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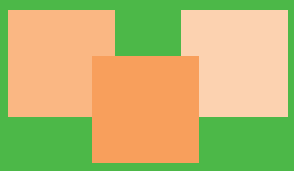

MALAYSIA

Report to the Government
Relief fund for the loss of employment: Programme design and actuarial assessment

International Labour Organization

SOCIAL SECURITY ORGANISATION

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Report to the Government

Relief fund for the loss of employment: Programme design and actuarial assessment

International Labour Office
Sub-regional Office for East Asia, Bangkok

International Labour Office
Social Security Department, Geneva

Social Security Organisation (SOCSO)
Malaysia

Korea Labor Institute (KLI)
Republic of Korea

February 2010

Contents

Acronyms

EI	Employment insurance
EII	Employment Injury Insurance (of SOCSO)
EPF	Employees' Provident Fund
GDP	Gross Domestic Product
GNP	Gross National Product
IAP	Individual action plan
IB	Invalidity benefits (of SOCSO)
ILO	International Labour Office/Organization
KLI	Korea Labor Institute
MEF	Malaysian Employers' Federation
MOHR	Ministry of Human Resources
MTUC	Malaysian Trade Union Congress
NRS	National Retrenchment Scheme (proposed by MTUC)
OECD	Organisation for Economic Co-operation and Development
PES	Public employment service
RB	Retrenchment benefit under the current labour law
RBGF	Retrenchment benefit guarantee fund
RF	Relief Fund (for loss of employment; newly proposed)
RFB	Relief Fund benefits
RM	Malaysian Ringgit
ROK	Republic of Korea
SB	Survivors' benefits (of SOCSO)
SD	Standard deviation
SOCSO	Social security organization
UI	Unemployment insurance

Executive summary

1. Background

Malaysia, a middle-income country with a relatively low and stable unemployment rate, conducts both a well-developed job-matching scheme and a vocational training scheme. The Government of Malaysia, in collaboration with its social partners, has also been eager to provide basic income support to retrenched workers while they are seeking jobs.

National labour law currently stipulates that former employers are to pay retrenched workers related benefits. Administering this law, however, has proved problematical:

- Some workers—due to insolvency on the part of previous employers and time-consuming court cases to settle related disputes—cannot receive their benefits in timely fashion.
- Current retrenchment benefits, provided as lump sums, are at times insufficient to sustain workers when they are jobless and have no other means of income—especially among poorly paid workers engaged in short-term employment.

The Malaysian economy, including its labour market, is being adversely affected by the current global financial crisis. Given that the proportion of retrenched workers who failed to receive their retrenchment benefits soared during the two previous economic crises, the Government is concerned to prevent this happening again.

2. Tripartite discussions

The ILO, in collaboration with SOCSO Malaysia and a team of experts, conducted a national tripartite seminar that proposed two approaches to providing income protection to retrenched workers:

- retrenchment benefit guarantee fund (RBGF) mechanisms, providing compensations for unpaid retrenchment benefits and unpaid wages; and
- unemployment insurance (UI), which provides partial income replacement during times of unemployment.

Seminar discussions and feedback indicate that national stakeholders prefer an incremental approach, keeping the current retrenchment benefits and providing additional support to those who cannot get retrenchment benefits. Seminar discussions and individual consultations have both stressed also guaranteeing basic income for retrenched workers.

3. Design recommendations

The seminar proposed benefits supplementary to existing retrenchment benefits. These could be provided for all retrenched workers by a newly introduced relief fund (RF). The structure of this scheme is outlined in what follows.

3.1 Coverage

To simplify management of the scheme, RFB coverage should remain the same as current SOCSO coverage for employment injury insurance. It should also be extended to those older than 55 years. The new RF, it is furthermore suggested, should cover non-manual workers with monthly basic wages of more than 1,500 ringgit (RM1,500), who are currently excluded from RB coverage.

3.2 Benefits

To provide basic income security for a certain period, the benefits, including retrenchment benefits (RB), should amount to RM600 per month for a maximum period of six months. The benefits should be paid to eligible persons whose RB is less than RM3,600, and the total benefits from RF should be at maximum RM3,600 minus the amount of RB. The RM600 per month should be indexed in line with the general increase in the income level or the average salary level.

3.3 Qualifying conditions

Given that the new RF benefits supplement the existing RB and guarantee basic income security for a certain period of time—i.e. RM600 per month for a maximum of six months totalling RM3,600—the retrenched worker's RB should be equal to or less than RM3,600.

In line with standard UI schemes in other countries, those wishing to qualify for the new RF benefits should satisfy the following conditions:

- **Insurance period.** The retrenched worker should have been covered by the SOCSO at least 12 of the 24 months prior to retrenchment.
- **Cause of job loss.** The cause of job loss should be a retrenchment as stipulated in the Employment Act.
- **Work tests**. Claimants should be both available for work and actively searching for a job. The local public employment service office should monitor claimants, ensuring they register as job-seekers and report their search efforts regularly to the local public employment service office.
- **Complement to RB**. RF benefits should not exceed RM3,600 in total. Therefore, those newly covered by the RF, but not currently covered by the RB and who cannot get RB because the employer is bankrupt, can receive full RFB, i.e. RM3,600.

3.4 Benefit management

RF benefit management would apply the rule that the combined benefits of the RB and the RF benefits should be RM600 per month to be paid for a maximum period of six months:

- claimants should use RM600 per month from the RB before receiving RF benefits; and
- after the exhaustion of the RB, RF benefits should be paid so that the monthly amount of both benefits should total RM600 per month.

Eligible workers who qualify for full RF benefit get RM600 monthly for a maximum of six months, so long as they continue to be unemployed and satisfy the above-mentioned qualifying conditions. The monthly benefit is about 40 per cent of the average wage of the Malaysian worker,[1] and a little less than the minimum public-sector wage.

RF benefits would be paid after the RB is spent. The payment schedule of the RFB would be delayed one month each for RM600 each of RB. For example, the payment of RFB would be suspended for the first two months for a retrenched worker with a RB of RM1,500; RM300 would be paid on the third month; and RM600 would be paid from the fourth to six months.

3.5 Financing

Different countries adopt different financing rules, and the social partners should determine rules appropriate for Malaysia. The actuarial assessment in Chapter 4, below, supports a recommended contribution rate of 0.2 per cent of the insurable wage. Where employers and employees share contributions equally, the rate would be 0.1 per cent each.

3.6 Administration

To simplify procedures, and to avoid additional costs of creating a new administrative institution, it is recommended that the SOCSO should collect the contributions—in addition to existing contributions to employment injury insurance and (general) invalidity and survivors' pensions—and pay the new RF benefits. Close collaboration would be required with job centres in administering the work tests. The SOCSO should also be in charge of recovering unpaid RBs from bankrupt employers.

3.7 Implementation date

Given the time needed to prepare legislative amendments and new administrative procedures, it is recommended that the new RF should come into operation on 1 January 2011. Since the new RF benefits are paid on condition that beneficiaries make at least 12 months of contributions in the 24 months prior to any claims, the first payments will appear from the beginning of 2012.

[1] RM1,552 in 2008, MOHR statistics.

4. Actuarial assessment

Actuarial assessment of the proposed scheme referred to both limited available national data and parallel international experience. A contribution rate of 0.2 per cent is sufficient to establish safe margins for fluctuations in income and benefits, i.e. more than twice the benefit expenditures in the sixth year of the scheme's operation. Sensitivity analysis of benefit expenditure and contribution income suggests that the scheme is resilient to short-term financial fluctuations, mainly because of expected financial reserves in the first year of operation (no benefit payments are foreseen during that period, given the condition that contributions must be made for one year before a retrenched worker qualifies for the new RF benefits).

This estimate should be taken as preliminary, since no benefits may be acquired before the scheme is underway.

Actuarial valuations should be conducted at least once every three years, as with the other benefit branches, to reassess the scheme's financial status and to see where reform might be recommended. Due to the nature of this scheme, finances are directly influenced by current economic circumstances, hence financial assessments should be performed immediately in the light of immediate circumstances, where indicated, regardless of any standard period of actuarial valuation.

5. Future reforms

Implementation of the scheme should provide scope for incremental improvement. Future reforms might include these:

- better replacement of income than the proposed basic income level;
- partial protection for unpaid wages;
- an improved linking and coordinating income protection policy for retrenched workers, applying labour-market policies such as job matching and vocational training;
- expanding the scheme beyond retrenched workers to other unemployed groups; and
- linking the contribution rate to the worker retain rate in the enterprise, which might reward companies with a better retain rate.

Introduction

The International Labour Organization (ILO) and the Social Security Organization (SOCSO) of Malaysia, following a request from the SOCSO, negotiated a trust-in-fund agreement providing expertise for conducting a feasibility study regarding the introduction of a relief fund for loss of employment.

The Director General of the Sub-regional Office for East Asia of the ILO requested a study team consisting of Korean experts Dr. Deok Soon Hwang of the Korea Labor Institute (KLI), Dr. Dong-Heon Kim of Dongguk University, and Dr. Minki Hong of Korea University, together with Mr. Paguman Singh, an ex-SOCSO official and national consultant.

The team of experts fielded three missions in Kuala Lumpur:

- initiating the study, in part by collecting the necessary data and other information; and
- conducting two seminars in which
    - preliminary findings and recommendations were presented; and
    - the national stakeholders, both individually and collectively, were consulted.

This report was prepared by the team of experts under the general and technical supervision of Hiroshi Yamabana, Social Security Actuary of the Social Security Department of the International Labour Office (ILO), Geneva, in cooperation with SOCSO staff and in accordance with the SOCSO-ILO trust-in-fund agreement.

The report has two main aims:

- a proposed design for a new social protection system that addresses the loss of employment in Malaysia; and
- actuarial assessment of the proposed scheme.

So that Malaysia, on the basis of their own diagnosis of the national situation, would have full discretion in directing relevant policy, the recommendation took account of various policy options in discussion with the social partners.

Chapter 1 explains basic features of the Malaysian labour market and the need to introduce a new mechanism of social protection against loss of employment. This mechanism should take due account of developments in social security within both the national and international social and economic environments.

Chapter 2 considers important design dimensions, and discusses two major approaches: a retrenchment benefits guarantee fund (RBGF), and unemployment insurance (UI). A relief fund

(RF) for loss of employment, complementing the existing retrenchment benefits (RB) scheme, is recommended to guarantee a minimum level of livelihood for retrenched workers over a given period.

Chapter 3 describes the main features of the proposed RF scheme, including coverage, benefits, qualifying conditions, financing, and administrative organization.

Chapter 4 presents an actuarial assessment of the scheme, applying the limited national data available for Malaysia as well as relevant international information.

The Director of the Sub-regional Office for East Asia of the ILO would like to express his appreciation to Mr. K. Selvarajah, SOCSO Chief Executive Officer, for the courtesy and cooperation extended to the team of experts and ILO staff. A special word of thanks is addressed to SOCSO staff involved in this study, notably Mr. Ong Kim Seng, Mr. Mohamad Asri bin Ngosman, and Mr. Ponniah A/L Raman for their valuable support and assistance, which greatly facilitated work for the team of the experts in Kuala Lumpur.

1. The economic, social and political context

1.1 Economy

Malaysia is a middle-income country in Southeast Asia. Malaysia's per capita GNP is much higher than that of many other Southeast Asian countries, including the Philippines, Thailand, and Viet Nam.

Malaysia's rapid growth since the mid 1980s has been based on an export-oriented growth strategy dependent on massive foreign direct investment. This generally successful strategy, has also had its limitations, for example the extent to which it has left the national economy vulnerable to external shocks.

Since the late 1990s, global instability and external economic shocks beyond the control of the Government have resulted in serious economic fluctuations such as the following:

- the Asian financial crisis in the late 1990s;
- the burst early-2000s dotcom bubble; and
- the current global financial crisis.

These shocks have led to economic hardship among workers that are perhaps obscured by what has been a stable unemployment rate.

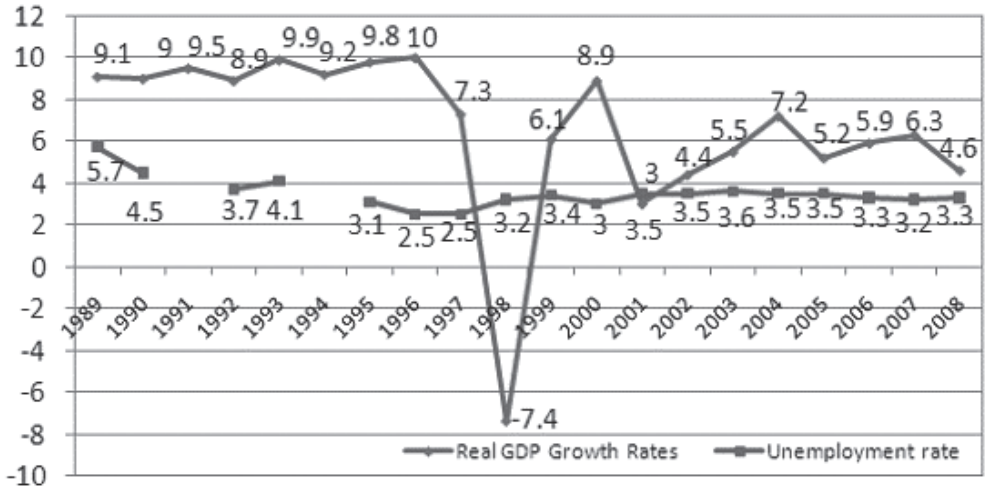
Table 1.1 Key demography and labour market indices in selected East Asian countries & economies

	Malaysia (2008)	Republic of Korea (2007)	Taiwan (2008)	Thailand (2008)	Viet Nam (2004)	Philippines (2008)
Population (in 1,000)	27 730	48 250	22 943	66 512	82 663	88 910
Working age population (in 1,000)	17 612	39 170	18 967	52 238	60 557	58 176
Economically active population (in 1,000)	11 028	24 216	10 853	38 345	43 242	37 057
Participation rate (%)	62.6	61.8	57.2	73.4	71.4	63.7
Number of total employment (in 1,000)	10 660	23 433	10 403	37 837	42 316	34 089
Employment rate (%)	60.5	59.8	54.8	72.4	69.9	58.6
Number of total employees (in 1,000)	7 951	15 970	7 902	16 341	10 819	17 846

Proportion of employees to the total employment (%)	74.6	68.2	76.0	43.2	25.6	52.4
Number of unemployed (in 1,000)	369	783	450	508	926	2 968
Unemployment rate (%)	3.3	3.2	4.1	1.3	2.1	8.0
GNP per capita						
(current US$, 2008)	8 118	19 136	16 988	4 116	1 042	1 845
GNP per capita (PPP US$, 2008)	14 081	27 692	30 912	8 239	2 794	3 515

Source: ILO labour statistics (http://laborsta.ilo.org), IMF (www.imf.org).

