Occupied Palestinian Territory

Design and actuarial valuation of the proposed social security scheme

ILO Regional Office for Arab States,
ILO Financial and Actuarial Service (ILO FACTS), Social Protection Department
International Labour Office
December 2013

Contents

Abbreviations and acronyms

EI	Employment injury
GAP	General average premium
GDP	Gross domestic product
ILO	International Labour Office
ILO FACTS	ILO Financial and Actuarial Service
NRA	Normal retirement age
oPt	Occupied Palestinian Territory
PAYG	Pay-as-you-go
PCBS	Palestinian Central Bureau of Statistics
TFR	Total fertility rate

Acknowledgments

The ILO appointed the responsibility of the present report to the Regional Office for Arab States of the ILO and the Financial and Actuarial Service of the Social Security Department of the ILO (ILO FACTS). Mr. Pierre Plamondon, Actuarial Specialist for pensions, Mr. Gilles Binet, Actuarial Specialist for Maternity and Employment injury and Ms. Doan-Trang Phan, Expert in actuarial modelling, were assigned the task of suggesting a design for the proposed scheme, performing actuarial projections and preparing a draft actuarial report on the proposed social security scheme for the Occupied Palestinian Territory. Mr. Hiroshi Yamabana, Senior Actuary of ILO FACTS, assumed the actuarial responsibility for the project and Ms. Ursula Kulke, ILO Regional Coordinator for Arab States, coordinated the project, assumed responsibility for the policy design of the suggested system and provided clearance of the legal contents.

Mr. Plamondon, Mr. Binet and Ms. Phan, together with Ms. Kulke, undertook a mission to Ramallah in May 2013 to gather and study statistical data and to discuss the benefit provisions of the proposed social security system with the various stakeholders.

The Director-General of the ILO would like to express his appreciation to H.E. Dr. Ahmad Majdalani, the Palestinian Minister of Labour, for extending his trust in the ILO for conducting this actuarial valuation.

The ILO team benefited from the support of the Steering Committee, which is an ad hoc subcommittee of the National Social Security Committee, and in particular from the assistance of Ms. Buthaina Salem, Legal Advisor at the Ministry of Labour, and Dr. Atef Alawneh, Member of the Board of the Arab Islamic Bank, and Special Adviser to the Board of the Bank of Palestine. The ILO is grateful to the different stakeholders, including workers and employers representatives, who shared their time and knowledge about the Palestinian environment. Special thanks are addressed to the personnel of the Palestinian Central Bureau of Statistics (Mr. Mohammad Duraidi, Director of the Demographic Statistics Department and Ms. Suha W. Kana'an, Director of the Labour Statistics Department) who provided critical statistical information.

Executive summary

The ILO aims to support the Palestine tripartite constituents in the development and implementation of a social security scheme that includes Long-term benefits (old-age, disability and survivors' pensions), Maternity benefits and Employment injury benefits for private sector workers.

Proposed provisions and contribution rates

It is supposed that the scheme would be introduced on 1 January 2015.

The provisions of the contemplated schemes are presented in Section 1. They include, inter alia:

- A replacement rate of the old-age pension at 45 percent of average indexed career earnings after 30 years of contribution, with a minimum pension equal to 50 percent of the minimum wage;
- A normal retirement age of 60, with age credits for persons aged 46 and over at the introduction of the scheme;
- A ceiling on insurable earnings equal to 5 times the minimum wage;
- Maternity benefits equal to 100 percent of average earnings payable for 12 weeks;
- A move from the present system of compulsory insurance for employment injury (contracted by employers through insurance companies) to a complete social insurance scheme for Employment injury covering temporary and permanent disability, death and medical expenses.

The recommended contribution rates are as follows:

Branch	Workers	Employers	Total
Long-term	7.5%	8.5%	16.0%
Maternity	0.2%	0.3%	0.5%
Employment injury	–	1.6%	1.6%
Total	**7.7%**	**10.4%**	**18.1%**

Demographic and financial projections of the proposed scheme

Since the valuation concerns a new scheme, no specific social security data were available for establishing most of the actuarial assumptions. These limitations of the database may affect the precision of projections and influenced the modelling process. Nevertheless, the main conclusions of the actuarial valuation remain valid.

