate will remain unchanged at 4.0 per cent per year from 2024.

Table 2.2 presents the main economic assumptions pertaining to the base scenario. The evolution of the working age population of Indonesia as well as the various components of the labour force appear in table 2.3.

Table 2.2.

Main economic assumptions, 2019–30 – Base scenario (in per cent)

Year	Real GDP growth rate	Employment growth rate	Productivity growth rate	Unemployment rate	Inflation rate
2019 (actual)	5.0	2.0	2.9	5.3	2.7
2020	-1.0	-2.9	2.0	9.2	2.0
2021	5.3	2.7	2.5	7.8	2.8
2022	5.3	2.2	3.0	6.8	3.2
2023	5.4	1.8	3.5	6.1	3.6
2024	5.5	1.4	4.0	5.7	4.0
2025	5.5	1.3	4.1	5.3	4.0
2026	5.4	1.0	4.4	5.3	4.0
2027	5.3	0.9	4.4	5.3	4.0
2028	5.3	0.8	4.4	5.3	4.0
2029	5.2	0.8	4.3	5.3	4.0
2030	5.1	0.8	4.3	5.3	4.0

Table 2.3.

Population, labour force and employment, 2020, 2022, 2025, 2028, 2030 – Base scenario

	2020	2022	2025	2028	2030
Working-age population (15–69) (in millions)	**190.3**	**195.0**	**201.8**	**207.9**	**211.7**
Male	95.5	97.9	101.2	104.2	106.1
Female	94.8	97.2	100.6	103.7	105.6
Labour force participation rate (%)	**69.8**	**69.7**	**69.5**	**69.2**	**69.1**
Male	85.6	85.4	85.0	84.7	84.5
Female	54.0	53.9	53.8	53.6	53.6
Labour force participation rate (%)	**132.9**	**136.0**	**140.1**	**143.9**	**146.2**
Male	81.8	83.6	86.0	88.3	89.7
Female	51.1	52.4	54.1	55.6	56.6
Employed population (in millions)	**120.7**	**126.7**	**132.7**	**136.3**	**138.4**
Male	74.2	77.9	81.4	83.5	84.8
Female	46.5	48.9	51.3	52.7	53.6
Unemployed population (in millions)	**12.2**	**9.2**	**7.4**	**7.6**	**7.8**
Male	7.6	5.7	4.6	4.7	4.8
Female	4.7	3.5	2.8	2.9	3.0
Unemployment rate (%)	**9.2**	**6.8**	**5.3**	**5.3**	**5.3**
Male	9.3	6.8	5.4	5.4	5.4
Female	9.1	6.7	5.2	5.2	5.2

The annual increase in the remuneration of an insured person normally consists of three components: changes in the cost of living (that is, changes to the CPI), the productivity increase and the increase in personal productivity for work experience and seniority. Under normal circumstances, real wages may grow at a rate more or less similar to productivity. For the specific purposes of this study, real wage growth is assumed to be equal to productivity growth (see table 2.2 above).

2.2.2. Pessimistic scenario

In the pessimistic scenario, the assumptions described in the base scenario remain, with the exception of the following:

▶ **GDP** – This scenario assumes that real GDP will decrease by 2.0 per cent in 2020 and will not grow in 2021. From 2022, the real GDP is projected to grow and reach the same rate as that projected in the base scenario from 2024.

▶ **Unemployment rate** – In this scenario, as a consequence of reduced economic growth for 2020 and 2021, the unemployment rate is projected to be 10.1 per cent in 2020, increase to 13.3 per cent in 2021, and then decrease slowly thereafter, from 13.3 per cent in 2021 to 11.0 per cent from 2026.

Table 2.4 presents the main economic assumptions pertaining to the pessimistic scenario.

Table 2.4.

Main economic assumptions, 2019–30 – Pessimistic scenario (in per cent)

Year	Real GDP growth rate	Employment growth rate	Productivity growth rate	Unemployment rate	Inflation rate
2019 (actual)	5.0	2.0	2.9	5.3	2.7
2020	-2.0	-3.9	2.0	10.1	2.0
2021	0.0	-2.4	2.5	13.3	2.8
2022	3.3	2.2	3.0	12.4	3.2
2023	4.4	1.8	3.5	11.7	3.6
2024	5.5	1.4	4.0	11.3	4.0
2025	5.5	1.2	4.2	11.1	4.0
2026	5.4	1.0	4.4	11.0	4.0
2027	5.3	0.9	4.4	11.0	4.0
2028	5.3	0.9	4.3	11.0	4.0
2029	5.2	0.8	4.3	11.0	4.0
2030	5.1	0.8	4.3	11.0	4.0

2.2.3. Optimistic scenario

In the optimistic scenario, most of the assumptions described in the base scenario remain, with the exception of the following:

▶ **GDP** – This scenario assumes that the Indonesia's economy will be less impacted by COVID-19 than anticipated in 2020. Furthermore, this scenario assumes that the real GDP will grow at a pace that is slightly higher than the one projected in the base scenario over the projected period.

▶ **Unemployment rate** – In this scenario, the unemployment rate is projected to reach 8.3 per cent in 2020 and reduce gradually to 4.3 per cent at the end of the projection period, in 2030.

Table 2.5 presents the main economic assumptions pertaining to the optimistic scenario.

Table 2.5.

Main economic assumptions, 2019–30 – Optimistic scenario (in per cent)

Year	Real GDP growth rate	Employment growth rate	Productivity growth rate	Unemployment rate	Inflation rate
2019 (actual)	*5.0*	*2.0*	*2.9*	*5.3*	*2.7*
2020	0.0	-2.0	2.0	8.3	2.0
2021	5.3	2.6	2.6	7.0	2.8
2022	5.3	2.1	3.1	6.1	3.2
2023	5.4	1.5	3.9	5.7	3.6
2024	5.5	1.3	4.1	5.4	4.0
2025	5.5	1.1	4.4	5.3	4.0
2026	5.5	1.1	4.3	5.1	4.0
2027	5.5	1.1	4.4	4.9	4.0
2028	5.5	1.1	4.4	4.7	4.0
2029	5.4	1.0	4.3	4.5	4.0
2030	5.3	1.0	4.3	4.3	4.0

3
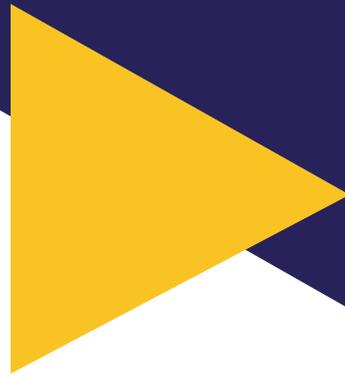
COST ASSESSMENT OF THE PROPOSED DESIGN OPTIONS

Cost assessment of the proposed design options

This section presents the demographic and financial projections of the UI scheme under a proposed design option.

The general methodology of the valuation is described in Annex I. The proposed design is presented in section 3.1.

The selection of assumptions for cost assessments normally takes into account the recent experience of the UI scheme as well as short- and medium-term trends. This is especially important as the introduction of a UI scheme may affect unemployment rates, so data on historic unemployment may need to be adjusted to reflect this fact. Since many assumptions need to be made to compensate for the non-availability of certain scheme-specific data, in addition to the demographic and economic projections (which are sensitive assumptions), it was decided for the specific purposes of this study to assess the cost of the proposed design option under three scenarios: a base scenario, a pessimistic scenario and an optimistic scenario. Results on these scenarios were also produced to understand the major elements that have an impact on the financial results of a UI system and to better compare the performance of the proposed design option under different economic conditions. All scenarios should be analysed together to provide a complete picture of the strengths and weaknesses of the proposed design option.

This study focuses on a range of possible outcomes based on available data. The main purpose of the cost assessment is to broadly determine the financing implications of the proposed design option of the UI scheme and to assess the different magnitude of costs. It seeks to contribute to the debate regarding the contribution rate required for the introduction of a new scheme.

Due to the short-term nature of UI benefits and their sensitivity to economic conditions, contribution rates of an unemployment insurance scheme need to be revised more frequently than for a pension scheme. Often, actuarial valuations of unemployment schemes are performed annually in order to revise the contribution rate according to a predefined rate-setting mechanism. It is strongly recommended to conduct a full actuarial valuation after one or two years of the scheme's implementation to reassess the contribution rate in light of the scheme's actual experience. This is especially important to assess whether experience has turned out in line with the assumptions used in this report.

▶ 3.1. Description of the proposed scheme design

This section describes the proposed design option for the UI scheme in Indonesia. Table 3.1. presents an overview of the main parameters of the design option assessed in this report. The proposed design option has been carefully selected by considering international labour standards, international practice and national policy dialogues. The ILO conducted two major studies in 2018 and provided stakeholders with knowledge about legal, institutional and financial implications in the national context as well as implications from international practices [23]; and held a series of tripartite and bipartite consultations with representatives of workers, employers and the Government between 2018 and 2020 for identifying policy options that stakeholders would be favour of [24]. The proposed design is consistent with the aims of the UI scheme.