Figure 1.1 Real GDP growth rates and unemployment rates (1989-2008)



Sources: Malaysia Department of Statistics (2008, 2009a).

1.2 Labour market

Labour force participation rate

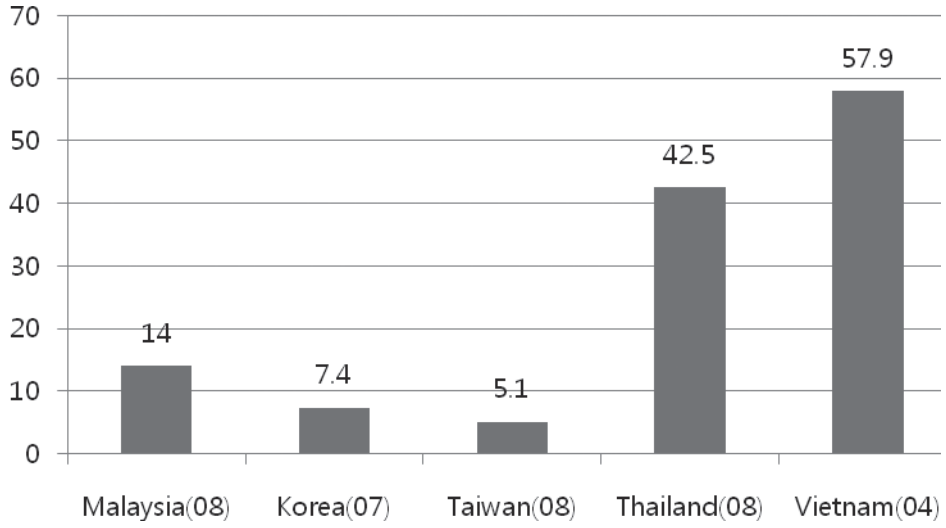
Two types of countries have high labour-market participation rates: industrialized countries with high labour force participation among women; and developing countries with agricultural economies.

Malaysia's labour-market participation rate is lower than that of either industrialized, Organisation for Economic Co-operation and Development (OECD) countries or developing countries with agricultural economies (e.g. Thailand, Vietnam) and similar to that of the Republic of Korea (ROK). Malaysia's relatively low labour-market participation rate results in a correspondingly low employment rate, defined as the percentage of employed persons among the entire working-age population.

Employment structure

Levels of industrialization and urbanization in Malaysia are higher, while the percentage of agriculture sector employment—14.0 per cent in Malaysia, compared with 42.5 per cent in Thailand and 57.9 per cent in Viet Nam—is much lower than in many other Southeast Asian countries and economies.

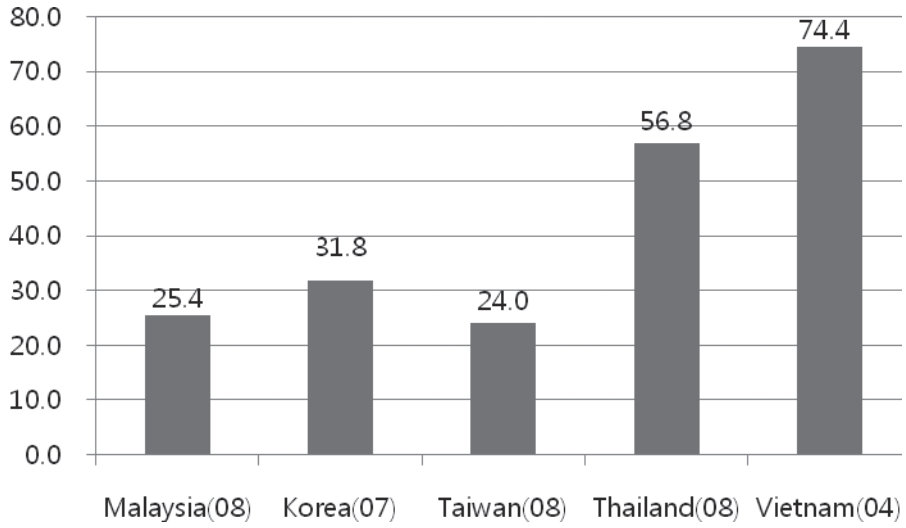
Figure 1.2 Proportion of agriculture sector employment (in %)



Source: ILO, Labour Statistics (http://laborsta.ilo.org).

The percentage of self-employed persons in total employment is also much smaller than in most Southeast Asian countries. Figure 1.3 shows the proportion of self-employed persons is 25.4 per cent in Malaysia, which is lower than that in most other East Asian countries and economies, Taiwan being an exception. The proportion in Thailand and Viet Nam is 56.8 per cent and 74.4 per cent, respectively.

Figure 1.3 Proportion of self-employed



Source: ILO, Labour Statistics (http://laborsta.ilo.org).

Unemployment

In 2008, the unemployment rate was 3.3 per cent, similar to levels in the Republic of Korea (ROK). Although Malaysia's unemployment rate is higher than that of either Thailand or Viet Nam, low unemployment rates in those countries hide serious problems of underemployment in the agricultural and the informal sectors. On the other hand, Malaysia's unemployment rate remains low compared with other industrialized countries, where 3 or 4 per cent unemployment rates would be considered "full employment".

In both Malaysia and ROK, low employment rates accompany low unemployment rates. However counter-intuitive this may seem, in ROK this is because many workers, particularly atypical workers, exit the labour market when they lose their job (Hwang, 2009). In Malaysia, on the other hand, although little information is available regarding atypical or temporary work,[2] the Employees' Provident Fund (EPF) coverage rate suggests that irregular workers comprise a significant proportion of those in employment.

The labour market in Malaysia has been tight since the late 1980s. Since the late 1970s, the country has faced labour shortages in the agricultural sector, and has imported foreign migrant workers. After the introduction of a national "Look East Policy", the demand for foreign migrant workers has expanded, since many Malaysian workers do not want "3D" jobs (i.e. dirty, dangerous, and difficult). Since the mid-1990s, and regardless of economic fluctuations, foreign migrant workers, a so-called safety valve for domestic labour in times of economic downturn, have contributed to the low and stable unemployment rate (Figure 1.1).

1.3 Labour and social security mechanisms for the loss of employment

Malaysia's labour law currently supports a compensation system for retrenched workers that is paid directly by employers in lump-sum payments. This benefit is known as a retrenchment benefit (RB).

Minimum retrenchment benefits are calculated according to employment period, as follows:

- less than 2 years, 10 days' wages for each employment year;
- 2-5 years, 15 days' wages for each employment year; and
- 5 years or more, 20 days' wages for employment year.

Malaysia has 38 employment centres and an on-line job matching system, as well as a well-developed vocational training system financed by taxation.

[2] K.S. Jomo and W.C. Hui, *Development policies, macroeconomic regime and employment in Malaysia*, paper presented at the "Policy coherence initiative on growth, investment and employment: The case of Malaysia" (Bangkok, ILO Regional Office for Asia and the Pacific, and Geneva, ILO Policy Integration and Statistics Department, 2009). P. Vandenberg, "Is Asia adopting flexicurity? A survey of employment policies in six countries", *Economic and Labour Market Papers* (ILO, 2008).

Current debates regarding protection for retrenched workers focus on measures to provide basic income protection for retrenched workers who fail to receive timely retrenchment benefits, which can be due to employer insolvency or time-consuming court cases to settle disputes.

1.4 Political context and conditions for introducing a new mechanism

In Malaysia, national employment policies have focused on strengthening international competitiveness.[3] The Government has not favoured an income-protection policy for unemployed workers, based on the belief that this could incur financial burdens as well as prove a disincentive to seeking work in the current labour market.

With the onset of the February 1998 economic crisis, the Malaysian Trade Union Congress (MTUC) proposed a National Retrenchment Scheme (NRS) to cope with economic hardships among retrenched workers, one that shared characteristics with the UI programme. Employers opposed the proposal, however, and the scheme has not been adopted.[4]

As Figure 1.1 shows, however, external shocks, several times since the late 1990s, have led to instability in the Malaysian economy. Although official unemployment rates have suggested stable movement, the number of retrenched workers swelled during the Asian financial crisis in the late 1990s, the burst of the dotcom bubble in the early 2000s, and the current global financial crisis. The proportion of retrenched workers who did not receive retrenchment benefits also soared during the two previous crises.

The current global financial crisis, meanwhile, is already exerting adverse impacts on the Malaysian economy, including its labour market. Shortcomings in the current protection system for the loss of employment, together with economic fluctuations beyond the control of the Government, provide compelling arguments for establishing a new social protection mechanism.

In order to introduce, finance, and administer such a scheme, Malaysia needs to make well-developed job matching services and vocational training institutes part of an economic development policy, paving the way for the finance resources needed to address related issues in the relatively small informal sector, including the agricultural and self-employed sectors.[5]

Most industrialized countries introduced UI before 1970. Some East Asian countries and economies have since introduced UI as well, although economic development levels in some of these countries and economies fall short that of Malaysia. The People's Republic of China introduced UI in 1986, but only for urban workers. In 1995, ROK introduced an employment insurance system comprising both active and passive labour-market programmes. In the 2000s, Taiwan, Thailand, and Viet Nam introduced unemployment insurance schemes.

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[3] S. Frenkeln and S. Kuruvilla, "Logics of action, globalization, and changing employment relations in China, India, Malaysia, and the Philippines", *Industrial and Labour Relations Review*, Vol. 55, No. 3 (April 2002), pp. 387-412.

[4] E. Liu and W. Kwong, *Unemployment-related benefits systems in Malaysia* (Research and Library Services Division, Legislative Council Secretariat, 2000).

[5] Op. cit., Vandenberg, 2008.

Table 1.2 shows real GDP per capita in selected East Asian countries and economies at the time UI was introduced, as well as among some industrialized countries in 1950 or 1970. In the selected Asian countries and economies, except for ROK and Taiwan, per capita income level at the time of UI introduction was much lower than Malaysia's current per capita income. High EPF and SOCSO coverage rates, compared with other countries, also reflects this feature of the Malaysian labour market. Figure A3.2 in Appendix 3 shows that 71.8 per cent of total employees are covered by the EPF.

Table 1.2 Introduction of unemployment insurance in selected countries & economies

	Year	GDP per capita (in 2005 prices, PPP, US$)
China	1986	1 494
Republic of Korea	1995	16 536
Taiwan	2003 (implemented)	22 407
Thailand	2004 (implemented)	8 380
Viet Nam	2007	3 743
France	1905	6 523 (1950)
UK	1911	8 892 (1950)
Germany	1927	15 491 (1970)
US	1935	12 826 (1950)
Japan	1947	2 742 (1950)

Source: http://pwt.econ.upenn.edu.

2. Design options

2.1 Design criteria

Observations of the labour market in Malaysia, and concomitant project discussions, suggested the following design criteria for any proposed new social protection mechanism for the loss of employment:

- The prime objective of a new scheme should be basic income protection for all retrenched workers for a specified period of unemployment. To prevent abuses, such workers should satisfy qualifying conditions.
- Given problems related to enterprise insolvency or time-consuming court cases, the scheme should address the failure, currently, of many redundant workers to receive retrenchment benefits on time.
- Financing should be based on a collective mechanism, either though social insurance contributions or through taxation or both.
- Established rights of current employees, according to the current consensus among national stakeholders, should be respected. Infringing on these rights would be socially unacceptable, given Malaysia's currently weak social protection system for the loss of employment.
- Design should strive for simplicity. All social partners, for one thing, should find the proposed design easily comprehensible. Where overly complex designs require large and complicated management systems, moreover, they can lead to unintended additional administrative costs.
- Reform should be an incremental process. Malaysia, compared with many other Southeast Asian countries, has a small agricultural sector and relatively few self-employed persons. With a new scheme, nevertheless, comprehensive coverage and a comprehensive benefit package should not be expected from the outset. Neither will the national stakeholders, without thoroughly understanding the proposed scheme, readily accept a new mechanism and comprehensive reform that incurs a significant financial burden.
- A new scheme should promote positive effects on the labour market while reducing negative side effects. One positive effect should include protection of livelihood among the unemployed, for example, but this may also have the negative side effect of weakening job-search efforts among some unemployed. A well-designed system must therefore both promote labour market participation and enhance job search efforts.

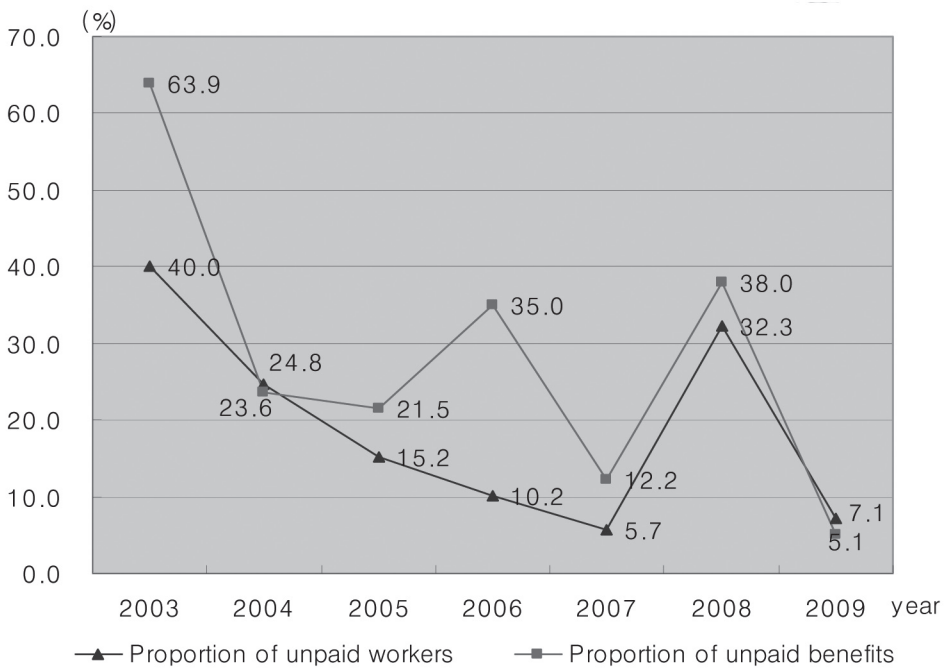
- The tripartite consultation process is essential to designing and evaluating policy options. Agreement among the social partners is a precondition for developing any successful protection mechanism.

2.2 Representative options

Retrenchment benefits guarantee fund (RBGF)

Many retrenched workers cannot receive retrenchment benefits during economic downturns because previous employers are bankrupt. Figure 2.1 suggests that, because of impacts from the global financial crisis, the proportion of unpaid retrenchment benefits and unpaid wages soared in 2008.