It is projected that the coverage under the scheme would be gradual because of the large number of small enterprises in the oPt (where coverage may be difficult to enforce) and the particular situation in the Gaza Strip. On that basis, the total number of contributors is projected to increase from 82,646 in 2015 to 336,440 in 2025.

Long-term benefits

The general average premium (GAP) of the Long-term branch, calculated over a period of 100 years, is estimated at 17.5 percent of insurable earnings. This may be compared to the contemplated contribution rate of 16.0 percent which is proposed for the Long-term branch. The pay-as-you-go (PAYG) cost of the scheme, that represents the contribution rate that would be necessary to finance current annual expenditures in the absence of reserve funds, would increase very slowly until 2050 (because of the maturing process of the scheme) and would reach 30.3 percent of insured earnings at the end of the projection period. The investment income generated by the excess of the contribution rate over the PAYG cost during the first 55 years of existence of the new scheme will compensate for the higher PAYG cost in the longer term (after 2070), thus maintaining a positive reserve for the next 100 years or so.

The proposed initial contribution rate of 16.0 percent, even if sufficient to ensure the financial sustainability of the scheme for several decades, may have to be modified at some point in time. However, it represents a good balance between the need to ensure an adequate initial financing of the scheme and the present capacity of employers and workers to support a given level of contributions.

An automatic mechanism is suggested in the report to adjust the contribution rate of the Long-term branch in the future. Periodic actuarial reviews will represent the tool to measure the adequacy of the contribution rate over time and to recommend adjustments if necessary.

Maternity benefits

The projected number of Maternity beneficiaries is projected to start at 1,381 women in 2015 and to gradually increase to a level around 12,000 from 2050 onwards.

The contribution rate of 0.50 percent of insured earnings allocated to the branch is sufficient to support the projected expenditures of the branch and will allow for the accumulation of a small contingency reserve. This contribution rate may be compared to the general average premium (GAP) of 0.36 percent for Maternity benefits.

Employment injury benefits

Since the data of public institutions involved in the management of occupational safety and health (OSH) activities are limited and those of private insurers providing liability coverage to employers were not available because of confidentiality rules, cost estimates have been based on a mix of national and international experience and thus subject to significant uncertainty.

The contribution rate for Employment injury benefits has been set at 1.6 percent of insured earnings and is sufficient to cover the benefit costs and administrative expenditures of an accident year under the recommended funding method, which is (1) PAYG for in-kind services and temporary disability benefits and (2) full-funding for disability and survivors pensions. The cost components for the first accident year are as follows:

Heath care and rehabilitation services	0.22%
Temporary disability benefits	0.22%
Permanent disability benefits	0.85%
Survivors' benefits	0.09%
Administration	0.20%
Total	**1.58%**

The recommended contribution rate for the Employment injury branch (1.6 percent of insurable earnings) could eventually vary according to the risk of the various industries.

Sensitivity tests and alternative design provisions

Sensitivity tests have been performed to measure the effect of certain assumptions on the cost of the Long-term branch. Sensitivity tests concern the scheme's coverage rates, the wage increases and the rate of return of the fund (Section 3.5). In addition, the report presents the financial impact of alternative design provisions regarding the normal retirement age, the accrual rate used in the pension formula and the number of years of contribution for eligibility to invalidity and survivors' benefits (Section 3.6).

The results of the valuation are particularly sensitive to two specific assumptions or provisions:

1. A rate of return of 4.0 percent on the social security funds has been assumed in the valuation because of the great uncertainty related to the economic situation of Palestine and the important constraints on investments in the territory. A rate of return of 5.0 percent instead of 4.0 percent would reduce the GAP of Long-term benefits from 17.5 to 15.2 percent, showing the sensitivity of this assumption.

2. The base scenario assumes a normal retirement age (NRA) of 60. This has been chosen for compatibility with the present provisions provided under the civil service pension scheme. However, a normal retirement age at 60 is low by international standards and contributes to the relatively high cost of the Long-term benefits branch. Sensitivity tests on different retirement ages show that important cost reductions could be possible with the application of a higher initial NRA, or a NRA that would gradually increase in line with the increase in life expectancy.

   For example, the application of a NRA of 63 instead of 60 would reduce the GAP from 17.5 to 16.5 percent. The application of a NRA of 65 instead of 60 would cause a reduction of the GAP from 17.5 to 15.8 percent. As a rule of thumb, each year of increase of NRA would allow a reduction of the required contribution rate of the Long-term branch by approximately 0.4 percent. For example, if the NRA is set at 65 instead of 60, the recommended contribution rate of the branch could be reduced from 16.0 to 14.0 percent.