Table 3.1.

Main parameters of the proposed design option

Parameter	Proposed design option
Coverage	Mandatory coverage for all employees in private sector enterprises (including construction workers as soon as possible)
Contribution Record required for benefit eligibility	A total of 12 months in the preceding 24-month period leading up to the date of claim
Eligible Reason for Termination of Employment	Involuntary loss of job or forced termination [1]
Insurable Earnings	Basic salary and fixed allowance, except for non-wage allowance (ceiling of IDR8,939,700 per month in 2020 [2])
Average Monthly Earnings (AME)	Average earnings over the 6 months prior to claim (ceiling of IDR 8,939,700 per month in 2020 [2])
Benefit Rate	50% of AME
Maximum benefit duration	6 months
Waiting period	7 days

IDR = Indonesian rupiah.

[1] If considered relevant to the stakeholders, voluntary terminations could also be accepted in circumstances where terminating was the only reasonable alternative (for example, .harassment, discrimination, major changes in work duties, terms and conditions of the job, discrimination because of membership in an association, organization or union of workers, pressure from employer or fellow workers to quit your job, etc.). Accepting additional types of terminations, however, tends to make a UI scheme more expensive.

[2] The ceiling is indexed annually in line with the GDP growth rate (in line with historic practice).

[23] The two studies are as follows:
    1. Michel Bédard, John Carter, and Ippei Tsuruga, *Legal, Financial and Administrative Considerations for an Employment Insurance System in Indonesia* (2020).
    2. Michel Bédard, John Carter, and Ippei Tsuruga, *International Practices of Income Protection for Unemployed Persons: Implications for Indonesia* (2020).
[24] A summary of national consultations is available in: Ippei Tsuruga, *Exploring Policy Options for an Employment Insurance Scheme in Indonesia* (2020).

Our calculations assume that eligible workers require a contribution record of 12 months of contribution payments over the previous 24 months. There is no minimum continuous contribution payment requirement. The ILO believes that this approach is fairer and more social. It would help vulnerable workers in unstable forms of employment, including seasonal workers. As such, requiring consecutive contributions will effectively exclude the most needy groups of workers from unemployment protection. As an example, a continuous contribution requirement of six months would exclude workers in a probationary period (up to three months) and possibly many fixed-term workers. In addition, requiring a continuous contribution requirement of six months would be less equitable, since it could penalize someone who contributed 18 months out of 24 months (without a continuous contribution period of six months), but benefit another person who only contributed a continuous period of six months within in their 12 last and only months of contributions.

In the design option assessed, the ceiling is projected to increase in line with GDP growth, in accordance with BPJS-TK's past and current practices. GDP annual growth rates are normally higher than salary growth rates. Therefore, linking the insurable ceiling to GDP growth will cause the proportion of salaries covered under the scheme to increase gradually over time, thus enhancing solidarity and improving redistribution among members. [25]

In addition, in the proposed design option, the following apply:

▶ **Continuation of claim:** Under the proposed design option, failure to be available for and capable of work, leaving the country or committing fraud will result in a suspension from eligibility for UI benefits. In addition, while failure to report to an employment office will not cause suspension from UI benefits, refusal of two suitable job offers will result in a suspension of UI benefits.

▶ **Penalty provisions:** Under the proposed design option, rules will be set out to penalize persons who commit fraud (including possible jail time), through the legal system.

▶ **Active Labour Market Policies:** The proposed scheme design includes Active Labour Market Policies (ALMPs) such as job search workshops, CV writing workshops and job placement services. Once the UI scheme is fully established, additional ALMPs could be introduced, such as mobility assistance and employment counsellors to assist unemployed workers to find work faster, or different programmes to encourage the insured unemployed to upgrade their skills, undertake trainings, and take advantage of vocational training allowances, as well as benefit extensions if the training lasts beyond the end of the UI benefit period. Such measures may reduce UI benefit costs, but we have not explicitly accounted for them in the valuation.

In the above-mentioned design option, we assume that the cost of the ALMPs is not covered by the UI scheme. If this is not the case, the costings below need to be amended to reflect this. However, at present we have no historical data or detailed indication of the measures to be put in place and would need more details and data to reflect them in the cost of the upcoming UI scheme.

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[25] Normal practice remains nonetheless to index the insurable ceiling to the salary growth rate.

A number of UI schemes have a minimum benefit amount or minimum benefit earning amount to ensure a guaranteed subsistence level of income for those made unemployed. Such an approach should be considered in Indonesia, and will be the subject of a further policy note.

▶ 3.2. General projection assumptions

Future contributions and benefits have been calculated in line with the demographic and macro-economic assumptions presented in section 2.2.1 and on the basis of the findings from Chapter 1.

In addition, further assumptions have been made regarding the implementation date of the UI scheme, the characteristics of the covered members of the scheme, the unemployment rate related to the covered members, the administrative expenses, the rate of return of the fund and the contribution rate.

3.2.1. Implementation date of the scheme

This valuation was undertaken as of 1 January 2020 with data provided as of that date. It, therefore, assumed that the UI scheme would be implemented on 1 January 2021, and consequently that the first benefits to be paid by the scheme would be payable in January 2022, in line with the 12-month minimum contribution record required for benefit eligibility under the proposed design option, as detailed in table 3.1 (see "Contribution record required for benefit eligibility").

If the Government decides to implement the scheme later than 1 January 2021, and if the country's economic context and the characteristics of the labour market remain relatively similar to those observed and projected in this report, the costings provided in this section will remain an appropriate proxy for the estimated cost of the UI scheme.

The cost assessment presented in this chapter does not consider the payment of benefits to members who may lose their jobs within the first 12 months of the scheme's implementation. A transitional arrangement could nevertheless be proposed to ensure the payment of UI compensation for those who cannot claim under the UI scheme at its inception. This is discussed in more detail in Chapter 4.

3.2.2. Characteristics of the covered members of the scheme

In order to project a general population of insured workers that is broadly representative of the population to be covered by the proposed UI scheme, the following approach was used:

▶ The profile of the insured workers by age group and sex was assessed based on the membership statistics of the JHT scheme, as provided by BPJS-TK. The statistics that were considered to depict the general profile of the insured workers of the upcoming UI scheme include the age distribution, the salary distribution, and the density and service distributions of the JHT's active members.

▶ The profile of the potential claimants of the upcoming UI scheme by age group and sex was assessed based on statistics related to withdrawals from the JHT scheme for purposes of layoffs and resignations, as well as statistics pertaining to the inactive members of the JHT scheme, as provided by BPJS-TK. The statistics that were considered to depict the general profile of the potential claimants of the upcoming UI scheme include the age distribution, the salary distribution, the density and service distributions, as well as the distribution of duration since last month of contribution.

The following general observations have been made from the data provided by BPJS TK and reflected to some extent in the cost assessment presented in this technical note (see section 1.2 for more details):

▶ Those who withdraw from JHT for layoff or resignation purposes earn on average about 23 per cent less compared to average earnings of all active JHT members.

▶ Based on four years of data up to 31 December 2019, about 75 per cent of those who withdrew from JHT (for layoff or resignation purposes) have accumulated at least 12 months of contributions over the 24 months prior to their layoff or resignation.

▶ According to the distribution of the number of months since their last contribution to JHT, inactive JHT members remain inactive for 20 months, on average. Furthermore, about 80 per cent of inactive members remain inactive for at least six months, and 70 per cent of inactive members remain inactive for at least 12 months. This implies that the average benefit duration of those who become unemployed is around 5.5 months when the maximum benefit period is 6 months, and around 10 months when the maximum benefit period is 12 months.

The following assumptions were made to assess the cost of the design options:

▶ The profile of the active insured members of the upcoming UI scheme was assumed to be similar to the profile of active JHT insured members. If coverage is extended to or includes members of JKK not currently covered under JHT and/or construction workers, it is likely that such members will have different characteristics that will impact costings. This is discussed in more detail below.

▶ The profile of the potential claimants of the upcoming UI scheme was assumed similar to the profile of those who have withdrawn from JHT in the past few years for layoff or resignation purposes. Although it is understood that members who resign are not eligible for UI compensation, according to BPJS TK, many of those who resign return to work for the same employer soon after their withdrawal, indicating an arranged or artificial nature of the resignations or layoffs observed in JHT, and the possible complicity of employers. As

a result, it remains difficult to distinguish between layoffs and resignations in the BPJS-TK statistics, and it was therefore decided to consider both layoffs and resignations as the starting basis to assess the profile of potential claimants of the UI scheme. We then applied an assumption with respect to how many of such terminations would be categorized as involuntary or otherwise eligible for benefits.

▶ The duration of unemployment is assumed to be similar to that observed among JHT inactive members. It is assumed that the maximum duration of unemployment would be 60 months, by which time a worker would either be inactive (that is, they have left the labour force population and stopped actively looking for a job), be working in the informal sector, or found a job in the formal sector.