Figure 2.1 Proportion of unpaid benefits and unpaid workers of RB



Source: Ministry of Human Resources (MOHR).

Government intervention is necessary to secure the livelihood of retrenched workers without other compensation; private actors cannot adequately address the problem. Countries such as Australia, France, and ROK have guarantee systems for unpaid wages and retirement allowances. Introducing a publicly managed RBGF would guarantee unpaid retrenchment benefits payable by bankrupt employers.

Unemployment insurance (UI)

Lump-sum benefits do not provide an adequate livelihood security system for retrenched workers, particularly among workers with short employment periods, when the amount of retrenchment benefits is calculated according to the employment period of the retrenched workers (see Section 1.3).

Modernizing the Malaysian social protection system and labour market in line with such international standards as ILO Conventions and Recommendations and international good practices, the UI system should provide periodical cash benefits for a specified period of time

3. Relief fund (RF) for loss of employment

3.1 Basic features

Representative options with respect to RBGF, UI, and a combination of both were presented and discussed both in the seminars and between individuals.[6]

In the outcome, the social partners clearly prefer an incremental approach in developing the new scheme. In a first stage, they would keep the current retrenchment benefit in its present form, and provide supplementary cash compensations, where necessary, to provide basic income security for retrenched workers over a specified period of unemployment. In summary, the social partners would emphasize basic income protection rather than replacement of income to certain previously earned levels or enhancement of labour mobility.

3.2 RF design

Coverage

To simplify management of the scheme, it is proposed that RFB coverage should be the same as current SOCSO coverage. This suggests that the new RF would also cover non-manual workers with basic monthly wages greater than RM1,500, who are currently excluded from the RB coverage.

Benefits

The benefits, including RB, should amount to RM600 per month for a maximum period of six months. The benefits should therefore be paid to eligible persons whose RB amounts to less than RM3,600 and the total amount of benefits from RF should be at maximum RM3,600 minus the amount of RB. The RM600 per month sum should be indexed to general increases in income level or the average salary level.

Qualifying conditions

Since the new RF benefits supplement the existing RB, and guarantee the basic income security for a specified period of time—i.e. RM600 per month for a maximum of six months, totalling RM3,600—the retrenched worker's RB should be less than RM3,600.

Standard UI schemes in other countries generally include qualifying conditions to prevent abuses and to promote job searches among unemployed workers. Qualifying conditions for the new RF benefits should include the following:

[6] See Appendices 2, 3, and 4 for details.

- **Insurance period.** The retrenched worker should have been covered by the SOCSO at least 12 of the 24 months prior to retrenchment.
- **Cause of job loss.** The cause of job loss should be a retrenchment as stipulated in the Employment Act.
- **Work tests**. Claimants should be both available for work and actively searching for a job. The local public employment service office should monitor claimants, ensuring they register as job-seekers and report their search efforts regularly to the local public employment service office.
- **Complement to RB**. RF benefits should not exceed RM3,600 in total. Therefore, those newly covered by the RF, but not currently covered by the RB and who cannot get RB because the employer is bankrupt, can receive full RFB, i.e. RM3,600.

Benefit management

RF benefit management would apply two rules: the claimant should use the RB of RM600 per month, and the RF benefits should supplement the RB so that the combined monthly payments of RM600 should be made for a maximum period of six months.

Eligible workers who qualify for full RF benefits would get RM600 monthly for a maximum of six months, so long as they continue to be unemployed and satisfy the above-mentioned conditions. The monthly benefit amounts to about 40 per cent of the average wage among Malaysian workers,[7] or a little less than the public-sector minimum wage.

RF benefits would be paid after the RB is spent. The RFB payment schedule would be delayed one month for each RM600 RB payment. For example, RFB payments to a retrenched worker with a RB of RM1,500 would be suspended for the first two months, RM300 would be paid for the third month and RM600 would be paid for the remaining fourth, fifth, and sixth months so long as the retrenched worker continues to be unemployed and satisfies the above-mentioned conditions.

Financing

Different countries apply different financing rules,[8] and the social partners should select rules appropriate for Malaysia. Based on the actuarial assessment in Chapter 4, the total contribution rate should be 0.2 per cent of the total wage. Where employers and employees share the contributions equally, the contribution rate would be 0.1 per cent each.

[7] RM1,552 in 2008 (MOHR statistics).
[8] See Appendix 3.

Administration

To simplify procedures, and to avoid additional costs of creating a new administrative institution, the SOCSO should collect the RF contributions—in addition to existing contributions for employment injury insurance and (general) invalidity and survivors' pensions—and pay the new RF benefits.[9] Close collaboration with job centres will be needed to administer the work tests. The SOCSO should also take charge of recovering unpaid RB from bankrupt employers.

Implementation date

Given the time needed to prepare legislative amendments and new administrative procedures, it is recommended that the new RF should come into operation on 1 January 2011. Since the new RF benefits are paid on the condition that beneficiaries make at least 12 months of contributions in the 24 months prior to any claims, the first payments will appear from the beginning of 2012.

[9] In ROK, the Korea Labor Welfare Corporation (KCOMWEL) is in charge of managing employment injury benefits, the Wage Claim Guarantee Fund (similar to the RBGF), and collecting EI contributions.

4. Actuarial assessment of the RF

Limited national data were available for Malaysia. That, and the fact that the proposed new scheme remains so far untested, means our analysis and conclusions rely to some extent on international experiences and on the experts' judgement.

Hence this assessment must be regarded as preliminary, subject to revision as the scheme is put into practice. Having said that, the assessment was conservative enough to provide adequate safety margins for financial management of the scheme.

4.1 The current RB: Summary information

Table 4.1 presents a summary of current RB information. Although the data indicate significant fluctuations from year to year, they show that unpaid RB amounts to around RM100 million per year for around 9,000 retrenched workers (estimated at 15.1 per cent[10] of total retrenched workers), based on the 5-year average of the most recent years (2004–2008), excluding 2009, where the data were incomplete.

Table 4.1 Current RB: Summary information

Year	Amount (RM)			Number of retrenched workers			Average amount (RM)		
	Payable	Paid	Unpaid	Payable	Paid	Unpaid	Payable	Paid	Unpaid
2004	255 706 872	195 437 439	60 269 433	38 258	28 787	9 471	6 684	6 789	6 364
2005	420 214 219	330 066 744	90 147 475	30 046	25 471	4 575	13 986	12 959	19 704
2006	330 835 507	215 045 616	115 789 891	37 862	34 012	3 850	8 738	6 323	30 075
2007	472 951 272	415 403 463	57 547 809	134 846	127 221	7 625	3 507	3 265	7 547
2008	459 313 710	284 601 153	174 712 557	62 608	42 385	20 223	7 336	6 715	8 639
Average	387 804 316	288 110 883	**99 693 433**	60 724	51 575	**9 149**	6 386	5 586	10 897

Source: MOHR[11]

The proposed new system will not compensate an unpaid amount of RB exceeding RM 3,600 given the maximum benefit of RM3,600 per person. Hence the cost of the new RF for those workers will be much less than RM100 million. At the same time, however, the system will pay a top-up amount to those retrenched workers with a RB less than RM3,600 if the retrenched continue to be unemployed for six months or more. In addition, the proposed RF should cover

[10] Calculated as 9,149 / 60,724.
[11] Retrenchments include both compulsory and voluntary retrenchments.

the entire SOSCO-insured population, including non-manual workers with wages greater than RM1,500, whom the current RB programme does not cover.

Therefore, to rely on current information regarding the total unpaid amount would be naive. A more detailed actuarial estimate is needed regarding the wage distribution of workers, and this is provided in what follows.

4.2 Number of contributors, their average wage, and total insured salary bill

The 8th actuarial valuation, conducted on December 2008, puts the average number of contributors to the proposed RF—which is the same as the number of SOCSO contributors to employment injury insurance (EII)—at 5,451,935 in the starting year 2011.

Table 4.2 Number of SOCSO contributors (estimate)

Year	Annual salary bills (in million RM)	Average number of contributors (EII)	Monthly average wage (in RM)	Average number of contributors (IB/SB)
2006	73 488	5 004 000	1 224	4 808 519
2007	78 018	5 058 520	1 285	4 860 909
2008	84 140	5 189 969	1 351	4 987 223
2009	89 891	5 278 877	1 419	5 072 658
2010	95 897	5 366 154	1 489	5 156 525
2011	102 261	5 451 935	1 563	5 238 955

Source: ILO/SOCSO, the 8th actuarial valuation of SOCSO.

4.3 Number of beneficiaries

The proposed RF has yet to be tested, so the estimated number of beneficiaries is only preliminary and should be treated with caution. This number was calculated by using data related to the current retrenchment benefits.

Table 4.1 estimates the average percentage of retrenched workers with RB at 84.9 per cent, and the average percentage of retrenched workers without RB at 15.1 per cent. Thus 15.1 per cent of retrenched workers are eligible for full RF benefits, i.e. RM3,600 so long as they continue to be unemployed, while 84.9 per cent of retrenched workers are eligible for partial RF benefits, i.e. RM3,600 minus the RB, if the RB is smaller than RM3,600.

The proposed RF would cover the whole SOSCO-insured population, however, including non-manual workers with wages greater than RM1,500, whom the current RB programme excludes. The estimated number of target beneficiaries would thus be boosted from 60,724 by including non-manual retrenched workers with wages greater than RM1,500.

Table 4.3 Percentage of workers, average monthly basic wage (AMBW) by job category, and estimated wage distributions of non-manual workers

Job category	% (in 2008)	Ave. monthly basic wage (AMBW) (RM, 2008)	Manual	AVBW (in RM, 2011)[12]	μ[13]	σ[14]	% > 1500 in each job category	% > 1500 in total[15]
Senior officials and managers	11.3	3 445	No	4 220	8.17	0.59	92.8	10.5
Professionals	5.3	3 326	No	4 074	8.13	0.61	91.0	4.8
Technicians and associate professionals	7.9	1 996	No	2 445	7.40	0.90	53.8	4.2
Clerical workers	14.2	1 348	No	1 651	6.75	1.15	31.2	4.4
Subtotal (1)	38.7							
Service workers and shop and sales	18.7	867	Yes	-	-	-	-	-
Skilled agricultural and fishery workers	4.2	687	Yes	-	-	-	-	-
Craft and related traders and workers	2.7	1 020	Yes	-	-	-	-	-
Plant and machine operators and assemblers	13.7	759	Yes	-	-	-	-	-
Elementary workers	22.0	658	Yes	-	-	-	-	-
Subtotal (2)	61.3							
Total	100.0%	1 374	-	**1 683**	**6.79**	-	-	24.0%

Source: Authors' own calculation, using MOHR data.

Non-manual jobs include senior officials and managers, professionals, technicians and associate professionals, and clerical workers. Non-manual workers account for 38.7 per cent of total workers. Although only some service workers and shop and sales workers are generally supposed to fall within the manual worker category, these workers are all regarded as manual workers for purposes of estimation, since average wages among these workers are very low (RM867), and the proportion of the non-manual workers with a basic income higher than RM1,500 is expected to be very small.

[12] By assuming annual 7% nominal growth for three years from the year 2008 to 2011, namely, AMBW 2011 = AMBW 2008 * (1+0.07).[3]

[13] See Appendix 5. Calculated using the average E(x) and the deviation V(X),

$$\mu = \ln(E(X)) - \frac{1}{2}\ln(1 + \frac{V(X)}{E(X)^2})$$

[14] See Appendix 5. Calculated using the average E(x) and the deviation V(X),

$$\sigma^2 = \ln(1 + \frac{V(X)}{E(X)^2})$$

[15] Calculated for each category, e.g. 11.3% * 92.8% for senior officials and managers, 5.3% * 91.0% for professionals, 7.9% * 52.8% for technicians and associate professionals, and 14.2% * 31.2% for clerical workers.

It is assumed that the wage of each non-manual job is log-normally distributed with the average basic wage for each non-manual job in Table 4.3 and the standard deviation of the wage RM2,723,[16] assumed equal for all categories of worker.[17]

The percentage of workers with more than a RM1,500 basic monthly wage was estimated for each category of non-manual job by applying a lognormal distribution with each average E(X)[18] and the equally assumed V(X).[19] The percentage of workers who belong to each job category and who earn more than RM1,500 per month was calculated by multiplying this percentage by the share of workers in each job category (see Table 4.3). In summary, non-manual workers with more than RM1,500 are estimated to account for 24.0 per cent of total workers. Hence other categories of worker, i.e. all manual workers and non-manual workers with basic wages less than RM1,500 who are eligible for the current RB, account for an estimated 76.0 per cent.

By also taking into account the increase of the target population, i.e. the SOCSO contributors from 2008 to 2011, the number of potential beneficiaries for the proposed RF benefits was therefore estimated at 83,933 persons.[20]

4.4 Benefits

Wage distribution of insured period

Table 4.4 shows the distribution of SOCSO-insured persons classified by SOCSO insurance period.

Table 4.4 Distribution of SOCSO insured persons by insurance period

Insurance periods (months)	**Percentage** (%)
1 – 3	10.8
4 – 6	6.0
7 – 9	4.3
10 – 12	3.6
13 – 18	5.8
19 – 24	4.9
25 – 60	21.0
61 – 120	21.1
121 – 180	13.6
180 or more	8.9
Total	100.0

Source: Sample survey, SOCSO.

16 This is used as V(X) in this section.

17 See Appendix 5 for the estimation of wage distributions.

18 See Table 4.3 for each E(X), namely RM4,224 for senior officials and managers, RM4,074 for professionals, RM2,445 for technicians and associate professionals, and RM1,651 for clerical workers.

19 I.e. RM2,723, as already explained.

20 According to the 8th actuarial valuation, the number of EII contributors is assumed to increase 1.71%, 1.65%, and 1.61 % for the years 2009, 2010, and 2011 respectively. Since the number of retrenched workers in 2008 is estimated at 60,724 as the five-year average of the years from 2004 to 2008, the total potential beneficiaries for the new RF is estimated at 83,933 = 60,724 * 1.0171 * 1.0165 * 1.0161 / 0.76 (both sides of the equation may not match exactly due to a rounding error).

Table 4.5 shows—by taking into account the benefit duration of RB[21] and the distribution of insured persons by insurance period—how the following distribution of insured persons classified by insurance period for the retrenchment benefit is obtained.

Table 4.5 Distribution of insured persons classified by the periods for RB

Insurance periods	Percentage of covered persons (%)	Covered periods for RB
Less than 1 year	24.7	0 days
1-2 years	10.7	15 days (average = 1.5 years)
2-5 years	21.0	43 days (average = 3.5 years)
5-7 years	10.0	85 days (average = 6 years)
7 years or more	33.7	105 days (average = 8 years)

The overall average and the standard deviation of log wage in Malaysia is estimated at 6.79 and 1.60 respectively, and these need to be estimated for insured groups with different insurance periods. As there were no relevant data available regarding Malaysia, relevant ROK information was used instead.