   As regards the retirement age specified for the scheme, different policy choices could be made in light of the expected evolution of life expectancy, the behaviour of workers in the labour force and the financial impact of different NRAs.

Investments

Funds accumulated by the Palestinian social security institution will be important, but investment opportunities are scarce. The lack of investment opportunities results from various constraints faced by the Palestinian economy (lack of infrastructure, high price of facilities , lack of industrial zones, high cost of doing business because of security controls, difficulty to obtain entry visa for investors, etc.).

Considering the uncertainties concerning the investment opportunities in Palestine, social security funds should be invested at the earlier stage into government fixed-income securities, if available. Given the long-term horizon of the pension scheme and the continuous growth of the reserve which is anticipated over the coming decades, these social security investments should be of long duration. Suitable investments could also include corporate bonds and mortgages as these markets will develop. Considering the lack of opportunities and the risk associated with equity investments in the Palestinian private sector, investments abroad could be considered, at least for a small portion of the investment portfolio.

In the absence of suitable investment vehicles, it could be possible to establish the initial contribution rate of the Long-term branch at a level lower than the recommended 16.0 percent for a certain period.

Transition regarding employment injury coverage

There could be a need to maintain for some time the present system of employment injury coverage through private insurance while the new social insurance system will start its operation. Such a dual compensation systems (private insurance and social insurance coexisting for some time) would cause certain problems of application and legal issues. It will be necessary to establish a transition period (e.g. two years) for employers to cancel (or not renew) their insurance contracts and move to the new social insurance system. It will also be necessary to maintain the employer’s liability in case of employment injury during the period preceding the move to the new social insurance system.

Future actuarial valuations

Regular actuarial valuations should take place every three years in order to assess the financial sustainability of the scheme and allow for regular adjustments as necessary. If a mechanism is included in the law for the determination of future contribution rates (as it is recommended in the report), periodic actuarial valuations will represent the tool to determine contribution rates in the future.

Governance

The institution administering the social security scheme should be governed by a tripartite board. The investment of funds should be clearly separated from the day-to-day administration of the scheme. The new scheme will require a clear investment policy and full independence of investment managers.

Introduction

The social protection system in the oPt is very scattered and falls short of providing effective income security and access to health care for all Palestinians. There exist some social insurance schemes for workers in formal employment, which however, cover only few social security contingencies and mainly public sector employees. Even if the Retirement Law No. 7 of 2005 provides the legal basis for old-age insurance for public and private sector employees, the application of the law remains to the public sector only. Besides, neither employment injury benefits nor unemployment and maternity insurance, and health care benefits are yet implemented.

Therefore, with the lack of a national social security law, the oPt remains short of an effective and comprehensive social security system that extends coverage for all workers in the formal economy and their family members, as a means for providing income security, combating poverty and social exclusion. The oPt also lacks a tripartite social security institution which could administer and delivery social insurance benefits to insured workers and their family members.

The Palestinian National Development Plan 2011-2013 identified amongst its key priorities “the integration and reform of social safety nets and the implementation of a social protection strategy”. In order to accelerate the process of developing a comprehensive social security and protection system, the Palestinian Prime Minister Salam Fayyad established at the beginning of 2012 a Social Security Committee, which first task will be the adoption of a position paper based on three dimensions:

- outlining a vision for the social security sector strategy with clear priorities,
- actuarial study of the pension law, and
- tripartite institution building for social security administration, including capacity building for reviewing social security legislation and national social security policies.

Accordingly, and based on a series of consultations with the tripartite constituents in 2011, 2012 and 2013, the ILO included a component on social protection in the Decent Work Programme that is currently in the final stages of preparation. Specifically, the ILO aims to support the tripartite constituents in the progressive development and implementation of a comprehensive Social Security System that is in line with worldwide agreed social security principles and the minimum standards laid down in ILO social security Conventions and Recommendations, in particular the Social Security (Minimum Standards) Convention, 1952 (No. 102) and the Social Protection Floors Recommendation, 2012 (No. 202). The first step to achieve this objective is carrying out an actuarial study for the implementation of a pension scheme for private sector workers, covering old-age, disability and survivors’ pensions, and for the implementation of a maternity insurance and an employment injury scheme for private sector workers.