The proposed UI scheme plans to cover all employees in the private sector, that is, JHT members plus those currently only covered by JKK and JKm (those working in micro enterprises, for whom JHT membership is voluntary) and construction workers. However, only JHT data were available, and costings have been based on those data. It is likely that the characteristics of non-JHT members and construction workers will be different than JHT members. Therefore, to reflect that the profile of workers in the construction sector and micro enterprises may differ from what was observed among JHT members, different scenarios have been undertaken. In the base scenario, it is assumed that the earnings distribution of the scheme's members and potential claimants will be identical to the earning distributions observed among those who contribute actively to JHT and those who withdraw from JHT due to layoff and resignation respectively. This means that the base scenario assumes that workers in the construction sector and micro enterprises will have the same profile as current JHT members. The average earnings of potential future claimants is assumed to be 23 per cent lower than the average earning of the other members of the scheme.

It is worth noting that the application of the salary ceiling will reduce the gap observed between the members' average insurable earnings and the potential claimants' average insurable earnings. The average insurable earnings of potential claimants are assumed to be 13 per cent lower than the average insurable earning of the other members of the scheme, assuming a ceiling of 8,939,700 rupiahs per month in 2020 is applied.

Table 3.1 presents the projected average earnings in 2020, with and without the proposed insurable ceiling under the base scenario.

In addition, the base scenario assumes that the layoffs will represent 50 per cent of all job terminations. In other words, it is assumed that 50 per cent of all job terminations for members meeting the eligibility requirement will result in a claim.

The assumptions made in the base scenario and described above contribute to defining the general profile of the members and potential claimants of the UI scheme. The base scenario assumes that, on average, the profiles of members and of potential claimants of the UI scheme will be similar to those of the JHT scheme.

Table 3.2.

Projected average earnings in 2020, total earnings and with proposed ceiling, by sex –
Base scenario (in rupiahs)

Earnings	Males			Females		
	Insured workers (1)	Layoffs and resignations (2)	Layoffs and resignations as % of insured workers (2)/(1)	Insured workers (3)	Layoffs and resignations (4)	Layoffs and resignations as % of insured workers (4)/(3)
Total earnings (A)	4 702 881	3 624 997	77%	4 106 704	3 192 397	78%
With proposed ceiling (B)	3 862 296	3 376 571	87%	3 586 671	3 109 070	87%
With proposed ceiling as % of total earnings (B)/(A)	82%	93%	n.a.	87%	97%	n.a.

n.a. = not applicable.
Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2019

3.2.3. Unemployment rate and termination rate

Although it is possible to estimate the overall unemployment rate in Indonesia by age group and sex, it remains difficult to assess the unemployment rate that would apply to those workers covered under the proposed UI design option presented above, and how the unemployment rate for those covered under this option will evolve over time. Therefore, this study assumes that the unemployment rate applied to the covered workers will be consistent with the one implicitly observed among JHT members in the years 2018–19 inclusive.

In 2018 and 2019, the general unemployment rate averaged 5.2 per cent and the number of JHT terminations due to layoffs and resignations averaged 161,300 each month. Over the same period, the number of JHT contributors averaged at 14,999,100 each month. We calculate that the implicit JHT termination rate would have reached on average of 1.1 per cent each month over the period 2018–19. This study assumes that the termination rate observed among JHT members over the years 2018 and 2019 will evolve proportionally to the unemployment rate observed in the general economy.

3.2.4. Administrative expenses and other expenses

UI schemes can be difficult and complex to administer, in particular because of the need for the institution to carry out regular controls to prevent fraud, check compliance with eligibility, and liaise on ALMPs and verifying claims.

Since the scheme is not already implemented, it was necessary to make an assumption regarding administrative expenses. The administrative expenses of unemployment schemes can vary between 5 and 20 per cent of benefits. In the base scenario, it was assumed that administrative expenses would be equal to 0.25 per cent of the total insurable earnings of contributors. A minimum expense amount is set as a proportion of insurable earnings, as the scheme may pay little or no benefit for the first few months of its implementation. Such a level of expense would be comparable with other UI schemes managed by social security organizations in other countries. This assumption will also depend on which expenses will legally need to be paid from the fund and which from general government resources. It is important to note that initial expenses in setting up the mechanisms of a new scheme may be significant, and therefore, first year expenses will be higher than subsequent years. However, some or all of these initial expenses may be met from other financing sources, and further clarification would be needed for a more detailed analysis of scheme costs.

3.2.5. Rate of return of the fund

As a base scenario, it was simply assumed that the fund would generate a return equal to the yield on 12-month government bonds. Such an assumption for a new short-term benefit scheme (in particular, a UI scheme), in the current economic context, is reasonable and appropriate. Over the last decade (2010–19), real rates on government bonds have reached on average 1.2 per cent, 2.5 per cent and 3.4 per cent, respectively, for bonds having a maturity of less than 12 months, 12 months and 2 years. As of December 2020, 12-month government bonds were yielding 3.8 per cent gross (net 1.7 per cent). However, yields have been volatile (such bonds were yielding 1.1 per cent gross in October 2020). Therefore, in this study, the real rate on the 12-month government bonds was assumed to be 1.4 per cent in 2020, increasing gradually to 2.0 per cent over the projection period.

It is worth mentioning that the above assumption only very marginally impacts results, since the UI scheme has no accumulated service at the start of the projection period and the reserve of the fund is projected to remain relatively low over the projection period (this is normally the case for schemes providing short-term benefits).

3.2.6. Contribution rate

By nature, short-term benefits are normally financed on a broad Pay-As-You-Go (PAYG) basis. Normally, short-term benefits schemes, and especially UI schemes, keep a contingency reserve in order to absorb unexpected increases in benefits. In order to assess the level of contribution rate that would be proposed for each of the design options evaluated, it is important that the financing policy is defined. This policy sets the target level of contingency reserves.

By definition, a UI scheme is subject to variations in benefit payments and incoming contribution amounts. In difficult economic times, the amount of the former will increase and the latter decrease. It is therefore important that a UI programme should be financed in such a way as to take this into account, and also to contribute to a countercyclical stabilization of the economy.

Namely, its revenue requirements expressed as a contribution rate should remain as stable as possible over time, and especially not be increased during a recessionary period. Clearly, this implies the need for some form of dedicated financing that can be used to establish and maintain reserves. This financing policy is then reviewed on a regular basis to assess whether it is still appropriate for the scheme.

We propose the following financing policy for the scheme, and have used this in the calculation of the required contribution rate:

> *Gradual accumulation of a stabilization reserve over a ten-year period equivalent to twice the total annual expenses (benefits and administrative costs) in the tenth year of operation of the plan. The mechanism used also provides that over the ten-year projection period, the reserve fund will never be negative.*

The contribution rate also considers the projected administrative expenses and projected investment income.

▶ 3.3. Demographic and financial projections

The demographic ratio (that is, the average number of monthly beneficiaries to the average number of monthly contributors) is a first indicator leading to the estimation of the cost of a scheme. Figure 3.1 presents the projected demographic ratio from financial year 2021 to financial year 2030 (inclusive) for the proposed design option. The demographic ratio refers to the ratio of the average number of monthly beneficiaries to the average number of monthly contributors.

Figure 3.1.

Demographic ratio, financial years 2021–30 – Base scenario

Note: The demographic ratio in 2021 is null since the proposed design option requires a minimum of 12 months of contributions over the previous 24-month period to qualify for a UI benefit. Therefore, no member will accumulate enough months of contribution in the UI scheme in the first year of its implementation to become eligible for benefits.

Source: Authors' calculations

Over the projection period, the proposed design option is projected to provide UI compensations to a number of workers estimated at 2.0 to 2.7 per cent of the scheme's projected number of active contributors. The higher number of workers compensated by the UI scheme in 2022 and 2023 is explained by the higher projected unemployment rates for those years.

A second indicator leading to the estimation of the cost of a scheme can be obtained by comparing the average benefit to the average insurable earnings. The proposed design option provides for an income replacement rate of 50 per cent of the workers' insurable earnings during the entire compensation period. However, over the projection period, the average UI compensation is expected to represent about 42 per cent of the average insurable earnings, less than the income replacement rate of 50 per cent. This is mainly explained by the fact that the average beneficiary tends to earn less than the average member contributing to the scheme, and that the calculation of past earnings used for determination of the benefit amount are slightly lower than the salary at the point of termination.

Since the benefits paid to unemployed workers in a UI scheme are funded by the members' current contributions, one of the best indicators of the cost of a scheme is the PAYG cost rate. This indicator is obtained by dividing the scheme's total expenditure (benefits and administrative expenditures) paid in a given period by the members' total insurable earnings. Figure 3.2 presents the projected evolution of the PAYG cost rate, segregated between benefits and administrative expenditure.

Figure 3.2.