Table 4.6 Log wage distribution for ROK

Insurance periods	Average	Standard deviation (SD)	Ratio to the total average	Ratio to the total SD
Total	5.03	0.65	1.00	1.00
Less than 1	4.68	0.61	0.93	0.94
1-2	4.80	0.56	0.95	0.87
2-5	4.94	0.55	0.98	0.85
5-7	5.02	0.59	1.00	0.91
More than 7	5.43	0.63	1.08	0.97

Applying the fourth column figures respectively to each insurance period, and the average for all groups of the fifth columns (0.91 = [0.94 + 0.87 +0.85+ 0.91 +0.97] / 5) to the average of 6.79 and the standard deviation of 1.60, the following estimated table for Malaysia was obtained.

[21] RB are paid at the following rates: 10 days' wages for each year of service for employment shorter than two years; 15 days' wages for each year of service for employment longer than two years but shorter than five years; and 20 days' wages for each year of service for employment of five years or longer.

Table 4.7 Average and SD of log wage distribution, by insured period for Malaysia

Insurance periods	Estimated average	Standard deviation (SD)
Total	6.79	1.60
Less than 1 year	6.31	1.456
1-2 years	6.48	
2-5 years	6.67	
5-7 years	6.77	
7 years or more	7.33	

RF benefits

Retrenched workers without RB who satisfy the qualifying conditions will receive RM3,600 so long as they continue to be unemployed. These persons include the following: retrenched workers who are eligible for, but not provided with, RB; and non-manual retrenched workers whose basic wage is greater than RM1,500. The number of these beneficiaries is estimated at 29,755.[22]

For the remaining 54,178 retrenched workers, who are eligible for RF benefits with the current RB,[23] the amount is the maximum RM3,600 minus the amount of RB.

The wage q_c above which the new benefits are not supposed to be provided is calculated for each different group of retrenched workers with each different insurance period, and the percentage of those who cannot get the new benefits is calculated by using the lognormal distribution.

Table 4.8 summarizes the estimate.

Table 4.8 Percentage of workers without RF benefits

Insurance period	Percentage (d_c)	q_c[24]	Log n (q_c)	Percentage above threshold
Less than 1 year	24.6			
1-2 years	10.7	7 200 RM	8.88	5.0
2-5 years	21.0	2 512 RM	7.83	21.3
5-7 years	10.0	1 271 RM	7.15	39.7
7 years or more	33.7	1 029 RM	6.94	60.6

[22] Calculated as 83,933 * ((76.0% * 15.1%) + 24.0%)) with rounding errors.

[23] Calculated as 60,724 * 1.0171 * 1.0165 * 1.0161 * (100% - 15.1%), with rounding errors.

[24] W: basic monthly wage for 1-2 years, RFB = 3,600 – 15/30 * W, implying if W = 7,200 , then RFB=0; for 2-5 years, RFB = 3,600 – 43/30 *W, implying if W = 2,512 , then RFB=0; for 5-7 years, RFB= 3,600 – 85/30 *W, implying if W = 1,271 , then RFB=0, for 7 years or more, RFB = 3600 – 105 / 30 * W, implying if W = 1,029, then RFB=0.

By using the log-normal distribution with the average and the standard deviation listed in Table 4.7, and adding up different RF benefits as a function of the different wages for each group of the insured of different insurance period, the total amount of the RB benefits are estimated at RM168,065 thousand (see Table 4.9, below).

Table 4.9 Summary of the expenditure estimate of RF in 2011[25]

	Potential beneficiaries	Real / potential beneficiaries (%)	Real beneficiaries	% of real beneficiaries	Average benefit from RF (RM)	Total benefit from RF (in 1,000 RM)
Non-paid RB	9 611	100.0	9 611	17.57	3 600	34 598
Non-manual with more than 1 500	20 144	100.0	20 144	36.83	3 600	72 518
Subtotal (1)	29 755	100.0	29 755	54.41	3 600	107 116
The remaining beneficiaries						
Insurance period	**Potential beneficiaries**	**Real / potential beneficiaries (%)**	**Real beneficiaries**	**Beneficiaries as percentage over all insured**	**Average benefit from RF (RM)**	**Total benefit from RF (in 1 000 RM)**
Less than 1 year	13 328	0.0	0	0.00	0	0
1-2 years	5 797	95.0	5 509	10.07	3 029	16 689
2-5 years	11 377	78.7	8 956	16.38	2 549	22 829
5-7 years	5 418	60.3	3 267	5.97	2 238	7 312
7 years or more	18 258	39.4	7 201	13.17	1 961	14 119
Subtotal (2)	54 178	46.0	24 933	45.59	2 444	60 949
Grand total	83 933	65.2	54 688	100.00	3 073	168 065

4.5 Contribution rate and financial projection

The contribution base for the insurance system is estimated by multiplying the number of contributors and the annual average wage, while the expenditure is estimated by the method mentioned in Section 4.4.

Future projections for the new relief fund can be derived from an assumed annual rate of increase in the number of contributors, the annual rate of increase in the average wage, and the annual rate of increase in the benefits. On the assumption that the flat amount of RM600 per month of the new benefits is indexed in line with the increase in the average wage, it is expected that the benefits will be increased in line with the average wage increase.

The assumptions adopted for the 8th actuarial valuation are used for the projection.

[25] In this table, total, subtotal and any calculations are subject to rounding errors.

Table 4.10 Assumptions regarding economic factors

Year	Rate of increase in contributors (%)	Nominal rate of wage increase (%)	Nominal rate of return (%)
2011	1.60	5.02	4.55
2012	1.56	5.02	4.55
2013	1.52	5.01	4.55
2014	1.50	5.01	4.55
2015	1.48	5.02	4.55
2016	1.46	5.03	4.55
2017	1.42	5.04	4.55
2018	1.38	5.05	4.55
2019	1.34	5.04	4.55
2020	1.31	5.02	4.55

Source: ILO/SOCSO, 8th actuarial valuation.

Assuming that collection of contributions, combined with other SOCSO benefits, does not constitute a major workload, and assuming that work tests of claimant workers will be duly conducted by job centres, additional administration costs for the new benefits should be minimal. Following discussions with SOCSO staff, administration costs are assumed to be 1 per cent of the total benefit provisions.

Table 4.11 shows projections over the next 10 years, where the contribution rate is set at 0.2 per cent of the insured wages, constituting reserves, in 2016, of more than 2 years of benefits expenditure.

Table 4.11 Financial projection for the new relief fund

C.R.= 0.20% (in 1,000 RM)

Year	Income			Expenditure			Primary balance	Secondary balance	Reserves at end of year	Reserve ratio
	Total	Contrib.	Inv	Total	Benefits	Admin.				
2011	209 123	204 522	4 601	0	0	0	204 522	209 123	209 123	-
2012	228 479	218 129	10 349	181 040	179 247[26]	1 792	37 090	47 439	256 562	1.42
2013	245 112	232 549	12 563	193 007	191 096	1 911	39 542	52 105	308 667	1.60
2014	262 858	247 866	14 992	205 720	203 683	2 037	42 146	57 138	365 805	1.78
2015	281 819	264 164	17 655	219 247	217 076	2 171	44 917	62 572	428 377	1.95
2016	302 062	281 494	20 568	233 630	231 317	2 313	47 864	68 432	496 809	2.13
2017	323 642	299 890	23 752	248 899	246 434	2 464	50 992	74 744	571 553	2.30
2018	346 614	319 386	27 227	265 079	262 455	2 625	54 307	81 534	653 087	2.46
2019	371 003	339 987	31 016	282 177	279 383	2 794	57 810	88 826	741 913	2.63
2020	396 882	361 742	35 141	300 233	297 260	2 973	61 509	96 650	838 562	2.79

Source: Authors' calculation.

[26] Calculated as 168,065 * 1.0156 * 1.0502.

These projections are only preliminary. Some assumptions might be affected by short-term income and expenditure fluctuations due mainly to economic turbulence. Therefore a sensitivity analysis was performed to test the resilience of the new RF, applying the following assumptions:

- Benefit expenditure is 50 per cent more than the base scenario in 2012 (the first year of the benefit payment), followed by 25 per cent more in 2013 and 10 per cent more from 2014 and onwards.
- Contribution income is 10 per cent less than the base scenario from 2011 and onwards.

The following projection shows the new scheme is resilient for financial fluctuations, mainly because of substantial reserves established in 2011, the first year of operation, by way of the qualifying condition that eligible workers must make one year of contributions before drawing benefits.

Table 4.12 Alternate projection for less favourable conditions

C.R.= 0.20% (in 1,000 RM)

Year	Income			Expenditure			Primary balance	Secondary balance	Reserves at end of year	Reserve ratio
	Total	Contrib.	Inv	Total	Benefits	Admin.				
2011	188 210	184 069	4 141	0	0	0	184 069	188 210	188 210	-
2012	203 187	196 316	6 871	271 559	268 871	2 689	-75 243	-68 372	119 838	0.4
2013	214 027	209 294	4 734	241 259	238 870	2 389	-31 965	-27 232	92 607	0.4
2014	227 221	223 079	4 141	226 292	224 051	2 241	-3 213	929	93 535	0.4
2015	241 926	237 748	4 179	241 172	238 784	2 388	-3 424	755	94 290	0.4
2016	257 553	253 345	4 208	256 993	254 449	2 544	-3 649	560	94 850	0.4
2017	274 130	269 901	4 228	273 788	271 078	2 711	-3 887	341	95 191	0.3
2018	291 686	287 448	4 238	291 587	288 700	2 887	-4 140	98	95 290	0.3
2019	310 225	305 988	4 237	310 395	307 321	3 073	-4 407	-170	95 119	0.3
2020	329 790	325 567	4 222	330 256	326 986	3 270	-4 689	-466	94 653	0.3

It is thus recommended the new scheme begin operation with an initial contribution rate of 0.2 per cent.

Actuarial valuations should be conducted at least once every 3 years, as they are in the other benefit branches. Reassessment of the scheme's financial status, moreover, should always be undertaken with a view to possible reform. In addition, given the nature of the scheme, economic contingencies may cause financial fluctuations that demand financial assessments in addition to the standard 3-yearly actuarial valuations.

4.6 Option: RM750 instead of RM600 per month (RM4,500 instead of RM3,000 in total)

The following estimate shows the result of providing RM750 instead of RM600 per month.

Table 4.13 Summary of the expenditure estimate of RF in 2011[27] (RM4,500)

	Potential beneficiaries	Real / potential beneficiaries (%)	Real beneficiaries	% of real beneficiaries	Average benefit from RF (RM)	Total benefit from RF (in 1,000 RM)
Non-paid RB	9 611	100.0	9 611	17.57	4 500	43 248
Non-manual with more than 1 500	20 144	100.0	20 144	36.83	4 500	90 648
Subtotal (1)	29 755	100.0	29 755	54.41	4 500	133 895
The remaining beneficiaries						
Insurance period	**Potential beneficiaries**	**Real / potential beneficiaries (%)**	**Real beneficiaries**	**Beneficiaries as percentage over all insured**	**Average benefit from RF (RM)**	**Total benefit from RF (in 1 000 RM)**
Less than 1 year	13 328	0.0	0	0.00	0	0
1-2 years	5 797	95.0	5 509	10.07	3 929	21 647
2-5 years	11 377	78.7	8 956	16.38	3 449	30 890
5-7 years	5 418	60.3	3 267	5.97	3 138	10 252
7 years or more	18 258	39.4	7 201	13.17	2 861	20 600
Subtotal (2)	54 178	46.0	24 933	45.59	3 344	83 389
Grand total	83 933	65.2	54 688	100.00	3 973	217 284

[27] In the sheet, total, subtotal or any calculations are subject to rounding errors.

Table 4.14 Financial projection of the new relief fund (RM4,500)

C.R.= 0.20% (in 1,000 RM)

Year	Income			Expenditure			Primary balance	Secondary balance	Reserves at end of year	Reserve ratio
	Total	Contrib.	Inv	Total	Benefits	Admin.				
2011	209 123	204 522	4 601	0	0	0	204 522	209 123	209 123	-
2012	227 286	218 129	9 157	234 058	231 741	2 317	-15 929	-6 772	202 350	0.86
2013	241 374	232 549	8 825	249 531	247 060	2 471	-16 982	-8 157	194 193	0.78
2014	256 294	247 866	8 429	265 966	263 333	2 633	-18 101	-9 672	184 521	0.69
2015	272 126	264 164	7 962	283 455	280 648	2 806	-19 291	-11 329	173 192	0.61
2016	288 912	281 494	7 418	302 051	299 060	2 991	-20 556	-13 138	160 054	0.53
2017	306 680	299 890	6 790	321 790	318 604	3 186	-21 900	-15 110	144 944	0.45
2018	325 456	319 386	6 070	342 710	339 316	3 393	-23 323	-17 253	127 691	0.37
2019	345 238	339 987	5 251	364 814	361 202	3 612	-24 828	-19 576	108 115	0.30
2020	366 067	361 742	4 325	388 158	384 315	3 843	-26 416	-22 091	86 023	0.22

Source: Authors' calculation.

Table 4.15 Alternate projection for less favourable conditions (RM4,500)

C.R.= 0.20% (in 1,000 RM)

Year	Income			Expenditure			Primary balance	Secondary balance	Reserves at end of year	Reserve ratio
	Total	Contrib.	Inv	Total	Benefits	Admin.				
2011	188 210	184 069	4 141	0	0	0	184 069	188 210	188 210	-
2012	201 398	196 316	5 082	351 087	347 611	3 476	-154 771	-149 689	38 521	0.1
2013	208 738	209 294	-556	311 914	308 825	3 088	-102 620	-103 175	-64 654	-0.2
2014	218 574	223 079	-4 505	292 563	289 666	2 897	-69 484	-73 989	-138 643	-0.5
2015	229 773	237 748	-7 974	311 800	308 713	3 087	-74 053	-82 027	-220 670	-0.7
2016	241 529	253 345	-11 816	332 256	328 966	3 290	-78 911	-90 726	-311 396	-0.9
2017	253 842	269 901	-16 060	353 969	350 465	3 505	-84 068	-100 128	-411 524	-1.2
2018	266 709	287 448	-20 739	376 980	373 248	3 732	-89 533	-110 271	-521 795	-1.4
2019	280 102	305 988	-25 886	401 296	397 323	3 973	-95 308	-121 194	-642 989	-1.6
2020	294 030	325 567	-31 537	426 974	422 746	4 227	-101 406	-132 944	-775 933	-1.8

Source: Authors' calculation.