However, before carrying out an actuarial assessment to guarantee the sustainability of the envisaged new system, the design parameters of the different envisaged social security schemes had to be discussed and agreed upon by tripartite stakeholders. There was consent among tripartite stakeholders that this new social security system should be financed through contributions by employers and workers, administrated by a tripartite independent body, and with the Government as the ultimate guarantor of the system. The new social security system should further guarantee decent benefits, be based on sound financial assessments, be gradually implemented, and should initially offer pensions, employment injury benefits and maternity cash benefits.

The key design parameters of the new social security system which form the basis for the actuarial valuation are displayed in the Matrix in Annex 5. They are based on:

- Extensive consultations held with tripartite Palestinian stakeholders, and in particular the national tripartite Social Security Committee and the Social Security Steering Committee;
- Relevant provisions of the current Civil Servant Pension Scheme (Pension Law No. 7 of 2005), as this piece of legislation was adopted with a view to covering also private sector workers, even if its present application remains to the public sector only;
- Relevant provisions of the current Labour Law No. 7 of 2000; and
- International good practices and the most relevant ILO social security standard, which is the Social Security (Minimum Standards) Convention, 1952 (No. 102) that defines the nine "classical" social security contingencies, sets minimum standards for these contingencies and lays down basic social security principles.

The purpose of the present report is thus to present the actuarial assessment of the envisaged pension, maternity and employment injury schemes and to demonstrate their feasibility over a period of 100 years.

Section 1 of the report presents a description of the proposed social security scheme. Section 2 presents the background supporting the choice of certain design parameters. Demographic and financial projections of the proposed scheme are presented in Section 3. Section 4 discusses other topics related to the implementation of the proposed scheme. The description of the methodology of the valuation, the general demographic and macroeconomic framework and the actuarial assumptions specific to the scheme are presented in annex.

In this report, the terms *Occupied Palestinian Territory* (oPt) and *Palestine* are used interchangeably.

1. Key provisions of the proposed social security scheme

The recommended provisions of the contemplated social security scheme have been established on the basis of discussions with the different stakeholders, also considering the provisions of the existing pension scheme covering public sector workers and the ILO minimum standards. The proposed levels of benefits take into account the intention to keep the cost of the new social security scheme at an affordable level for workers and employers.

The rationale behind the choice of certain design parameters presented hereunder is explained in Section 2.

1.1 Scope

The scheme provides for the following benefits:

- Long-term benefits (old-age pension, survivors' pension, invalidity pension and funeral grant)
- Maternity benefits
- Employment injury benefits

1.2 Persons covered

The scheme covers workers in the private sector.

1.3 Financing

Recommended contribution rates are as follows:

Branch	Workers	Employers	Total
Long-term	7.5%	8.5%	16.0%
Maternity	0.2%	0.3%	0.5%
Employment injury	–	1.6%	1.6%
Total	**7.7%**	**10.4%**	**18.1%**

Maximum insurable earnings would be equal to 5 times the minimum wage (7,250 NIS in 2013).

1.4 Long-term benefits

1.4.1 Old-age pension

Eligibility

Normal retirement is possible from age 60 with 15 years of contribution (paid or credited). Early retirement is possible from age 55 with at least 15 years of contribution. An old-age grant is payable at normal retirement age if the period of contribution is less than 15 years.

For eligibility purposes, age credits will be granted to persons aged 46 and over at scheme's introduction, as follows:

Age at scheme's introduction	Age credit (years)
46	1
47	2
48	3
49	4
50	5
51	6
52	7
53	8
54	9
55 and over	10

Benefits

The old-age pension is equal to 1.5 percent per year of paid contributions, multiplied by the indexed career-average earnings. In case of early retirement, there is a lifetime reduction of 6 percent per year before normal retirement age.

The minimum pension is equal to 50 percent of minimum wage (it could also be established with reference to the poverty line). The minimum pension is prorated if the number of years of paid contributions is lower than 15. It is not available in case of early retirement.

The old-age grant is equal to the value of total contributions paid on behalf of the person, accumulated at a rate ensuring a positive real return (above inflation).

1.4.2 Survivors' pensions

Eligibility

Survivors' benefits are payable after 5 years of contribution.