PAYG cost rate (benefits and administrative expenses), financial years 2021–30 – Base scenario
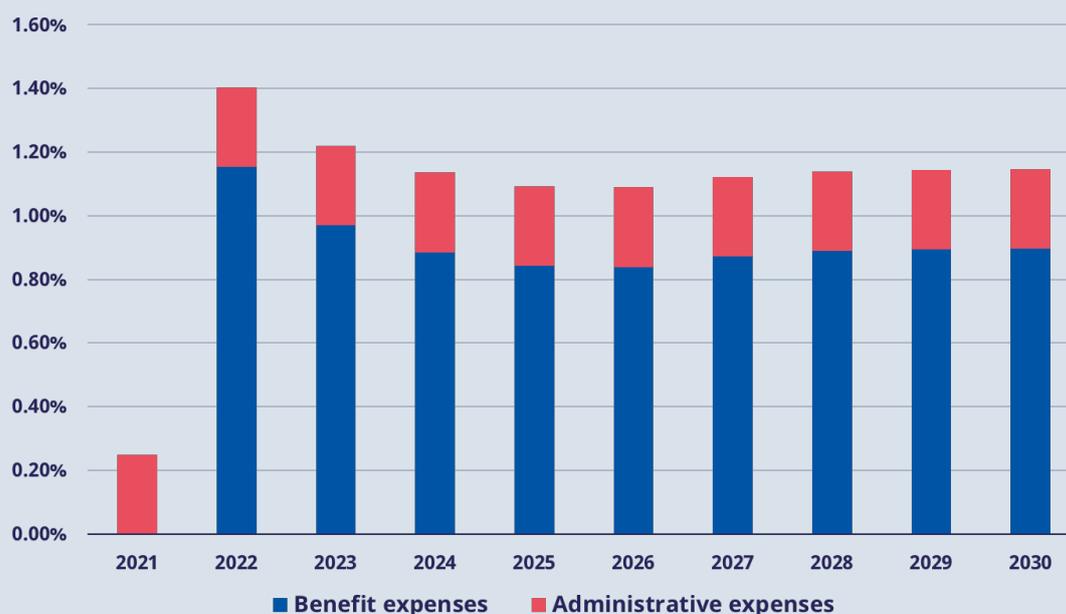
Source: Indonesia Bond Price Agency.

The PAYG cost rate related to the scheme's benefits expenditure is projected to decrease gradually between 2022 and 2026 from 1.15 to 0.84 per cent, and stabilize in the following years to around 0.90 per cent for the proposed design option. The administrative expenditure is assumed at 0.25 per cent of the total insurable earnings in the base scenario. Overall, the PAYG cost rate related to the proposed design option is projected at 0.25 per cent in 2021, and 1.40 per cent in 2022. Thereafter, it is projected to decrease gradually between 2022 and 2026 from 1.40 to 1.09 per cent and stabilize in the following years to around 1.15 per cent of the members' insurable earnings.

A contribution rate of 1.35 per cent would be required to allow the scheme to accumulate a stabilization reserve of two times its total projected annual expenses in year 2030 (benefits and administrative costs) over the projection period of 10 years.

Table 3.3 presents the main findings from the base financial projections.

Table 3.3.

Summary of the main findings – Base scenario

	Proposed design option
Benefit expenditure only	
Suggested contribution rate (in %) [1]	1.04
Minimum contribution rate to ensure the scheme's sustainability (in %) [2]	0.83
Projected year of reserve exhaustion with a 1% contribution rate	n.a.
Benefit and administrative expenditure	
Suggested contribution rate (in %) [1]	1.35
Minimum contribution rate to ensure the scheme's sustainability (in %) [2]	1.08
Projected year of reserve exhaustion with a 1% contribution rate [3]	2024

n.a. = not applicable.

[1] The recommended contribution rate is the contribution rate required to allow the scheme to accumulate a stabilization reserve of two times its projected total annual expenses in 2030 (benefits and administrative costs) over the projection period of 10 years so as at provide a buffer fund.

[2] Refers to the contribution rate that would be just sufficient to meet projected benefits and expenses over the projection period with no accumulation of a stabilization reserve.

[3] The year when contributions received would be less than projected benefit and expenses if a 1% contribution rate was applied and therefore when additional financing would be needed.

▶ 3.4. Impact of a change to the parameters

This section presents the impact on the suggested contribution rate of a change in any of the following parameters compared to those of the proposed design option:

Benefit Rate

▶ If the benefit rate of 50 per cent of average monthly earnings (AME) is modified to 45 per cent of AME for each month of benefit, the suggested contribution rate of 1.35 per cent under the proposed design option will reduce by 0.10 per cent to 1.25 per cent.

▶ If the benefit rate of 50 per cent of AME is modified to 60 per cent of AME for each month of benefit, the suggested contribution rate of 1.35 per cent under the proposed design option will increase by 0.21 per cent to 1.56 per cent

These calculations assume that there is no impact of benefit level on average duration period of payment of benefit (that is, no incentive or disincentive effect).

Maximum benefit duration

▶ If the maximum benefit duration of six months under the proposed design option is reduced to three months, the suggested contribution rate of 1.35 per cent under the proposed design option will reduce by 0.49 per cent to 0.86 per cent.

▶ If the maximum benefit duration of six months under the proposed design option is increased to nine months, the suggested contribution rate of 1.35 per cent under the proposed design option will increase by 0.33 per cent to 1.68 per cent. [26]

▶ 3.5. Optimistic and pessimistic scenarios

A UI programme should be financed in such a way that its revenue requirements should remain as stable as possible once taking into account economic cycles over time. In recessions, the financing mechanisms should ensure that the security of benefits is not threatened. Clearly, this implies the need for some form of dedicated financing that can be used to establish and build up financial reserves that are then used to smooth future benefit and expense commitments (for example, in economic downturns). [27]

Given the uncertainty of economic forecasts, the actuarial valuation of a UI scheme cannot, of course, pretend to project the future with perfect accuracy. Projections are based on models and assumptions, and the variables used in the models may react to unpredictable factors. The scenarios presented in this section provide a range of potential outcomes for income

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[26] This calculation assumes that an increase in benefit duration would need to lead to a significant increase in the current observed proportion of unemployed workers who remain unemployed for more than six months.
[27] Even if financing is to be solely assumed by government revenues, we recommend that a dedicated UI fund be created that is legally and administratively separate from other schemes. Not only does this reinforce sustainability, but it facilitates more appropriate investment policies and clarity on management and financing.

and expenditure under optimistic and pessimistic scenarios. Presenting a range of possible outcomes also allows for prudence within the context of the limited data on which this study is based. Assessing the cost of a UI scheme does indeed require very specific data and a historical perspective of the context and labour market that is sometimes very difficult to obtain before the programme is introduced.

Table 3.4 compares the main assumptions used under the base, pessimistic and optimistic scenarios. The pessimistic and optimistic assumptions are detailed in sections 3.5.1. and 3.5.2.

Table 3.4.

Summary of the main assumptions – Base, pessimistic and optimistic scenarios

Assumption	Scenario		
	Pessimistic	Base	Optimistic
Unemployment rate	10.1% in 2020, 13.3% in 2021, decreasing thereafter to 11.0% from 2026	9.2% in 2020, decreasing gradually to 5.3% from 2025	8.3% in 2020, decreasing gradually to 5.3% in 2025 and to 4.3% by 2030
Termination rate	2.1% and 2.8% of active members each month in 2020 and 2021, respectively, decreasing proportionally with the unemployment rate thereafter to 2.3% from 2026	1.9% of active members each month in 2020, decreasing proportionally with the unemployment rate thereafter to 1.1% from 2025	1.7% of active members each month in 2020, decreasing proportionally with the unemployment rate thereafter to 0.9% at the end of the projection period
Ratio of involuntary terminations	75% of all terminations	50% of all terminations	25% of all terminations
Claimants' earnings profile	Insurable earnings 1% lower compared to other insured members	Insurable earnings 13% lower compared to other insured members	Insurable earnings 24% lower compared to other insured members
Administrative expenses	0.40% of insurable earnings	0.25% of insurable earnings	0.20% of insurable earnings
Real investment return	0.4% in 2020, increasing gradually to 1.0% over the projection period	1.4% in 2020, increasing gradually to 2.0% over the projection period	2.4% in 2020, increasing gradually to 3.0% over the projection period

3.5.1. Pessimistic scenario

Under the pessimistic scenario, future contributions and benefits have been calculated in line with the demographic and macro-economic assumptions presented in section 2.2.2.

In the pessimistic scenario, it is assumed that the earnings distribution of the scheme's potential claimants will be identical to the earnings distribution of the scheme's average members at each age. Because of the difference in terms of age distribution between the members and the potential claimants, the average earnings of the potential claimants is assumed to be only about 5 per cent lower than the average earnings of the other members of the scheme. [28] The pessimistic scenario, therefore, also implicitly takes into account the fact that the profile of workers in the construction sector and micro enterprises may differ from what was observed in JHT, and that this has a negative impact on the cost of the scheme.