Table 4.14 calculations show that the fund cannot grow to a level (100 per cent to 200 per cent of annual expenditure)— i.e. more benefit payments and less contribution or investment income due to unfavourable economic conditions—needed to prepare for unfavourable financial contingencies. This is clearly demonstrated in Table 4.15 for less favourable conditions.

Therefore, adopting the RM750 per month (RM4,500 total) benefit is not recommended; the initial proposal, with benefits of RM600 per month (RM3,600 total) is preferable.

Appendix 1

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Appendix 2

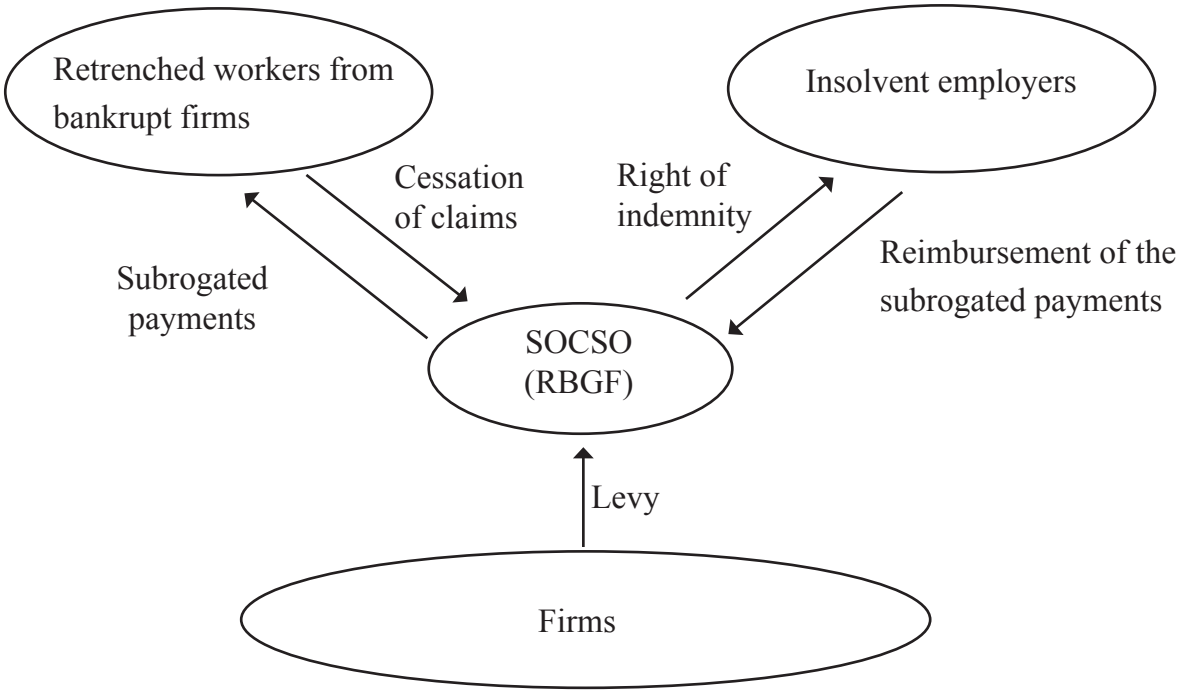
Designing the retrenchment benefits guarantee fund (RBGF)

There follows a summary overview of the key coverage, contribution, and benefit provisions as of 31 December 2004.

A2.1 RBGF structure and design features

The structure of the RBGF is less complicated than that of the UI (see Figure 5). The Social Security Organization (SOCSO) would take charge of the administration of the proposed RBGF: collecting levies; managing subrogated payments; and collecting reimbursements from insolvent employers. A separate RBGF account would be established in the SOCSO.

Figure A2.1 RBGF structure



Several issues must be decided in designing the RBGF, including scope of coverage, maximum guarantee period, amount of levy, and a mechanism to decide whether certain firms are bankrupt.

Coverage. RBGF coverage should be equivalent to that of current retrenchment benefits.

Maximum guarantee period. This study proposes options for deciding the most appropriate maximum guarantee period for retrenchment benefits. That period could be either 65 days (Option 1) or 105 days (Option 2), with the 65-day option which is equal to the retrenchment benefits for workers with a previous employment period of 5 years, and the 105-day option which is equal to

the retrenchment benefits for workers with a previous employment period of 7 years. **Amount of levy** can be decided according to a pay-as-you-go rule. Reimbursement from the employers can be used as the buffer in the first stage of implementing the RBGF.

A2.2 Other national systems

ROK

ROK introduced the Wage Claim Guarantee System in 1998, during the Asian economic crisis, and set up the Wage Claim Guarantee Fund (WCGF).

The WCGF is managed by the Korean Labor Welfare Corporation (KLWC). KLWC, which also manages work-injury insurance in ROK, is similar to the SOCSO. Coverage extends to all firms with more than one worker.

The stipulated maximum amount of levy is 2/1,000 of wages, and the current rate is only 0.4/1,000.

Guaranteed wage claims amount to the previous three months of unpaid wages and retirement allowances for the previous three years (90 days of average daily wage). In ROK, retirement allowances are paid for every job leaver with one or more years of tenure, regardless of job separation cause. That is why it is referred to as a retirement allowance, rather than severance pay. Thus voluntary job leavers can get a retirement allowance if they have worked for a firm longer than one year.

Korean legal system establishes preferential rights for unpaid wage and retirement benefits. Korea's Labor Standard Act gives preferential rights for three months wages over pledges, mortgages, taxes, and public levies. And the Retirement Benefits Guarantee Act gives preferential rights for three years' retirement allowance.

France

The French system covers all firms with one or more workers. The levy rate on the employer, as of 2005, is 0.35 per cent of wages. The amount of guaranteed wage claim is as follows: six times monthly wage to calculate the unemployment insurance contribution (tenure with more than two and a half years); five times (six months ~ less than two and a half years); four times (less than six months).

Australia

The Australian system was first introduced in 2000, and was revised in 2001. It covers all firms with one or more workers. The cost of guaranteeing wage claims is financed from general government revenues. Australia is famous for its social security system, which is based on a principle of social assistance rather than social insurance. The amount of guaranteed claim is total unpaid wage, paid leave, advance notice of redundancy allowance, and redundancy pay for a maximum of eight weeks.

A2.3 Additional issues in enhancing the RBGF role

The above examples show national systems integrating wage-claim guarantees with other wage-like benefit guarantees. This study suggests that the proposed RBGF should not cover wage-claim guarantees. A better option, it is proposed, is establishing a comprehensive system that includes unpaid wage claims. This could be called the Wage and Retrenchment Benefits Claim Guarantee Fund.

The Korean system introduced preferential rights for a certain period of unpaid retirement allowance and wages. Amendment of the Company Act to guarantee retrenchment-benefit claims could establish an institutional shield for workers against other creditors. Employers suggested the amendment of the Company Act (1965) in line with this proposal. Preferential rights for retrenchment benefits would help to reduce the burden of employers in introducing the RBGF. In addition, preferential rights could also be extended, as in ROK, to a specified amount of unpaid wage-claim.

Appendix 3

Designing the unemployment insurance system

A3.1 Major UI design components

Major components of a UI system include coverage, eligibility criteria, the amount and duration of benefits, and financing rules.

Coverage

The first decision concerns who is to be covered by UI. To the end, this study considers firm size, worker age, industry, and work type.

Eligibility

Eligibility criteria comprise contributions, cause of job loss, and a work test.

- ***Contributions.*** Eligibility criteria concerning contributions consist of a base period and a minimum insurance period. The latter period refers to the minimum insured period, which is to be fulfilled within the so-called base period.
- ***Cause of job loss.*** The cause of job loss is considered in deciding whether the job separators violate the requirement of job leaving with good cause. Most countries sanction voluntary job leavers who leave without good cause. The sanction may be either full restriction of unemployment benefits or postponement of benefit payment for a specified period.
- ***Work tests.*** Work tests aim to determine whether the unemployed worker is both capable of work and available for work. Commonly, workers are required to register at the public employment service (PES), and the unemployed worker's job search efforts are monitored.

Benefits

The amount of benefits can be dependent on the unemployed worker's previous wage or it can be a flat rate with or without specified maximum or minimum benefits. Duration of benefit payments can be fixed as a specified period, or it can vary according to the worker's previous contributions and/or age.

It is necessary to decide the respective shares of employee and employer, and the role of Government, in financing unemployment benefits and managing the UI system.

This study describes East Asian unemployment insurance systems, establishing a baseline in the light of development levels among East Asian social security systems. In what follows, we examine each UI component. For most components, we suggest theoretical points, design issues, and policy measures, referring to UI-system designs in selected OECD and East Asian countries. The information on UI in East Asian countries is based on ISSA (2008), while the information on OECD countries is based on OECD (2007a) and Country Reports for each country.

A3.2 UI systems in East Asian countries

Social insurance. In East Asia, countries and economies such as China, Japan, ROK, Taiwan, Thailand, and Viet Nam each has a UI system based on a social insurance principle.[28] Other countries and economies basically cover all sectors. (China, which covers only urban workers based on a local government-administered system, is an exception.)

Social assistance. Hong Kong SAR (Special Administrative Region) also administers an unemployment protection system. But Hong Kong's scheme is based on a principle of social assistance. It covers all Hong Kong residents and is funded by the Government.

India has a version of a UI system that covers only workers earning 10,000 rupees or less a month and working in businesses with at least 20 workers (10 workers, in the manufacturing sector). Hence, coverage in India is very narrow.

Hereafter, design elements are compared among five countries and economies of East Asia: China, ROK, Taiwan, Thailand, and Viet Nam.

Coverage and eligibility criteria

Among these five, ROK, Taiwan, and Thailand cover all enterprises, while Viet Nam covers enterprises with 10 workers or more. (Chinese UI covers only urban workers, as mentioned earlier.) ROK, Taiwan, and Thailand set minimum and maximum ages for workers who are covered. Coverage is restricted according to employment type in Viet Nam, where UI covers workers with employment contracts of one year or longer.

The minimum insured period is six months (180 days) in ROK and Thailand, and one year in China, Taiwan, and Viet Nam. Three countries—ROK, Thailand, and Viet Nam—set a base period.

While China, ROK, and Taiwan restrict benefits only to involuntary job separators, Thailand and Viet Nam pay benefits to voluntary job leavers. In Thailand, voluntary job leavers can get reduced benefits (60 per cent of normal benefits) for a reduced duration (90 days).

[28] Benefits provided by "social insurance" programmes entail previous contributions by recipients; "social assistance", on the other hand, is generally means tested, recipients are expected to have first exhausted any savings, and the benefits are funded by taxes rather than determined by contributions.

Table A3.1 UI coverage and eligibility criteria in East Asian countries & economies

	China	ROK	Taiwan	Thailand	Viet Nam
Coverage: Sector, age, contract	Urban enterprise	All enterprises, 16~65	All enterprises, 15~60	All enterprises, 15~60	Enterprises with 10+, contract with 1+yrs.
Eligibility: Contribution	1 year	180 days in 18 mos.	1 year	6 mos. In 15 mos.	12 mos. In 24 mos.
Eligibility: Cause of job loss	Involuntary	Involuntary	Involuntary	Involuntary & voluntary	Involuntary & voluntary

* Mo(s) = month(s).
Source: ISSA (2008).

Amount and duration of benefits

In ROK and Thailand, benefits amount to 50 per cent of previous wage, whereas Taiwan and Viet Nam pay 60 per cent of previous wage. In China, the benefit is set between public assistance benefits and minimum wage. The Korean system specifies minimum and maximum benefits, and the Thai system has a maximum.

Taiwan and Thailand have established a period of six months (180 days) fixed duration. Duration of benefits in China and Viet Nam depends on previous employment records. ROK applies the most complicated system, one that calculates benefits duration according to insured period and unemployed worker's age.

Table A3.2 Benefits: Amount of UI in selected East Asian countries and economies

	China	ROK	Taiwan	Thailand	Viet Nam
Benefit amount	PA<Benefit<MW, Incl. some medical costs	50% of AW (3 mos.), Min: 90% Legal MW, Max: p/d 40,000 won	60% of AW (6 mos.)	50% of AW (highest 3 mos. in 9 mos.), max: p/d 250 baht	60% of AW (6 mos.), incl. health insurance coverage & ALMP
Duration of benefit	1 yrs. for~4 yrs., 1.5 yrs. for 5~9, 2 yrs. for 10 yrs &+	90~240 days depending on contribution & age	6 mos. *3 mos. for claimants in 2 years after receiving UI benefit	180 days *voluntary: 90 days, 30% AW	3 mos. for 1~2 yrs., 6 mos. for 3~5 yrs., 9 mos. for 6~11 yrs., 12 mos. for 12 yrs. &+

* PA: public assistance; AW: average wage; MW: minimum wage; p/d: per day, yr(s).: year(s).
Source: ISSA (2008).

Financing rules

In ROK, Thailand, and Viet Nam, workers and employers contribute equal shares. In China and Taiwan, employers pay higher premiums than do workers.

The role of Government also varies from country to country. While the Government shares the burden of financing unemployment benefits in Taiwan, Thailand, and Viet Nam, the Korean Government bears only the administration costs. In China, local governments contribute to the UI system if needed.

Table A3.3 Financing the UI in East Asian countries & economies

	China	ROK	Taiwan	Thailand	Viet Nam
Employee	1% TW PA<Benefit<MW, Incl. some medical costs	0.45% TW	0.2% TW	0.5% TW, min.: p/m 1,650 baht, max.: p/m 15,000 baht	1% TW, min.: MW, max.: 20*MW
Employer	2% TW	0.45% TW	0.7% TW	0.5% TW, min.: p/m 1,650 baht, max.:p/m 15,000 baht	1% TW, min.: MW, max.: 20*MW
Government	Subsidies as required	Admin-istration cost	0.1% TW & admin-istration cost	0.25% TW, min.: p/m 1,650 baht, max.:p/m 15,000 baht	1% TW & administration cost

* TW: total wage, p/m: per month
Source: ISSA (2008)

A3.3 Design of the UI

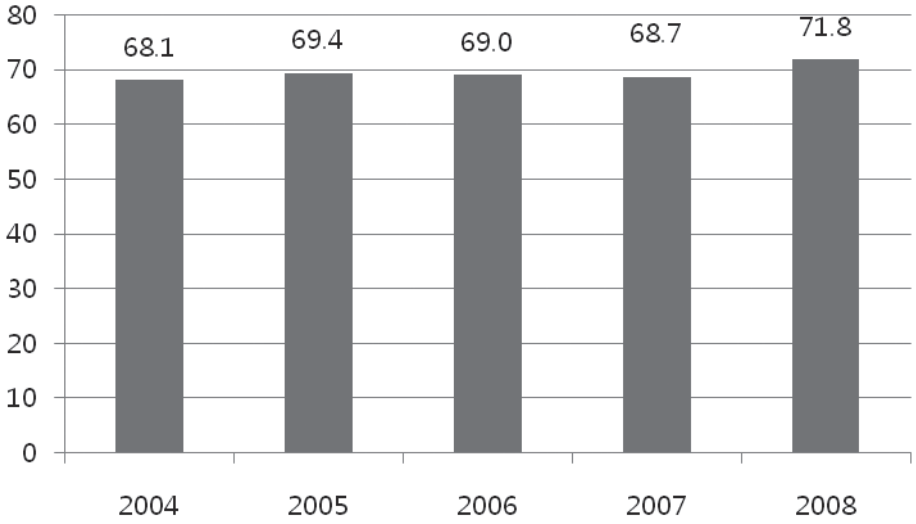
Coverage

This study suggests two coverage options: all firms with one or more worker (Option 1) or firms with thirty or more workers (Option 2). If Malaysia adopts Option 2 when introducing UI, coverage could be extended after a given period, for example five years after introduction of the system it might be extended to all firms.