Entitled survivors include:
- Widow or widows of the subscriber.
- Children younger than eighteen (18) years of age supported by the subscriber prior to his death.
- Children younger than eighteen (18) years of age or younger than twenty-four (24) years of age if pursuing their higher education, supported by the subscriber prior to his death.
- Children supported by the subscriber prior to his death and who are unable to earn a living by virtue of physical reasons.
- Unmarried, divorced or widowed female daughters and sisters.
- Parents of the subscriber.
- Husband of the female subscriber, if he was at the time of her death unable to earn a living in physical terms or unable to support himself.

Benefits

The pension to the spouse is equal to 50 percent of the old-age or disability pension in payment (or that would have been payable). For children, an additional 50 percent of the old-age or disability pension is shared among them.

Scheme's provisions will ensure that the level of benefit offered to survivors will meet the ILO minimum standards. Convention No. 102 provides that a widow with two children should be entitled to receive at least 40 percent of the earnings of the deceased worker.

1.4.3 Invalidity pension

Eligibility

The definition of disability is the inability to engage in any gainful activity which is likely to be permanent.

The invalidity pension is payable after 5 years of contribution.

Benefits

The invalidity pension is equal to 1.5 percent per year of contribution, multiplied by indexed career-average earnings. Years of contribution include the period from invalidity to normal retirement age. The invalidity pension is payable for life.

1.4.4 Funeral grant

Eligibility

Contributions must have been paid for at least 5 years.

Benefit

3,000 NIS.

1.5 Maternity benefits

Eligibility

The women must have paid contributions for at least 6 months during the year just preceding the maternity leave.

Benefits

Maternity benefits are equal to 100 percent of the average earnings during the 6 months preceding maternity leave.

Duration

Maternity benefits are payable for a maximum of 12 weeks.

1.6 Employment injury benefits

Benefits

Employment injury benefits are payable as follows:

- Temporary disability: 75 percent of salary at moment of accident ;
- Permanent total disability: 80 percent of average salary in the three months previous to the accident;
- Permanent partial disability: 80 percent of average salary in the three months previous to the accident multiplied by the percentage of disability.
- Death (survivors' pension):
  - Spouse: 50 percent of average salary in the three months preceding the accident
  - Child and other dependents (e.g. parents): 10 percent per dependent (maximum pension: 80 percent of reference salary)
- Funeral grant: 3,000 NIS
- Medical expenses: reimbursement of all necessary services, including emergency care, hospitalization, medical treatment, physiotherapy, prostheses and drugs.

Duration

Employment injury benefits are payable for the following durations:

- Temporary disability is payable until recovery, assessment of permanent disability or death.
- Permanent total disability is payable for life.
- Permanent partial disability is payable for life. It may be commuted if a business plan to start an enterprise is accepted by the agency. Reassessment of the percentage of disability is done 2 years after onset, and every 5 years thereafter until age 55.
- Death (survivors' pension):
  - Spouse: payable for life.
  - Children: payable until age 18 (or until age 24 if attending school).

1.7 Indexation

Pensions in payment and the funeral grant are indexed annually in line with CPI.

2. Discussion of certain design parameters of the proposed scheme

This section presents the rationale behind the choice of certain design parameters of the proposed scheme that were presented in Section 1.

2.1 Maximum insurable earnings

Financial projections of this valuation consider an earnings' ceiling equal to 5 times the minimum wage (equivalent to 7,250 NIS per month in 2013). According to ILO Convention n° 102, the earnings' ceiling should cover:

- the average earnings of a skilled manual male employee,
- the earnings of at least 75 percent of all insured persons, and
- at least 125 percent of the average earnings of insured persons.

According to PCBS data, the following observations may be made:

- The average monthly wage of male workers in the mining, quarrying, manufacturing and construction sectors (considered here as skilled workers) represents 1.5 times the minimum wage.
- 125 percent of the average earnings of all insured persons represents 1.7 times the minimum wage.
- An earnings ceiling equal to 2 times the minimum wage would be above the earnings of 75 percent of all insured persons. In addition, given the high concentration of salaries around the average, an earnings' ceiling at 2.5 times the minimum wage would almost cover the totality of the wage base of workers covered by the scheme, for both males and females.