Table 3.5 presents the projected average earnings in 2020 – with and without the proposed insurable ceiling – under the pessimistic scenario.

Table 3.5.

Projected average earnings in 2020, total earnings and with proposed ceiling, by sex – Pessimistic scenario (in rupiahs)

Earnings	Males			Females		
	Insured workers (1)	**Layoffs and resignations (2)**	**Layoffs and resignations as % of insured workers (2)/(1)**	**Insured workers (3)**	**Layoffs and resignations (4)**	**Layoffs and resignations as % of insured workers (4)/(3)**
Total earnings (A)	4 702 881	4 465 753	95%	4 106 704	3 881 928	95%
With proposed ceiling (B)	3 862 296	3 803 712	98%	3 586 671	3 546 038	99%
With proposed ceiling as % of total earnings (B)/(A)	82%	85%	n.a.	87%	91%	n.a.

n.a. = not applicable.
Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2019

In addition, the pessimistic scenario assumes that the layoffs will represent 75 per cent of all job terminations. In other words, it is assumed that 75 per cent of all job terminations for members meeting the eligibility requirement will result in a claim.

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[28] It is worth noting that the application of the ceiling will reduce the gap observed between the members' average insurable earnings and the potential claimants' average insurable earnings. The average insurable earning of the potential claimants is assumed to be about 1 per cent lower than the average insurable earning of the other members of the scheme, assuming a ceiling of 8,939,700 rupiahs per month in 2020.

The pessimistic scenario assumes that, on average, the profile of the potential claimants will be closer to that of the active insured of the UI scheme. This could be a reasonable assumption if the coverage is extended to constructions workers, or if the coverage is voluntary for some groups of workers and there is some selection against the scheme. Extending the coverage to construction/voluntary contribution workers may also contribute to increase the ratio of claims in the UI scheme. In fact, employers in the construction sector often rely on temporary/seasonal workers for project completion. Alternatively, covering voluntary contribution workers may lead to a greater risk of adverse selection [29] for the UI scheme. At the expiration of their contract, workers are laid off and become eligible to claim UI benefits (as long as they meet the eligibility requirement). As a result, there will be 50 per cent more workers who will make claims than what is assumed in the base scenario.

Finally, in the pessimistic scenario:

▶ administrative expenses of 0.40 per cent of the total insurable earnings are assumed; and

▶ investment returns are assumed to be 1.0 per cent lower than in the base scenario.

3.5.2. Optimistic scenario

Under the pessimistic scenario, future contributions and benefits have been calculated in line with the demographic and macro-economic assumptions presented in section 2.2.3.

In the optimistic scenario, it is assumed that the earnings distributions of the scheme's members will be identical to those assumed in the base scenario, but that the earnings of the potential claimants after the application of the ceiling of 8,939,700 rupiahs per month in 2020 will be 24 per cent lower than the average earning of the other members of the scheme. This scenario implicitly assumes that the profile of workers in the construction sector and micro enterprises may differ from what was observed in JHT, and that this has a positive impact on the cost of the scheme.

Table 3.6 presents the projected average earnings in 2020 – with and without the proposed insurable ceiling – under the optimistic scenario.

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[29] Adverse selection refers to the possibility of high-risk individuals being covered under the scheme under the same conditions as other workers. Voluntarily covered employees with higher risks of becoming unemployed have significantly more incentive to join a UI scheme than others who have secure and stable jobs. Similarly, self-employed workers covered under the UI scheme would be in a position to "control" their claims and potentially abuse the system.

Table 3.6.

Projected average earnings in 2020, total earnings and with proposed ceiling – Optimistic scenario (in rupiahs)

Earnings	Males			Females		
	Insured workers (1)	Layoffs and resignations (2)	Layoffs and resignations as % of insured workers (2)/(1)	Insured workers (3)	Layoffs and resignations (4)	Layoffs and resignations as % of insured workers (4)/(3)
Total earnings (A)	4 702 881	3 135 622	67%	4 106 704	2 761 423	67%
With proposed ceiling (B)	3 862 296	2 963 930	77%	3 586 671	2 706 795	75%
With proposed ceiling as % of total earnings (B)/(A)	82%	95%	n.a.	87%	98%	n.a.

n.a. = not applicable.
Source: Authors' calculations based on BPJS-TK detailed statistics provided on JHT scheme, 2019.

In addition, this scenario assumes that layoffs will represent 25 per cent of all job terminations. In other words, it is assumed that 25 per cent of all job terminations for members meeting the eligibility requirement will result in a claim.

The optimistic scenario assumes that the workers contributing to the UI scheme will generally have more stable and secure jobs than what is assumed in the base scenario. As a result, UI covered workers will claim half as much as assumed in the base scenario.

Finally, in the optimistic scenario:

▶ administrative expenses of 0.20 per cent of the total insurable earnings are assumed; and
▶ investment returns are assumed to be 1.0 per cent higher than in the base scenario.

3.5.3. Demographic and financial projections

Figure 3.3 presents the demographic ratios of the scheme from financial year 2021 to financial year 2030 (inclusive) for the proposed design option, under all scenarios analysed (base, pessimistic and optimistic).

Figure 3.3.

Demographic ratios, financial years 2021–30 – Base, pessimistic and optimistic scenarios
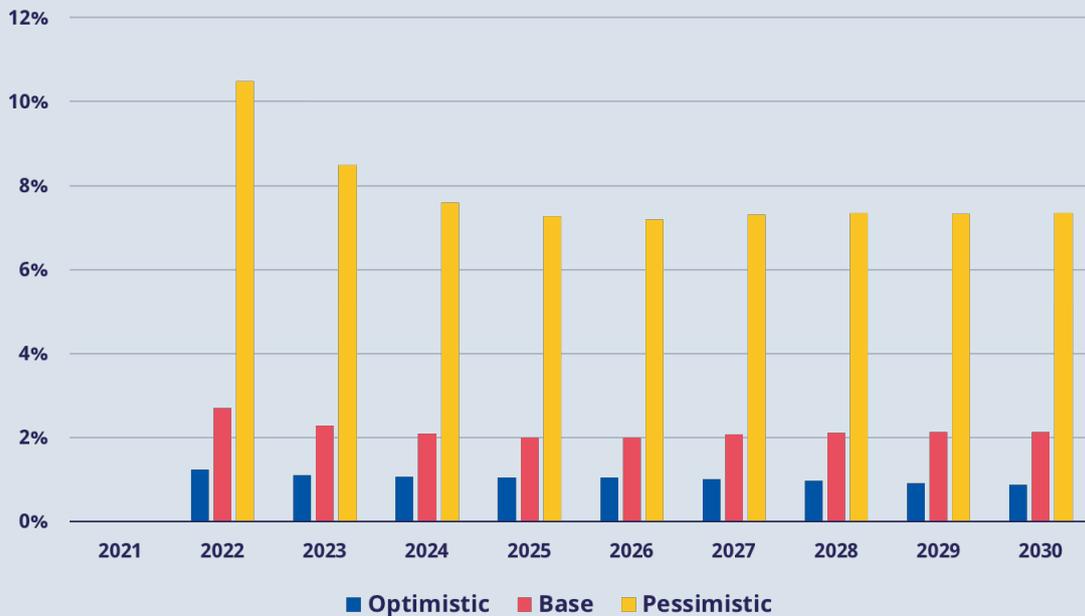
Source: Authors' calculations.

Over the projection period, the proposed design option is projected to provide UI compensations to a number of workers estimated to range from 1 per cent (optimistic scenario) to 11 per cent (pessimistic scenario) of the scheme's projected number of active contributors. This compares to an assumption of about 2 per cent of the scheme's projected number of active contributors on average under the base scenario.

Over the projection period, the average UI compensation is expected to represent between 37 per cent (optimistic scenario) and 48 per cent (pessimistic scenario) of the average insurable earnings under the proposed design option. This compares to 42 per cent under the base scenario.

Figure 3.4 presents the total PAYG cost rate (including the benefits and administrative expenditures) for the proposed design option under all scenarios analysed (base, pessimistic and optimistic).

Figure 3.4.