Currently, EPF coverage is about 70 per cent of all workers (Figure A3.1). Public servants would be excluded from UI coverage, since their employment is protected by law. if Option 1 is adopted, since the proportion of public servants to active EPF members is about 90 per cent, actual UI coverage would be between 60 and 65 per cent.

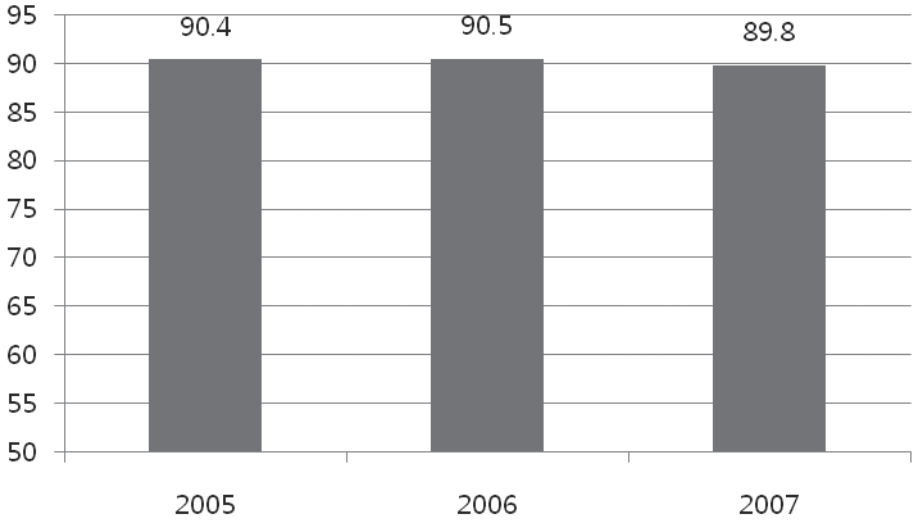
In terms of worker age, this study proposes excluding workers younger than 15 years and older than 65 years of age. Though EPF can be withdrawn at the age of 55 years, which suggests an official retirement age of 55 years, actual retirement age from the labour market should be extended to promote labour market participation among the elderly. In fact, many continue to work after the age of 55 years.

Figure A3.1 Proportion of active EPF members to total employment



Sources: Malaysia Employee Provident Fund and Malaysia Department of Statistics (2008, 2009a).

Figure A3.2 Proportion of private EPF active members to total EPF active members



Source: EPF.

Eligibility criteria: Contributions

Why do contributions matter?

Many people regard social insurance benefits as earned rights. From this perspective, contributions are a necessary condition of receiving benefits.

With reference to UI schemes in other countries, two options appear appropriate: a six-month minimum insured period in a 12-month base period (Option 1) and a 12-month minimum insured period in a 24-month base period (Option 2).

Most OECD and East Asian countries have adopted a 6- to 12-month minimum insured period, and a 12- to 24-month base period (Table A3.4 and Table A3.1).

Both base and minimum-insured periods are related to a "generosity of contribution" criterion. While generosity increases as the base period gets longer, generosity decreases as the minimum insured period gets longer.

Tables A3.4 Basic period and minimum insured period in selected OECD countries

	Base period	Minimum insured period	Minimum contribution
Japan	12 mos.	6 mos.	
Germany	2 yrs.	12 mos.	
France	22 mos.	6 mos.	
Spain	6 yrs.	1 yr.	
Sweden	12 mos.	6 mos.	
Austria	24 mos.	12 mos.	
Finland	28 mos.	10 mos.	
US	52 weeks	Specified period (some states)	Specified period (some states)
UK	2 yrs.		50 times of weekly minimum income

Sources: OECD (2007a) and country reports.

Eligibility criteria: Cause of job loss

Why does cause of job loss matter?

Voluntary departure from jobs sometimes aims to abuse insurance systems, and most countries apply sanctions to reduce this risk. While most OECD countries suspend benefits for a certain period, where workers voluntarily leave their jobs, Spain and the USA fully restrict benefits in such cases.

Another type of moral hazard should be considered here. Given UI protection of unemployed workers, employers may abuse lay-offs as a means of cost reduction. To counter this possibility, the US adopts an experience rating system where employers' contributions are adjusted according to their history of lay-offs.

This study suggests that Malaysia restrict UI benefits to those who lose jobs involuntarily. After successful establishment of a UI system in Malaysia, such sanctions could be moderated to allow benefits following suspension for a specified period. ROK, for example, is currently examining the moderation of sanctions to extend benefits to voluntary leavers suffering long-term unemployment.

Most EU countries suspend benefits for some period, but some other countries fully restrict benefits. Since the 1990s, sanctions for voluntary job losers who fail to show justifiable cause have been changing in some OECD countries (Table A3-5).

Table A3.5 Sanctions for job leavers without good cause

Sanctions	0~4 weeks	5~9 weeks	10~14 weeks	More than 14 weeks	Full restriction
1998	Austria Australia	Norway Denmark Sweden Iceland Ireland Finland	New Zealand Germany UK	Belgium France	Netherlands Luxemburg US Czech Canada Portugal
2005	Austria Denmark Slovakia	Latvia Sweden Iceland Ireland Norway	Germany Lithuania Belgium UK Japan Finland Australia	France Malta	Netherlands US Spain Estonia Italy Czech Portugal

Sources: Denmark Ministry of Finance (1998, 2005).

Eligibility criteria: Work test

Why does the work test matter?

The work test is designed to verify whether the unemployed worker is both capable of work and available for work. This reflects the idea that unemployment benefits should be paid only to those who are attached to the labour market. The work test also intends to control negative UI effects on the labour market.

Work tests commonly require workers to register at public employment service (PES) centres. UI claimants should show evidence of a minimum number of job searches and regular visits to the PES. Recipients of benefits are sometimes also compelled to accept job offers presented by the PES.

This study suggests the following procedure: registration at the PES, followed by regular visits to the PES for between two and four weeks according to the IAP (individual action plan) and PES placement services.

It is necessary to decide who will manage benefit payments and employment services for benefit recipients. In this regard, close coordination between the Ministry of Human Resources (MOHR) and the SOCSO is important. Currently, PES centres under the MOHR are in charge of employment services. Premium collection and payment of UI benefits, considering current social security administration in Malaysia, would be managed by the SOCSO. In this case, close coordination between benefit management and employment services will be vital for successful UI implementation.

Most countries introduced activation strategy in managing the UI in 2000s. Activation intends to integrate benefit recipients into labour market and to control negative side-effects of UI in the labour market.

Table A3.6 Activation measures for benefits recipients in selected OECD countries

	ROK	UK	Germany	Denmark	Sweden
Timing of IAP	Within 2 weeks	Within a week	Within 10 days	Within a month	Within 10 days
Regular PES Attendance	1~4 weeks	every 2 works	No	No, regular declaration	No, regular declaration
Reporting job Search	1~4 weeks	every 2 works	Depends on IAP	Once every 3 months	Every six weeks (average)
Number of job searches	2	10	Not specified	Depends on IAP	Not specified

Source: OECD (2007a).

Benefit amount

In what way does deciding the benefit amount matter?

Setting benefit levels involves two countervailing aims: maintenance of the worker's living standards; and minimizing disincentives to return to work. Higher benefit levels help the unemployed workers maintain their living standards, but may discourage them from searching for new work.

Another factor can influence the level of benefits paid. Benefits are usually considered earned rights based on previous contributions; this makes it difficult to set benefit levels too low, compared with previous wages.

Issues to consider include these:

- whether benefits should be a flat rate or income-related;
- if income-related benefits are to be adopted, an income replacement rate is needed,;
- whether to set a minimum benefit, if income-related benefits are adopted (where there is a legal minimum wage, this would serve as a reference point in setting a minimum);

- whether to set a maximum benefit, if income-related benefits are adopted; and
- whether benefits should be increased for claimants with dependants.

Table A3.7 Wage replacement rates in selected OECD countries

	Previous wage replacement rate (%)	Minimum benefit to average wage (%)	Maximum benefit to average wage (%)
Canada	55	-	54
Denmark	90	43	53
France	57~75	30	224
Germany	60	-	90
Italy	50	-	52
Japan	50~80		53
ROK	50	23	44
Netherlands	70	30	113
US	53	14	61

Source: OECD (2007a).

This study suggests that 50 per cent of previous wage represents a conventional benefit, and proposes RM 2,900 as a maximum benefit. Most OECD countries adopt income-related benefit systems. Other countries with UI systems, e.g. Iceland, Ireland, Poland, and the UK have flat-rate benefits. Australia and New Zealand, which have unemployment assistance without UI, also have flat-rate benefits. Most income-related systems, furthermore, have maximum and/or minimum benefits (Table A3.7).

Duration of benefits

What matters in deciding potential duration of benefits?

Duration of benefit also can be set to balance conflicting targets: maintenance of living standards during unemployment; and disincentives to return to work. The fact that it is commonly believed unemployment benefits are earned rights should also be taken into account.

Deciding an appropriate duration for benefits in Malaysia means considering the duration of unemployment. Unfortunately, few unemployment-duration in Malaysia data are available. The fact that Malaysia has a tight labour market, however, suggests that the average duration of unemployment is shorter than in other industrialized OECD countries.

Two options are suggested here: six-month fixed duration (Option 1), and variable duration depending on the insured period (Option 2).

Table A3.8 Duration of benefits in Selected OECD countries

	Basis	Minimum duration	Maximum duration
Austria	Insured weeks/age	30 weeks	52 weeks
Canada	Insured hours	11 weeks	45 weeks
France	Insured days/age	213 days	1 095 days
Germany	Insured months/age	6 months	24 months
Italy	Age	180 days	9 months
Japan	Insured period/age	90 days	360 days
ROK	Insured period/age	90 days	240 days
Netherlands	Insured years	3 months	38 months
Norway	Previous wage	52 weeks	104 weeks

Sources: OECD (2007a) and country reports.

Variable duration would be set as follows: 4 months within 24 months contribution; 6 months within 24 to 47 months; and 8 months with 48 months or more.

Most OECD countries adopt variable duration of benefits. Four countries have fixed durations: the UK (26 weeks), Sweden (300 days), Finland (500 days), and Denmark (4 years). In most such countries, variable duration depends on the insured period and/or age.

Financing rules

In most OECD countries, employer, employee, and Government share the financing. Two exceptions are the Nordic countries and the USA. In the US, employers bear the burden of financing, and an experience rating system is used to constrain moral hazard among employers. In Nordic countries, employees bear the burden of financing, since their UI systems have been introduced and operated by trade unions.

This study suggests that both employees and employers share the burden of financing the UI equally, while the role of Governments should be decided by the social partners.

Table A3.9 Role of governments in financing the UI in selected OECD countries

	Employee (%)	Employers (%)	Government
Austria	3	3	Any deficit
Belgium	0.87	1.46	Any deficit
Canada	1.8	2.52	None
France	2.4	4	None
Germany	1.65	1.65	13.8% of UI benefits
Japan	0.6	0.9	Any deficit(loan/ subsidy)
Netherlands	3.5	4.75	None
Spain	1.55	5.5	Subsidies
Ireland, UK	Incl. old age	Incl. old age	Subsidies

Sources: OECD (2007a), ISSA (2008).

Alternative approach: Korea's employment insurance system

Introduced in 1995, the employment insurance system in ROK includes the following:

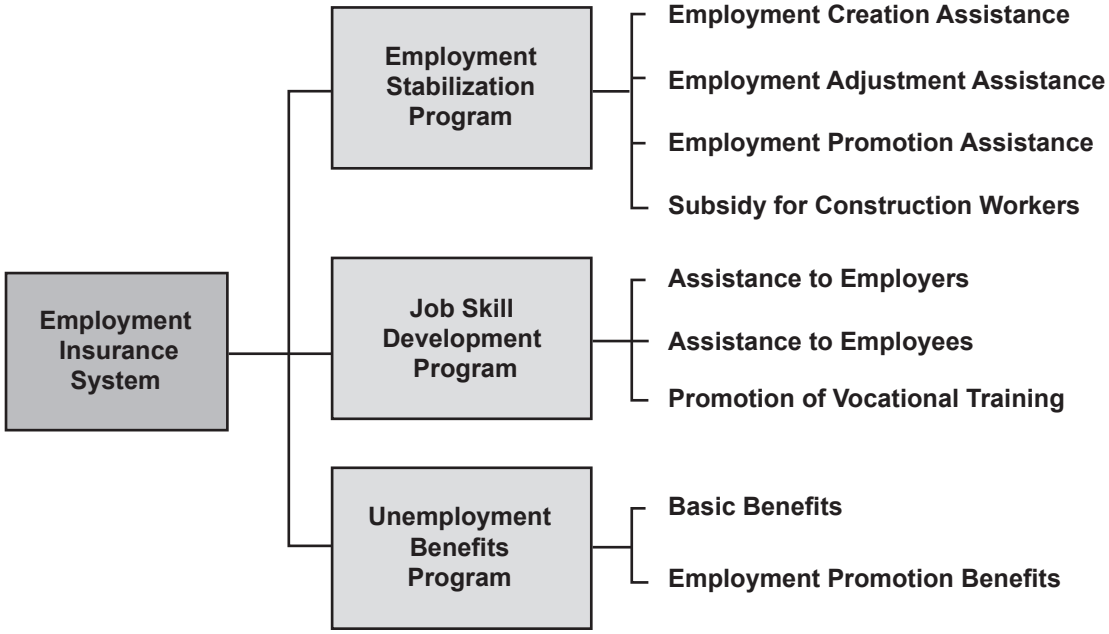
- an unemployment benefit programme;
- a passive labour market policy that provides cash benefits to unemployed who have fulfilled such requirements as payment of insurance premiums for a specified period; and
- job-skill development and employment stabilization programmes that are active labour market policies (Figure A3.3).