From these considerations, maximum insurable earnings established at 2.5 times the minimum wage would be sufficient to meet the requirements of ILO Convention n° 102. However, it appears that enforcement of coverage for large enterprises (that pay higher wages) would be easier if they consider that a larger part of the wages of their employees is covered by the new scheme and that they do not need to introduce occupational pension schemes to complement social security benefits. Hence it is proposed to establish the maximum insurable earnings at 5 times the minimum wage, which is also the level set for the National Insurance Scheme of Israel.

2.2 Level of the old-age pension

The proposed formula for the old-age pension is 1.5 percent of insurable earnings per year of contribution. This would provide a replacement rate of 45 percent after 30 years of service. The ILO minimum standards provide for a replacement rate of 40 percent after 30 years of contribution. The proposed formula would keep costs at a reasonable level, while ensuring an adequate basic income at retirement.

2.3 Definition of average earnings for the calculation of pensions

For the calculation of pensions, it is recommended to use average earnings over the whole career of the individual. The suggested method is commonly referred to as the career average re-valued earnings formula whereby equal weight is given to wages in each year, with older wages re-valued or indexed to give them a current value. This method of calculating social security pensions is used in almost all OECD[1] countries. The proposed formula would ensure equity in the following manner:

- Participants with important wage increases towards the end of their career would not receive undue advantage (significantly higher pensions) just because their final earnings are high.

- Participants with earnings that decline towards the end of their career could be disadvantaged if the formula would use only the earnings over a short period preceding retirement.

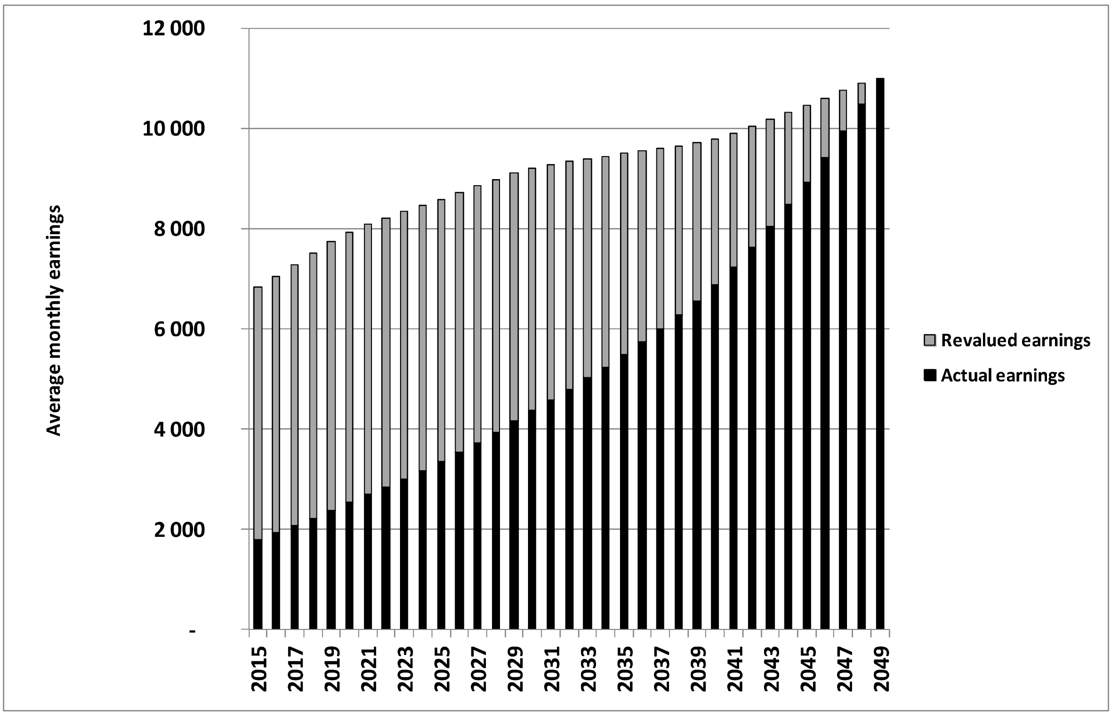
- Those who deliberately pay contributions on a low wage for many years, but significantly increase their declared earnings just before reaching the retirement age to obtain a higher pension would have very little extra benefit for doing so under a career-average formula, since each year's contribution is given an equal weight.