PAYG cost rate, financial years 2021–30 – Base, pessimistic and optimistic scenarios
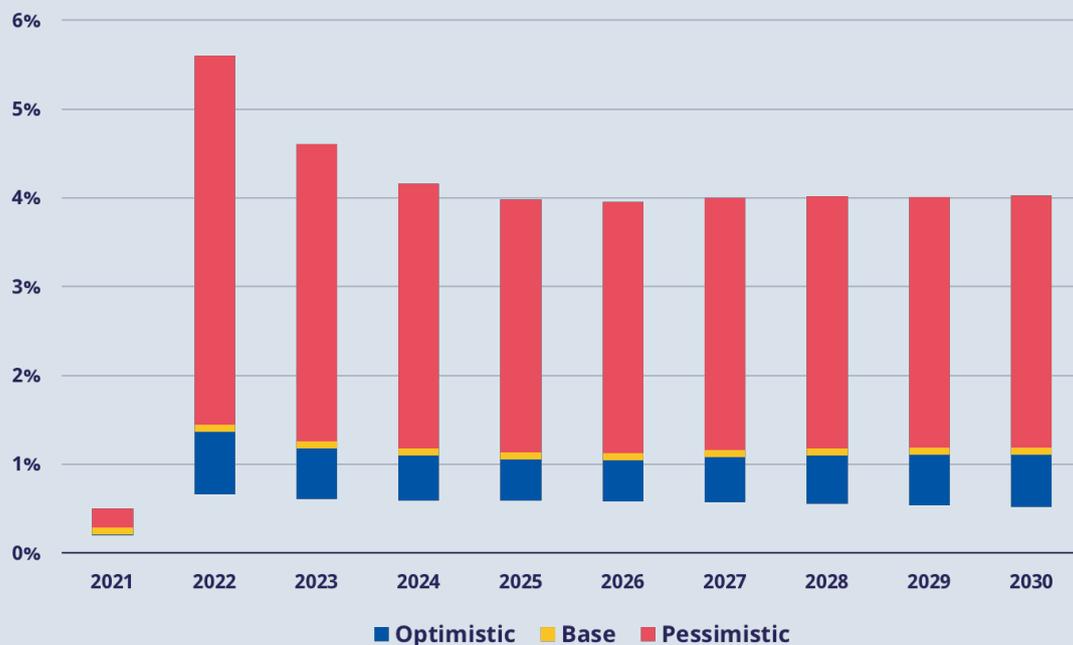
Source: Authors' calculations.

Under the optimistic scenario, the PAYG cost rate is not projected to exceed 0.7 per cent of insurable earnings under the proposed design option. Under the pessimistic scenario, the PAYG cost rate may reach up to 5.6 per cent of insurable earnings.

Table 3.7 presents the main findings from the base financial projections.

Table 3.7.

Summary of the main findings – Base, pessimistic and optimistic scenarios

	Pessimistic	Base	Optimistic
Benefit expenditure only			
Suggested contribution rate (in %) [1]	4.27	1.04	0.42
Minimum contribution rate to ensure the scheme's sustainability (in %) [2]	3.41	0.83	0.34
Projected year of reserve exhaustion with a 1% contribution rate	2022	n.a.	n.a.
Benefit and administrative expenditure			
Suggested contribution rate (in %) [1]	4.89	1.35	0.66
Minimum contribution rate to ensure the scheme's sustainability (in %) [2]	3.91	1.08	0.54
Projected year of reserve exhaustion with a 1% contribution rate [3]	2022	2024	n.a.

n.a. = not applicable.

[1] The suggested contribution rate is the contribution rate that would be required to allow the scheme to accumulate a stabilization reserve of two times its total expenses (benefits and administrative costs) over the projection period of ten years.

[2] Refers to the contribution rate that would be just sufficient to remain sustainable over the projection period (no accumulation of a stabilization reserve at the end of the projection period).

[3] The year when contributions received would be less than projected benefit and expenses if a 1% contribution rate was applied, and therefore, when additional financing would be needed.

According to the projections made, as derived from the base, pessimistic and optimistic scenarios previously detailed, the annual contribution rate that would ensure the sustainability of the UI scheme and the accumulation of a stabilization reserve over the projection period of ten years would range from 0.66 to 4.89 per cent of the insurable earnings for the proposed design option.

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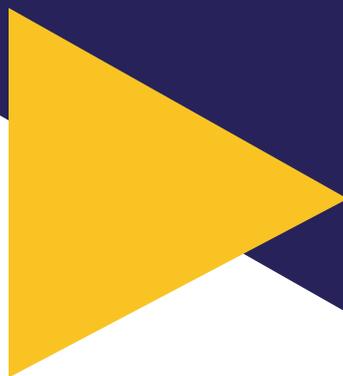
POLICY
CONSIDERATIONS

Policy considerations

This section analyses the main policy issues related to the proposed design options, taking into account the specific labour market context, the legal framework of the UI system and the various observations made throughout this report.

4.1. Transitional arrangement

As presented in table 3.1 above, the proposed design option requires a minimum of 12 months of contributions over the previous 24-month period to qualify for a UI benefit. Therefore, no member will accumulate enough months of contribution in the UI scheme in the first year of its implementation to become eligible for benefits.

The following transitional arrangement could therefore be proposed: members who have accumulated at least 12 months of contribution over the previous 24-month period in JKK (that is, up to the date of claim) could be eligible for compensation. The cost of this transitional arrangement has been assessed for 2021 for the proposed design option, under the base, pessimistic and optimistic scenarios previously described. As no data were provided on the members exclusively covered under the JKK scheme, the cost of the proposed transitional arrangement has been prorated on the estimated total membership of JHT and JKK. [30] The results are presented in table 4.1.

Table 4.1.

Estimated cost of the proposed transitional arrangement for year 2021 (in trillions of rupiahs)

Scenario	Estimated cost of the proposed transitional arrangement for year 2021 (in trillions of rupiahs)	Additional contribution rate required over the projected period to finance the proposed transitional arrangement for year 2021 (in per cent)
Pessimistic	37.9	0.36
Base	13.8	0.13
Optimistic	5.5	0.05

Note: The estimated cost of the proposed transitional arrangement for year 2021 excludes the administrative expenditure. The administrative expenditure is assumed to be fully paid by the UI scheme.

[30] As of 2018, the total number of workers covered under the JHT was estimated to 15,270,000 while the total number of workers covered under both JHT and JKK was estimated to 19,427,000. To estimate the cost of the proposed transitional arrangement, a factor of 1.272 (1.272 ⬚ 19,472,000 ÷ 15,270,000) has been applied to the cost of the proposed transitional arrangement, which would apply exclusively to JHT members.

The estimated cost of the proposed transitional arrangement for 2021 would range from 5.5 to 37.9 trillion rupiahs for the proposed design option (optimistic and pessimistic scenarios, respectively), with an estimated cost of around 13.8 trillion rupiahs under the best estimate scenario. The cost of the transitional arrangement could be paid by the Government or could be financed through an increase in the contribution rate over the projection period. The required increase in the contribution rate would range from 0.05 to 0.36 per cent (optimistic and pessimistic scenarios, respectively), with a required increase of around 0.13 per cent under the best estimate scenario.

▶ 4.2. Covering construction or seasonal workers

The UI scheme intends to cover all employees in private sector enterprises, as well as construction workers in the medium term.

Extending the coverage to construction workers may increase the incidence of claims experienced by the UI scheme, and therefore the scheme's cost (although this will depend on eligibility requirements). For example, employers in the construction sector may rely on temporary or seasonal workers for project completion. At the expiration of the project work, workers on short-term contracts cease employment or workers may be laid off and may become eligible to claim UI benefits (if they meet the eligibility requirements). Requiring 12 months of contribution to the scheme in a 24-month period seems appropriate to reduce the potential risks of abuse from temporary or seasonal workers who could (with less stringent conditions) claim benefits on a regular basis, such as after every contract or season.

We recommend that the UI scheme should be compulsory for all employees in sectors covered by the scheme. Allowing workers or their employers to voluntarily join a scheme will lead to a greater risk of adverse selection for the UI scheme. Adverse selection refers to the possibility of high-risk individuals (in this case, workers who are at high risk of becoming unemployed) to be covered under the scheme under the same conditions as other members. Employees with high risks of becoming unemployed would have significantly more incentive to join the UI scheme than others who have secure and stable jobs. Allowing members to be covered on a voluntary basis is likely to encourage a pool of high-risk workers and discourage a pool of low-risk workers to join the scheme, increasing the overall cost of the UI scheme.

▶ 4.3. Comparison with the two current main sources of income replacement for unemployed workers

Statutory severance payments and lump-sum withdrawals from JHT are currently the two main sources of income replacement for unemployed workers. As of January 2021, it is not clear to the ILO whether the UI scheme is to replace or complement these two main sources of income replacement for unemployed workers in Indonesia.

Table 4.2 compares severance pay with the UI compensation from the proposed design option.

Table 4.2.

Comparison of the severance pay and proposed unemployment insurance scheme design option

Years of service	Severance pay [1]	Proposed design option [2]
Less than 1 year	1 month of pay	n.a.
1–2 years	2 months of pay	Up to 3 months of pay [3]
2–3 years	3 months of pay	
3–4 years	4 months of pay	
4–5 years	5 months of pay	
5–6 years	6 months of pay	
6–7 years	7 months of pay	
7–8 years	8 months of pay	
8 years or more	9 months of pay	

n.a. = not applicable.

[1] The pay that is used for the calculation of severance pay is the basic pay plus any fixed allowances, namely any allowance that is not related to performance nor absenteeism. Fixed allowances (not exceeding 25% of total wages) could, for example, be for food, lodging or transportation.