That is why the Korean system is characterized as 'employment insurance', rather than unemployment insurance. A motherhood protection programme was included in 2002. Other programmes, other than unemployment benefits, are financed through employers' contributions.

Employment insurance could also be an alternative for Malaysia. Malaysia's Human Resource Development Fund could be integrated into the employment insurance system. The employment stabilization programme includes measures to help firms retain workers during economic downturns, and to assist employment-disadvantaged workers in the labour market. These schemes could serve as useful measures to contain unemployment during economic crises.

Introduced in 1995, it was only after the Asian financial crisis of late 1997 that the employment insurance system came into full use. The number of unemployment benefit recipients showed a sharp increase during the period of high-unemployment, before falling again. A massive vocational training and employment stabilization programme also played a great role in mitigating economic hardships caused by soared unemployment.

Figure A3.3 Structure of employment insurance system in ROK



Appendix 4

Actuarial assessment of RBGF and UI

A4.1 Actuarial assessment of unemployment insurance

1.1 Number of insured employees

- EPF members as of 2007 total 5,239,920 persons, including 413,339 employers.
- Active private-sector EPF members as of 2007, excluding members in the public sector and employers, is 4,826,581 persons (see Table A4.1).
- Employees aged 15 or younger and 65 or older should be excluded from the UI programme.
- Employees aged 15 or younger account for 0.1 per cent of total workers, and employees aged 65 or older 0.3 per cent (see Table A4.2).

Therefore, EPF members in the private-sector net of employees aged younger than 16 or older than 65 total 4,812,101 (=4,826,581 x (1-0.004)) persons.

Table A4.1 EPF members (persons)

	Public sector			Private sector		
Year	Employers	Active members	Total	Employers	Active members	Total
2005	15 522	506 206	521 728	378 837	4 754 638	5 133 475
2006	15 109	499 316	514 425	393 944	4 765 637	5 159 581
2007	14 980	413 339	428 319	413 339	4 826 581	5 239 920

Table A4.2 Number of workers by age group

Age group	Number of workers	Percentage (%)
15 and younger	4 802	0.1
16-18	68 541	2.0
18-56	3 216 687	95.4
56-64	71 005	2.1
65 and more	10 825	0.3
Total	3 371 860	100.0

- Then, we consider the case where only workers at firms with more than 30 employees are covered by the UI.
- Table A4.3 shows the distribution of firm size (the number of employees) and the number of employers. Data regarding numbers of employee or densities in the given intervals of firm size were unavailable. We used only information about the number of employers in the intervals of firm size.
- To obtain the number of employees, given the firm-size intervals, we set the median values of firm size of the interval. Multiplying these values by the number of employers generates the estimated number of employees for each firm-size interval, shown in the last column of Table A4-3.
- With the estimated number of employees, workers at firms with more than 30 employees are estimated to account for 65.24 per cent of total employees.
- Therefore, private-sector EFP members at firms with more than 30 employees are estimated at 3,139,415 persons (=4,812,101 x 0.6524).

Table A4.3 Firm size and estimated number of employees

Firm Size	Number of Employers	Median Values of Firm Size	Estimated Number of Employees
0	117 550		
1-9	176 427	4	705 708
10-19	21 115	14	295 610
20-29	7 126	24	171 024
30-39	3 571	34	121 414
40-49	2 229	44	98 076
50-99	4 582	70	320 740
100-499	4 197	240	1 007 280
500-999	372	750	279 000
1000-	304	1230	373 920
Total			3 372 772

1.2 Number of insurance beneficiaries

- In calculating the number of UI beneficiaries, in principle we have to calculate or learn the following information in turn: (1) the number of insured, (2) the number of unemployed involuntarily, and (3) the number of beneficiary qualified.
- So far (1) the number of insured is estimated, but no information is available on (2) or (3). Moreover decent information to estimated (2) and (3) are not available. Due to lack of appropriate data in Malaysia, we cannot follow above procedure.

- Instead, we notice the similarity of labour market characteristics between Malaysia and ROK. For example, as shown in Table A4.4, economically active population of total population account for about 60 per cent both in Malaysia and ROK. Meanwhile, the numbers are quite different for China (over 79 per cent) and Philippines (around 65 per cent). Unemployment rates of Malaysia and ROK are around 3.5 per cent, while unemployment rates of China and Philippines are above 4 and 7 per cent respectively.
- Given the lack of appropriate data and similarity of labour market characteristics between Malaysia and ROK, we adopt key variables from the Korea UI programme as a benchmark to obtain the number of insurance beneficiaries in Malaysia.

Table A4.4 Labour statistics for Malaysia, ROK, China, and the Philippines

Year	Economically active population rates				Unemployment rates			
	Malaysia	ROK	China	Philippines	Malaysia	ROK	China	Philippines
2002	62.2	61.5	77.0	66.5	3.5	3.3	4.0	11.4
2003	62.8	60.9	76.5	66.3	3.6	3.6	4.3	11.4
2004	62.1	61.5	76.0	65.8	3.5	3.7	4.2	11.8
2005	61.1	61.4	75.6	64.7	3.5	3.7	4.2	7.8
2006	61.0	61.3	75.3	64.2	3.3	3.5	4.1	8.0
2007	61.2	60.9	75.1	65.1	3.2	3.2	4.0	7.3
2008	60.5	60.7	75.0	65.1	3.3	3.2	4.2	7.4

Source: ILO Labour Statistics (LABORSTA).

Table A4.5 Number of insured and UI beneficiaries in ROK (monthly average)

Year	Insured employees (A)	Unemployed (B)	Unemployment rates	# of UI beneficiary (C)	Ratio of (C)/(B) (%) (D)	Ratio of (C)/(A) (%) (E)
1997	4 316 249	567 833	2.6	10 210	1.8	0.2
1998	4 788 423	1 490 167	7.0	113 384	7.6	2.4
1999	5 292 983	1 285 833	6.3	134 277	10.4	2.5
2000	6 466 063	913 167	4.1	74 473	8.2	1.2
2001	6 847 138	845 083	3.8	113 272	13.4	1.7
2002	7 057 358	708 000	3.1	105 190	14.9	1.5
2003	7 177 764	776 833	3.4	123 345	15.9	1.7
2004	7 447 912	813 417	3.5	174 913	21.5	2.4
2005	7 857 510	886 725	3.7	204 706	23.1	2.6

Source: *Yearly statistics of employment insurance* (ROK, 2005).

- Table A4.5 shows the monthly average number of insured and UI beneficiaries in ROK from 1997 to 2005.
- The last column of the table shows the ratio of UI beneficiaries to total insured employees. The ratio (in percentages) was 0.2 in 1997 and 2.6 in 2005. The ratios in recent years are higher because ROK has developed a UI programme .
- Taking the average number during 1997-2005, the ratio of beneficiaries to insured is 1.6 in ROK.
- We set the ratio in Malaysia as 1.4 when the UI programme covered all employees. We set a slightly smaller ratio in Malaysia than that in ROK because one can expect that the coverage would be less in a country where the UI programme is still new.
- We set this ratio in Malaysia as 1.6 when the UI programme covered employees at firms with 30 employees or more, since one could expect stricter enforcement of the UI programme among the larger firms.

1.3 Insurance rates

1.3.1 Basic setup

- Calculating UI programme insurance rates for Malaysia, we considered this target: the ratio of accumulated funds to yearly expenditures, five (5) years after the programme's launch, should be two (2).
- Here we consider two plans. They differ in terms of base period and required period of insured employee:
    - 12- to 6-month plan
    - 24- to 12-month plan
- The following notations will clarify the calculation of insurance rates:

U : number of insured

N : number of beneficiaries

W_i : median wage in interval i of wage distribution

C_i : baseline benefit amount in interval i

f_i : density of W_i

a : growth rate of wage (7 per cent)

b : growth rate of insured and beneficiary (2.3 per cent)

r : nominal interest rate (3 per cent)

x : insurance rate

- Table A4.6 shows the wage distribution used in this analysis. The wage distribution has 34 intervals. The fourth and fifth columns of the table present the median wage and the baseline benefit amount for each wage interval. The median wage and the baseline benefit amount are the same, except the last interval (maximum amount of wages) of the wage distribution. In the last interval (2,900 or more), we set the median wage 4,000 and the baseline benefit amount 2,900.

Table A4.6 Wage distribution

Wages	Frequency	Density	Median wage W_i	Baseline benefits C_i
0.00 - 30.00	8 653	0.0968	15	15
30.00 - 50.00	13	0.0001	40	40
50.00 - 70.00	19	0.0002	60	60
70.00 - 100.00	28	0.0003	85	85
100.00 - 140.00	63	0.0007	120	120
140.00 - 200.00	146	0.0016	170	170
a200.00 - 300.00	534	0.0060	250	250
300.00 - 400.00	724	0.0081	350	350
400.00 - 500.00	1 389	0.0155	450	450
500.00 - 600.00	1 702	0.0190	550	550
600.00 - 700.00	2 063	0.0231	650	650
700.00 - 800.00	2 129	0.0238	750	750
800.00 - 900.00	2 048	0.0229	850	850
900.00 – 1 000.00	2 453	0.0274	950	950
1 000.00 – 1 100.00	2 337	0.0261	1 050	1 050
1 100.00 – 1 200.00	2 537	0.0284	1 150	1 150
1 200.00 – 1 300.00	2 410	0.0269	1 250	1 250
1 300.00 – 1 400.00	2 298	0.0257	1 350	1 350
1 400.00 – 1 500.00	2 668	0.0298	1 450	1 450
1 500.00 – 1 600.00	2 461	0.0275	1 550	1 550
1 600.00 – 1 700.00	3 297	0.0369	1 650	1 650
1 700.00 – 1 800.00	2 266	0.0253	1 750	1 750
1 800.00 – 1 900.00	2 039	0.0228	1 850	1 850
1 900.00 – 2 000.00	2 729	0.0305	1 950	1 950
2 000.00 – 2 100.00	1 857	0.0208	2 050	2 050
2 100.00 – 2 200.00	1 885	0.0211	2 150	2 150
2 200.00 – 2 300.00	1 850	0.0207	2 250	2 250
2 300.00 – 2 400.00	1 760	0.0197	2 350	2 350
2 400.00 – 2 500.00	1 876	0.0210	2 450	2 450
2 500.00 – 2 600.00	1 569	0.0175	2 550	2 550
2 600.00 – 2 700.00	1 504	0.0168	2 650	2 650
2 700.00 – 2 800.00	1 536	0.0172	2 750	2 750
2 800.00 – 2 900.00	1 381	0.0154	2 850	2 850
2 900.00 – 9 999.99	27 204	0.3042	4 000	2 900
TOTAL	89 428	1.0000		

Table A4.7 Wages, working-age population, and interest rates in Malaysia

Year	Salary and wage paid		Working-age population		Interest rates	
	Level	Growth rates	Level	Growth rates	Treasury bill	Market rates
2002	27 214		15 351	2.72	2.73	2.73
2003	28 137	3.39	15 704	2.30	2.79	2.74
2004	30 258	7.54	16 065	2.30	2.40	2.70
2005	32 767	8.29	16 450	2.40	2.48	2.72
2006	34 910	6.54	16 844	2.39	3.23	3.38
2007			17 230	2.29	3.43	3.50
2008			17 611	2.21	3.39	3.48

- To calculate the insurance rates, we need information about growth rate of wages, growth rate of insured and beneficiaries, and nominal interest rates. Table A4.7 presents information regarding wages, working-age population, and interest rates in Malaysia. The growth rate of wages is quite volatile, ranging from 3.39 in 2003 to 8.29 in 2005. Given this information, we determined a 7 per cent growth rate for wages. As a proxy for the growth rate of insured and beneficiaries, we take the average growth rate of the working-age population, which is 2.3 per cent. Interest rates of treasury bills and market rates are quite similar, moving around 3 per cent.
- In calculating the insurance rates, we make the following assumption: the number of beneficiaries after the first period does not change under any of the plans. This assumption suggests that choice of plan changes the number of beneficiaries only in the first period.

1.3.2 Insurance rates for the 12- to 6-month plan

Since the minimum required period for insured to qualify for UI benefits is six months, none of the unemployed can become eligible in this initial period. From the seventh month, only those unemployed whose insured period is six months or more qualify for the UI benefits.

As a proxy of the insured periods, we take the distribution of insured periods in SOCSO, as shown in Table 8. The table shows that employees whose insured period is six months or more account for 83.2 per cent of the total.

Therefore the expenditure at Time 1 is:

$$0.832 \times \frac{1}{2} \times N \times \sum_i f_i C_i$$

Expenditure at Time 2 is

$$N(1+a)(1+b)\sum_i f_i C_i$$

Expenditure at Time 3 can be obtained using similar logic.

The revenue at Time 1 is $Ux\sum_i f_i W_i$ and Revenue at Time 2 is $Ux(1+a)(1+b)\sum_i f_i W_i$

Revenue at Time 3, and so on, may be obtained using similar logic.

UI fund at Time 1 ($fund_1$) = revenue at Time 1 – expenditure at Time 1. At Time 5, this fund becomes $fund_1(1+r)^4$

Following the above procedure, the insurance rate is **0.0075**, when the UI programme covers all employees, and **0.0084** when it covers employees at firms with 30 workers or more.

Table A4.8 Distribution of SOCSO insurance periods

Insured periods (months)	**Frequencies**	**Percentage** (%)
1-3	108 345	10.8
4-6	59 746	6.0
7-9	43 105	4.3
10 -12	36 083	3.6
13–18	57 599	5.8
19–24	48 971	4.9
25–60	209 559	21.0
61–120	210 824	21.1
121-180	136 340	13.6
180 or more	89 428	8.9
Total	1 000 000	100.00

Source: SOCSO, sample survey.

1.3.3 Insurance Rates for the 24-12 months plan

- In the 24- to 12-month plan, the expenditure at Time 1 is zero, since the minimum required insured period is 12 months.
- Expenditures from Time 2 and revenues from Time 1 are the same as those in the 12- to 6-month plan.
- Following the above procedure, we have the same insurance rate as in the 12- to 6-month plan. That is, the insurance rate is **0.0075** when the UI programme covers all employees, and **0.0084** when it covers employees at firms with 30 or more.
- The insurance rates do not differ across the two plans because the difference in expenditure at Time 1 is extremely small compared to revenues and funds. The differences disappear during the rounding process.

1.3.4 Plans with different benefits periods

We consider another two plans with different benefits periods:

- a 6-month benefit period regardless of insured periods; and
- the benefit period is associated with insured periods.

The ROK experiences suggest that the two plans do not generate differences in insurance rate, if the average benefit periods are the same.

1.4 Actuarial assessment

- Applying the insurance rate of 0.0075 when the UI programme covers all employees, and 0.0084 when it covers employees at firms with 30 employees or more, we calculate revenues, expenditures, and funds for 10 years. Table A4.9 presents the results for the 12- to 6-month plan. The table does not present actuarial estimates for the 24- to 12-month plan, since the results from the 24-12 plan generate the same figures as those from the 12-6 plan, except for expenditure at Time 1, which is zero. The "fund" is revenue minus expenditure each year, and the "cumulated fund" is cumulated funds from Time 1, assuming nominal interest rates.
- Table A4.10 shows the actuarial estimates when the UI programme covers employees at firms with 30 employees or more during Times 1-5, and covers all employees from Time 6.

Table A4.9 Estimated income, expenditure and reserves for the 12-6 plan

(in RM10,000)

Year	Coverage of all employees				Coverage of employees working in companies with 30 or more employees			
	Income	Expenditure	Balance	Reserves	Income	Expenditure	Balance	Reserves
1	7 613.7	0.1	8 569.3	8 569.3	5 676.8	0.1	6 389.2	6 389.2
2	8 334.1	7 937.2	433.7	9 002.9	6 213.9	5 918.0	323.3	6 712.5
3	9 122.6	8 688.2	460.9	9 463.8	6 801.8	6 477.9	343.6	7 056.2
4	9 985.7	9 510.1	489.8	9 953.5	7 445.3	7 090.8	365.2	7 421.3
5	10 930.0	10 410.0	520.5	10 474.0	8 149.7	7 761.6	388.1	7 809.4
6	11 965.0	11 395.0	553.1	11 027.0	8 920.7	8 496.0	412.4	8 221.9
7	13 096.0	12 473.0	587.8	11 615.0	9 764.7	9 299.8	438.3	8 660.1
8	14 336.0	13 653.0	624.7	12 240.0	10 689.0	10 180.0	465.8	9 125.9
9	15 692.0	14 945.0	663.9	12 904.0	11 700.0	11 143.0	495.0	9 620.9
10	17 176.0	16 359.0	705.6	13 609.0	12 807.0	12 197.0	526.1	10 147.0

Table A4.10 Actuarial estimates with coverage of larger companies during 1-5 years and all companies during 6-10 years

(in RM10,000)

Year	Income	Expenditure	Balance	Reserves
1	5 676.8	0.1	6 389.2	6 389.2
2	6 213.9	5 918.0	323.3	6 712.5
3	6 801.8	6 477.9	343.6	7 056.2
4	7 445.3	7 090.8	365.2	7 421.3
5	8 149.7	7 761.6	388.1	7 809.4
6	11 965.0	11 395.0	553.1	8 362.5
7	13 096.0	12 473.0	587.8	8 950.4
8	14 336.0	13 653.0	624.7	9 575.1
9	15 692.0	14 945.0	663.9	10 239.0
10	17 176.0	16 359.0	705.6	10 944.6

A4.2 Actuarial assessment of the retrenchment benefits

- Since data on years worked for employees (job experiences) are unavailable, we use distribution of insured period in SOCSO (see Table A4.8). Table A4.11 presents the distribution of insured periods in SOCSO and covered periods for retrenchment benefits.
- Table A4.12 shows the number of retrenchment beneficiaries. We take the average number of beneficiaries (28,385) during the 1997-2008 period to calculate RBGF insurance rates.
- We do not consider reimbursement of paid benefits from bankrupt employers. This can be used as a buffer for future adjustments of insurance rates.
- With these numbers and assumptions, estimated RBGF contribution rates are
    - **0.079 per cent**, when the maximum coverage period is 5 years, and
    - **0.090 per cent** when the maximum coverage period is 7 years.

Table A4.11 Distribution of insured periods and covered periods for RBGF

Insurance periods	Percentage	Covered periods for retrenchment benefits
Less than 1 year	24.7	0
1-2 years	10.7	15 days (average=1.5 years)
2-5 years	21.0	43 days (average=3.5 years)
5-7 years	10.0	85 days (average=6 years)
7 years or more	33.7	105 days (average=8years)

Table A4.12 Number of RB beneficiaries

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1997	197	1 441	969	1 879	2 349	235	648	1 510	2 212	2 193	2 841	2 389	18 863
1998	1 774	7 395	11 649	6 326	6 366	6 001	12 335	7 125	6 778	7 102	5 458	5 556	83 865
1999	3 237	2 855	5 362	4 311	3 547	2 446	2 278	1 328	4 084	2 808	1 518	3 583	37 357
2000	4 014	2 360	1 977	2 396	826	1 107	1 937	1 151	2 521	2 467	1 879	2 601	25 236
2001	1 086	1 411	2 982	4 450	3 049	3 122	3 947	3 962	5 828	2 786	3 318	2 175	38 116
2002	3 259	2 864	3 960	1 441	2 236	902	1 390	1 893	2 266	1 793	1 478	2 970	26 452
2003	1 973	1 011	2 460	2 151	3 419	1 107	2 167	929	2 232	1 542	1 191	1 024	21 206
2004	917	1 017	2 529	2 299	2 275	3 581	1 075	644	1 160	1 050	993	2 416	19 956
2005	1 533	1 891	1 285	459	787	1 324	1 523	1 206	2 146	1 726	542	1 687	16 109
2006	803	736	2 109	2 147	1 897	2 558	1 106	479	912	1 044	1 037	532	15 360
2007	654	519	3 007	557	2 582	1 063	533	359	416	981	819	2 545	14 035
2008	1 018	823	556	1 084	928	835	2 231	8 383	947	772	1 224	5 258	24 059

Appendix 5

Estimate of wage distribution in Malaysia

Wage distribution is critically important information, in conducting an actuarial assessment of the RF programme. The average wage, however, is the only information available in Malaysia. In this Annex, by assuming that the wage follows the standard log normal distribution, we estimate variance using other information that is available, notably information from Malaysia and ROK, taking into account its similarity.

The Gini coefficients for household income are available for Malaysia and ROK: 0.492 for Malaysia, and 0.316 for ROK. The Gini coefficient (G) has a one-to-one relationship with the Pareto parameter, α : $G = 1/(2\alpha - 1)$. Given the Pareto parameter, the variances of the Pareto distribution can be obtained from $x_m^2 \alpha / ((\alpha - 1)^2 (\alpha - 1))$ where x_m is a minimum value of income.

The variance ratio of Malaysia to ROK with respect to the Gini coefficient is 6.71,[29] and the standard deviation ratio is 2.59.[30] Since the degree of inequality of wages is usually smaller than that of income expressed as Gini coefficients, the standard deviation ratio of Malaysian wage to Korean wage is assumed to be two (2). The mean wages in Malaysia and in ROK are RM1,374 and 189.7 ten thousand won respectively. The ratio of these mean wages is 7.24[31], by adjusting for difference in the unit of measurement. Since wage distribution variance in ROK is 188 ten thousand won, the standard deviation of wage of Malaysia is estimated at 2,723.37.[32]

Figure A5.1 shows the density of log wages in ROK. Log wages are well approximated by a normal distribution, and wages are thus well approximated by lognormal distribution.

Suppose X represents wage and log of X follows log normal distribution with mean μ and variance σ^2. We know the mean of X, E(X), and the variance of X, V(X). Using the formulas,

(1) $$\mu = \ln(E(X)) - \frac{1}{2}\ln(1 + \frac{V(X)}{E(X)^2})$$

(2) $$\sigma^2 = \ln(1 + \frac{V(X)}{E(X)^2})$$

μ and σ for ROK and for Malaysia are calculated and shown in Table A5.1.

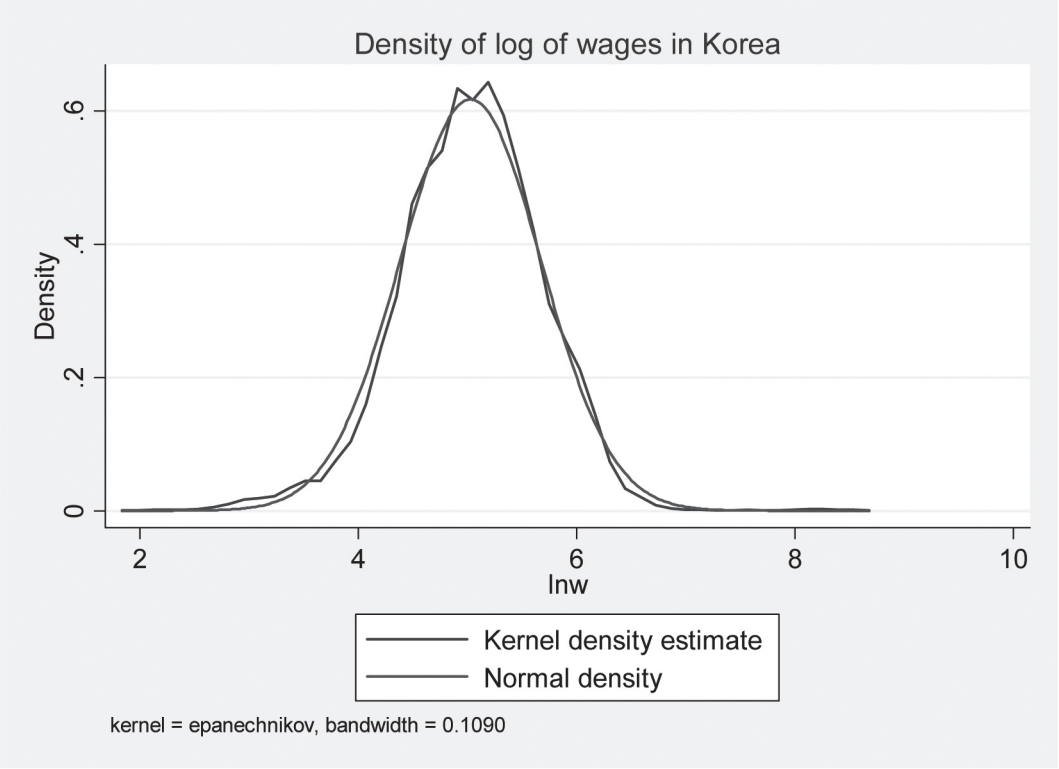
[29] Calculated as 11.02/1.64. See Table A5.1.
[30] Calculated as $6.71^{0.5}$.
[31] Calculated as 1374 / 189.7.
[32] Calculated as 188 * 7.24 * 2.

Table A5.1 Comparison some statistics of wage between ROK and Malaysia

	ROK	Malaysia
Gini coefficient of household income	0.316	0.492
Pareto parameter	2.08	1.52
Variance	1.64	11.02
Mean of wage	189.7	1 374
Standard deviation of wage	188	2 723.37
mean of log wage (μ)	5.03	6.43
Standard deviation of log wage (σ)	0.58	1.60

Source: KLIPS 2007 for information regarding ROK.

Figure A5.1 Density of log wages in ROK



Appendix 6

Estimated number of RF beneficiaries, using Korean experiences

Number of beneficiaries

To calculate the number of RF beneficiaries, in principle we have to calculate or learn the following information in turn: (1) the number of insured; (2) the number of involuntarily unemployed persons; and (3) the number of beneficiaries.

So far we have estimated (1) the number of insured, but do not have information regarding (2) and (3). Moreover, decent information to estimate (2) and (3) are not available. Given the lack of appropriate data in Malaysia, then, we cannot follow the above procedure.

Instead, we note the similarity in labour market characteristics between Malaysia and ROK. For example, as shown in Table A6.1, the economically active proportion of the total population accounts for about 60 per cent in both Malaysia and ROK. Meanwhile, the numbers are quite different for China (over 79 per cent) and the Philippines (about 65 per cent). Unemployment rates in Malaysia and ROK are around 3.5 per cent, while unemployment rates in China and the Philippines are more than 4 and 7 per cent, respectively.

Given the lack of appropriate data, and similar labour market characteristics in Malaysia and ROK, we adopt key variables from the Korean UI programme as a benchmark to obtain the number of insurance beneficiaries in Malaysia.

Table A6.1 Labour statistics for Malaysia, ROK, China, and the Philippines

Year	Economically active population rates				Unemployment rates			
	Malaysia	ROK	China	Philippines	Malaysia	ROK	China	Philippines
2002	62.2	61.5	77.0	66.5	3.5	3.3	4.0	11.4
2003	62.8	60.9	76.5	66.3	3.6	3.6	4.3	11.4
2004	62.1	61.5	76.0	65.8	3.5	3.7	4.2	11.8
2005	61.1	61.4	75.6	64.7	3.5	3.7	4.2	7.8
2006	61.0	61.3	75.3	64.2	3.3	3.5	4.1	8.0
2007	61.2	60.9	75.1	65.1	3.2	3.2	4.0	7.3
2008	60.5	60.7	75.0	65.1	3.3	3.2	4.2	7.4

Source: ILO Labour Statistics (LABORSTA).

Table A6.2 Number of insured and UI beneficiaries in ROK (monthly average)

Year	Number of insured employees (A)	Number of unemployed persons (B)	Unemployment rates	Number of UI beneficiaries (C)	Ratio of (C)/(B) (%) (D)	Ratio of (C)/(A) (%) (E)
1997	4 316 249	567 833	2.6	10 210	1.8	0.2
1998	4 788 423	1 490 167	7.0	113 384	7.6	2.4
1999	5 292 983	1 285 833	6.3	134 277	10.4	2.5
2000	6 466 063	913 167	4.1	74 473	8.2	1.2
2001	6 847 138	845 083	3.8	113 272	13.4	1.7
2002	7 057 358	708 000	3.1	105 190	14.9	1.5
2003	7 177 764	776 833	3.4	123 345	15.9	1.7
2004	7 447 912	813 417	3.5	174 913	21.5	2.4
2005	7 857 510	886 725	3.7	204 706	23.1	2.6

Source: *Yearly statistics of employment insurance* (ROK, 2005).

Table A6.2 shows the average monthly number of insured and UI beneficiaries in ROK from 1997 to 2005. The last column of the table shows the ratio of the number of UI beneficiaries to total insured employees: 0.2 per cent in 1997, and 2.6 per cent in 2005. Ratios in recent years are high because of the development of the ROK UI programme. The average ratio of the number of beneficiaries to number of insured in ROK from 1997 to 2005 was 1.6.

If this ratio is set slightly smaller (at 1.4) for the proposed RB programme in Malaysia, by taking into account low awareness during the first years of implementation, we can estimate the number of RFB beneficiaries at 76,370 (=5,455,000 * 0.014).