[2] The pay that is used for the calculation of UI compensation under the proposed design option is the average earnings (basic salary and fixed allowances except for non-wage allowances) over the 6 months prior to claim, up to a maximum of 8,939,700 rupiahs per month in 2020.

[3] The proposed design option requires a minimum of 12 months of contributions over the previous 24-month period to qualify for a UI benefit.

Source: 2003 Labour Code, article 156.

Figure 4.1. illustrates the amounts that could be made available to a dismissed worker in relation to their prior monthly earnings.

Figure 4.1.

Amounts made available to a dismissed worker in relation to their prior monthly earnings, by years of service
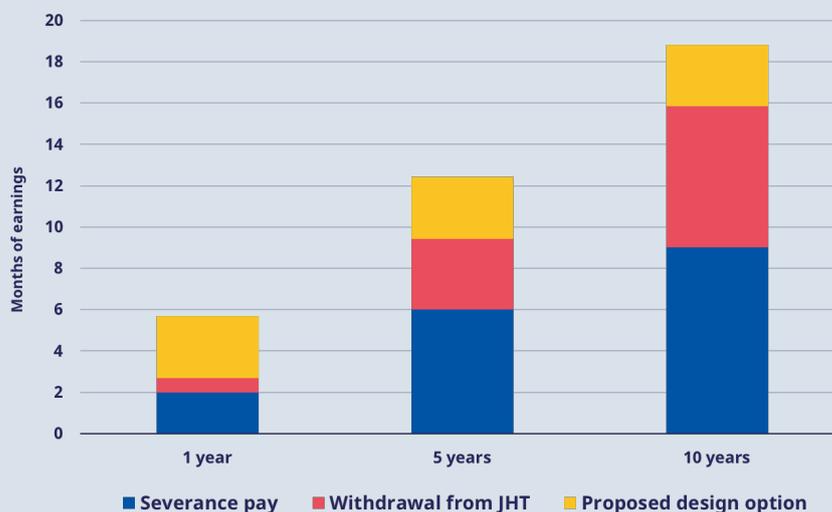
Note: For simplification, investment return on JHT savings account has been assumed identical to the member's growth in earnings.

Source: Authors' calculations.

As presented in figure 4.1, under the proposed design option:

▶ A dismissed worker could potentially receive an amount equivalent to almost six months of their prior earnings after only one year of service. This amount consists of severance pay (two months), withdrawal from their JHT savings account (0.684 month = 12 months x 5.7 per cent) and UI compensation (up to three months – six months of payment at a rate of 50 per cent of salary – under the proposed design option [31]). The first two elements would be paid immediately in lump sum form, with the UI compensation paid monthly (this is also the case for the two examples below).

▶ A dismissed worker could have access to more than 12 months of their prior earnings after five years of service. This amount is distributed between severance pay (six months), withdrawal from their JHT savings account (3.42 months = 60 months x 5.7 per cent) and UI compensation (up to three months equivalent of salary under the proposed design option).

▶ A dismissed worker could have access to more than 18 months of their prior earnings after ten years of service. This amount is distributed between severance pay (nine months), withdrawal from their JHT savings account (6.84 months = 120 months x 5.7 per cent) and UI compensation (up to three months of equivalent of salary under the proposed design option).

There are risks of providing a too generous income replacement for unemployed workers. In fact, providing a too generous package of unemployment compensation may reduce unemployed workers' incentives to find a job, and may at the same time increase the unemployment duration. At the same time, there is a risk that UI scheme benefits are designed assuming an individual also receives the severance payment and JHT savings withdrawal amounts above, whereas in reality, this may not be the case due to lack of compliance by employers for the former and insufficient savings for the latter.

A mandatory severance pay programme running in parallel with a UI scheme could be seen as redundant. Countries that offer these two types of programmes simultaneously normally use them in a way wherein they complement each other, rather than to increase the overall level of unemployment benefits. Proper coordination between the UI scheme and the severance pay programme is likely to reduce the overall cost of the system and reduce the compliance issues observed in the severance pay programme in Indonesia.

It is also worth noting that workers who withdraw their contributions from their JHT savings account on a regular basis – that is, each time they become unemployed – will face significant financial challenges at retirement, and JHT should be focused on retirement needs. In order to ensure that the both the UI and JHT schemes meet their main objectives, it is strongly recommended to prevent any further withdrawals from JHT for purposes of involuntary terminations once the UI scheme is fully implemented.

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[31] Calculated as 6 months × 50 per cent replacement rate = 3 months.

▶ 4.4. Rate-setting mechanism

Contrary to a pension scheme, which provides for long-term benefits accruing over 20 to 40 years and thereafter payable for another 20 to 30 years, unemployment insurance provides for short-term benefits paid over a period of less than one year. Pension schemes require a funding policy, either formal or informal, to determine the level of pre-funding of their long-term liabilities, with policy options ranging between PAYG and full funding. By nature, short-term benefits are typically financed on a PAYG basis. Normally, short-term benefits schemes, and especially UI schemes, keep a contingency reserve in order to absorb unexpected increases in benefit payments. Due to the short-term nature of benefits, contribution (or premium) rates of a UI scheme needs to be revised more frequently than for a pension scheme. Often, actuarial valuations of unemployment schemes are performed annually in order to revise the contribution rate according to a predefined rate-setting mechanism.

Section 3.2.6 above specifies how the proposed level of contribution rate, which considers the benefit and administrative expenses as well as investment income, was assessed for the proposed design option under each of the scenarios (base, pessimistic and optimistic scenarios). In this report, the following mechanism was used:

Gradual accumulation of a stabilization reserve over a ten-year period equivalent to at least twice the total monthly expenses (benefits and administrative costs) in the tenth year of operation of the plan. The mechanism used also provides that over the ten-year projection period, reserves will always be positive and therefore external financing will not be needed.

Rate setting mechanisms and financing policy normally define the projection period over which the rate is calculated, the level of the contingency reserve, the rules for the use of assets in excess of the contingency reserve, as well as how the contribution rate is shared between employees, employers and the Government. Actuarial valuations are typically performed every one to three years in order to revise the contribution rate according to the predefined rate-setting mechanism. The requirement to conduct an actuarial valuation of the scheme and what this covers should be incorporated in the Law, along with the frequency of such evaluations.

As an example, in Canada, the annual premium rate setting is defined in section 66 of Part III of the Employment Insurance Act. Article 66(1) states the following:

Annual premium rate setting

66(1) Subject to subsection (7) and section 66.32, the Commission shall set the premium rate for each year in order to generate just enough premium revenue to ensure that, at the end of the seven-year period that commences at the beginning of that year, the total of the amounts credited to the Employment Insurance Operating Account after December 31, 2008 is equal to the total of the amounts charged to that Account after that date.

Economic studies have shown that abrupt changes in contribution rates are detrimental to job creation and maintenance, and so should be avoided during a recession. This leads to the necessity of establishing sufficient contingency reserves to allow contribution rates to remain level when economic downturns occur. However, it is important that there is a clear financing and contribution rate policy that is transparent and communicated effectively to avoid the size of such reserves becoming contentious. For example, large reserves may be used as a justification for reducing contribution rates; while some public authorities may see large UI reserves as a convenient source of funds for other projects. In both cases, there would be the risk of depleting reserves below safe levels. A rate setting mechanism would provide guidance in order to define the appropriate level for the contingency reserve and the contribution rate for the scheme.

Since unemployment insurance schemes are short-term benefit schemes for which contributions may have to be modified more frequently than for pension schemes, it is recommended that the contribution rate of the upcoming UI scheme be based on a rate setting mechanism and on actuarial valuations produced every two to three years, rather than having it locked-in for an indefinite period of time. The rate setting mechanism should also specify how the contribution rate is shared between employees, employers and the Government.

We therefore recommend that an actuarial valuation be carried out every two or three years, but in the first years of operation, experience should be closely monitored. This can be through a review of cash flows on a quarterly or biannual basis.

4.5. Proper monitoring and data collection

Although an analysis of the data provided by BPJS-TK on JHT membership and beneficiaries can help understand how a UI scheme would behave in the unique context of Indonesia, assessing the cost of a UI scheme does require very specific data and a historical perspective of the context and labour market that are sometimes very difficult to obtain before the programme is introduced. It is also important to mention that, since the JHT financial statements were not provided, it was impossible for the ILO to check the consistency between the JHT financial statements and the data provided on JHT members and beneficiaries on which this report is based. A comparison between the financial statements and the data on members and beneficiaries allows a reconciliation of data. Furthermore, no data were obtained on statutory severance payments. This adds uncertainty to the cost estimates presented in this report.

Once the UI scheme is implemented, it will be important to start collecting data and statistics on its members and beneficiaries with a view to allowing a better understanding of the interactions among the demography, the economy, the labour market and the scheme's experience. Collecting such data and statistics will not only contribute to an improved monitoring of the scheme, but also provide guidance to decision-makers for policy-setting.

One of the biggest challenges in estimating the cost of the UI scheme resides in the uncertainty surrounding the proportion of involuntary terminations. According to BPJS-TK, Indonesia's severance pay programme provides incentive for employers to claim that involuntary terminations are resignations instead of layoffs. While implementing the UI scheme, it will be important to put in place mechanisms to ensure the proper recognition and monitoring of voluntary and involuntary terminations.

▶ 4.6. Case management and employment services

Unemployment insurance is one of the most difficult of social security benefits to administer, in view of the need to prevent the simultaneous receipt of unemployment benefits and earnings from work. Benefit claims must be carefully checked and the efforts of jobseekers to find employment must be closely monitored, necessitating a well-staffed employment service. The presence of a large informal sector in Indonesia increases the risks associated with the implementation of a UI scheme if benefit recipients can work informally. [32] Limited government administrative capacities to manage a UI scheme and monitor job search add to the concerns. Restricting the access and generosity of unemployment benefits might limit these leakages, but at the cost of reducing the reach and potential benefit of UI schemes. This increases the need for having a well-functioning UI scheme in Indonesia.

Unlike other schemes administered by BPJS-TK, the operation of the UI scheme will need the active involvement of other institutions, including the Ministry of Manpower or local manpower offices. An active job search is a condition for receiving unemployment benefits, along with regular reporting, attendance at counselling and monitoring interviews, and acceptance of suitable job offers. UI benefits can thus be contrasted, for example, with passive severance payments or JHT withdrawals, which are unconcerned with whether recipients pursue any job action, participate in training initiatives or register at an employment office. [33] Without the effective implementation of such monitoring and validation mechanisms for qualifying conditions for continuing benefit payments, the cost of the UI scheme will be higher.

Re-qualification of jobseekers as well as on-the-job training are also part of an effective Active Labour Market Policy (ALMP). Indeed, one of the key roles of the employment services is to match job vacancies with skilled workers. Such a service can help employers find workers with the required skills quickly and reduce the length of time workers with particular skills are unemployed.

In order to achieve one of the main goals of the unemployment insurance scheme, which is to increase employability and help employees find suitable jobs, case management and employment services play a crucial role. It is therefore strongly recommended to study how case management and employment services can be efficiently handled in Indonesia.

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[32] Romain Duval and Prakash Loungani, "Designing Labour Market Institutions in Emerging and Developing Economies: Evidence in Policy Options", IMF Staff Discussion Note No. SDN/19/04, 2019.
[33] Bédard, Carter, and Tsuruga, *Legal, Financial and Administrative Considerations for an Employment Insurance System in Indonesia.*

▶ # 4.7. Compliance with ILO Conventions

Protection against unemployment is covered by the Social Security (Minimum Standards) Convention, 1952 (No. 102), and the Employment Promotion and Protection against Unemployment Convention, 1988 (No. 168), as well as the accompanying Employment Promotion and Protection against Unemployment Recommendation, 1988 (No. 176), and the Social Protection Standards Recommendation, 2012 (No. 202).

Convention No. 102 is the ILO's flagship Convention on social security. It covers the nine branches of social security, including protection against unemployment, and determines the minimum configuration of parameters with regard to the definition of the contingency covered, the persons protected, the level of unemployment benefits, the period required for the payment of benefits, and the initial waiting period during which benefits may not be provided. Convention No. 168 and Recommendation No. 176 reflect the new way of thinking that goes beyond the social security system to the external socio-economic environment in which social security interacts with the labour market, human resource development and the economy in general.

Convention No. 168 and Recommendation No. 176 set advanced standards for unemployment protection systems and introduce provisions on employment promotion that emphasize the importance of coordination between social security and employment policy. Employment policies and unemployment protection must now be seen in a dynamic relationship.

Social security measures are seen as a means to achieve a dual objective: the promotion of employment and the protection of workers against unemployment. There is also a need to coordinate and consolidate employment counselling and income support mechanisms, which will serve the ultimate goal of employment promotion. Thus, the objective of protecting workers and their families against loss of employment or earnings encompasses a dual objective: on the one hand, providing income security to protect unemployed workers and their families against poverty (through unemployment benefits); and on the other hand, improving employability through training and retraining, and facilitating the earliest possible return to the labour market (through ALMPs).

Therefore, in addition to financial support, unemployment protection measures should include assistance to help persons to find a job through career counselling, employment services, vocational training, among others. Facilitating an early return to work has the dual advantage of keeping the workforce active and productive, and limiting UI fund expenditures.

The ILO standards approach to unemployment protection therefore covers: comprehensive social protection, by providing income security or income replacement through periodic and predictable benefits; employment promotion, including through active employment policies to assist jobseekers as well as employers; the establishment of services to facilitate active job search by linking it to other public policies; and close coordination between unemployment

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protection and employment promotion policies. This approach is considered to offer the best protection in the event of unemployment and/or underemployment, as it helps to ensure the right of workers to income security and access to employment.

Although stakeholders can agree to adopt UI provisions that differ from those proposed in this report, it is strongly recommended that the upcoming scheme's provisions comply with the internationally-recognized ILO Convention No. 102 on social security minimum standards. The proposed scheme design meets these requirements. More information on ILO Conventions and Recommendations can be provided.

▶ Annex I. General methodology of the actuarial valuation

This actuarial valuation makes use of a comprehensive methodology developed by the Actuarial Services Unit of the Social Protection Department of the ILO for reviewing the financial situation of UI schemes.

A3.1. Purpose of UI compensations projection

The purpose of the UI model is twofold. First, it is used to assess the financial viability of the proposed scheme over the projection period. This refers to balancing between the scheme's income and expenditure. In case of an imbalance, a revision of the contribution rate, or the benefit structure, is recommended. Second, the model may be used to examine the financial impact of different design options, thus assisting policymakers in the design of benefit and financing provisions. More specifically, the model is used to develop projections of the scheme's income and expenditure, for the purposes of:

▶ assessing the options for building up a contingency or technical reserve;

▶ proposing contribution rates that are consistent with the funding objective; and

▶ testing how the system reacts to changing economic and demographic conditions.

A3.2. Membership data and assumptions

What is needed with respect to each relevant assumption is a historical perspective on how each factor behaved or would have behaved under a UI programme, which can then be linked to economic and labour force forecasts for the projection period. All projections are predicated on the availability of adequate statistics for the required assumptions, but also on the statistics pertaining to the specific characteristics of the workers covered under the UI scheme.

The model focuses on the main characteristics of the scheme's future active members and beneficiaries. More precisely, the model takes into account the specific characteristics of the projected active contributors of the scheme as well as the main characteristics of the members at risk of becoming unemployed. The members at risk of becoming unemployed are determined with reference to the scheme provisions and the historical experience of the scheme. The profiles of members are based on the information collected regarding the earnings, past service and past entitlements of contributors by age.

The assumptions regarding the number of insured members, the inflation rates, the real rates of return on the scheme's assets, the real salary growth rates, as well as the unemployment rates are formulated on the basis of the nature of the scheme's framework and on assumptions on future economic conditions.

A3.3. Projection approach

UI projections are made following a month-by-month methodology. The model establishes a relationship between the estimated number of unemployed and the estimated number of beneficiaries for each month of the projection period.

The theoretical distribution of unemployed in a specific month is modelled using a survival distribution function while the theoretical distribution of beneficiaries in the same month is modelled using a similar survival function, but considering the scheme's specific parameters (that is, eligibility conditions, waiting period and maximum duration of benefit payment). The number of beneficiaries paid during a specific month is obtained by applying the theoretical ratio of unemployed beneficiaries to the estimated total number of unemployed during the specified month.

The model includes a number of assumptions to determine the initial projected number of beneficiaries eligible for benefit. These assumptions are based on the experience of the scheme (terminations, proportion of terminations considered involuntary, proportion of members, past service at termination, etc.), but also depend on the national unemployment rate projected for the years ahead. Any subsequent change to the unemployment rate, or any subsequent change to the schemes' parameters, is reflected in the resulting number of beneficiaries projected by the model. The projection of insurable earnings are made according to the economic assumptions and the scheme's provisions.

It is not the objective of UI projections to forecast the exact progression of a scheme's income and expenditure, but to verify its financial viability and also to assess how projected cashflows change when there are certain changes in parameters. This entails evaluating the scheme with regard to the relative balance between future income and expenditure, under different possible economic scenarios.
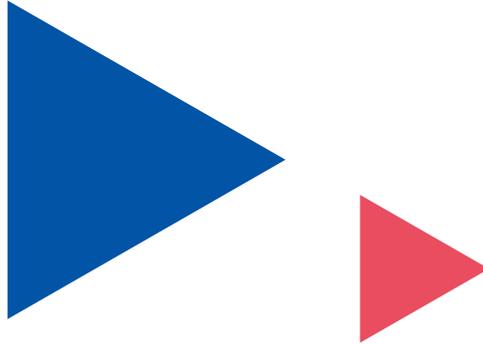
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