An example is presented hereunder of the application of the career average re-valued earnings formula. In the example, the person will contribute to the new scheme for 35 years (from age 25 in 2015 to age 60 in 2049) with insurable earnings of 1,800 NIS per month in 2015. The old-age pension will start in 2050. During his/her career, the earnings of the insured person are assumed to increase on the basis of the salary scale used in this valuation.

The first step consists in adjusting the past insurable earnings of the person. Chart 2.1 illustrates how past earnings would be adjusted in order to give them a 2049 value. To operate this revaluation, all the earnings during the career of the individual would be multiplied by a cumulative wage index for the period between the year these earnings were recorded and the year the pension becomes payable. The wage index could be calculated, for example, as the ratio of the earnings' ceiling of the year the pension becomes payable to the earnings' ceiling of the year in which the earnings were recorded. In that case, the wage index would be directly related to the evolution of the minimum wage.

[1] Organisation for Economic Co-operation and Development.

Chart 2.1 Revaluation of past earnings



The second step is the calculation of career average re-valued earnings. The sum of monthly re-valued earnings of the whole career is then divided by the total number of months of contribution. In our example, the average career monthly re-valued earnings are equal to 9,156 NIS in 2049.

The third step is the application of the pension rate to the average re-valued earnings. The minimum guaranteed pension is equal to 1.5 percent of average career monthly earnings, multiplied by the number of months of contribution, divided by 12.

The monthly pension of the person payable in 2050 would be calculated as:

(1.5% x 9,156) x (420 months of contribution / 12) = 4,807 NIS

2.4 Normal retirement age, age credits and early retirement

Since the scheme will require at least 15 years of contribution for eligibility to the old-age pension, it would take some time before the first old-age pensions be paid. It is thus proposed to grant age credits to persons aged 46 and over at scheme's introduction. These credits would be added to the actual contribution period in order to faster meet the minimum requirement of 15 years of contribution. It means that persons below the age of 56 at scheme's inception would become eligible for the old-age pension from age 60, as illustrated in Table 2.1, since they would then reach the minimum contributory period of 15 years when considering their paid and credited contributions. Persons older than 55 would need to contribute at least 5 years to become eligible, and so have access to the old-age pension at an age greater than 60.

Table 2.1 Age credits and earliest retirement ages

Age at scheme's introduction	Age credit (years)	First age of eligibility to the old-age pension (to reach 15 years of contribution)
65	10	70
64	10	69
63	10	68
62	10	67
61	10	66
60	10	65
59	10	64
58	10	63
57	10	62
56	10	61
55	10	60
54	9	60
53	8	60
52	7	60
51	6	60
50	5	60
49	4	60
48	3	60
47	2	60
46	1	60

It is also proposed to allow early retirement from age 55, with an adjustment of the pension. A lifetime reduction of 6 percent per year of early retirement would be close to the actuarial equivalence.

The normal retirement age (NRA) under the proposed scheme is established at age 60. This choice has been made because it is in line with the retirement age of the public sector pension scheme. However, a normal retirement age at 60 is low by international standards and contributes to the relatively high cost of the Long-term benefits branch (presented in Section 3). Section 3.6 presents the financial impact of different retirement ages that show the cost reduction that would be associated with a higher initial NRA, or a NRA that would gradually increase in line with the projected increase in life expectancy. As regards the retirement age specified for the scheme, different policy choices could thus be made in light of the expected evolution of life expectancy, the behaviour of workers in the labour force and the financial impact of different NRAs.

2.5 Minimum pension

It is proposed that the scheme guarantees a minimum pension equal to 50 percent of the minimum wage.

The average wage of insured persons in 2012 is 2,126 NIS for males and 1,800 NIS for females. In addition, on the basis of the wage model used for this valuation, it is estimated that 28 percent of male workers and 41 percent of female workers earn the minimum wage (1,450 NIS) in 2013.

It is possible to compare pensions at the minimum level with the poverty lines published by the PCBS. For 2011, the poverty line is established at 776 NIS per month for an individual. This represents 53.3 percent of the minimum wage. For a couple with no children, the poverty line is 1437 NIS, so equivalent to the minimum wage. An old-age pension paid after 35 years of service would provide 52.5 percent of earnings. Hence the scheme would guarantee to a person earning the minimum wage over the whole career an old-age pension approximately equal to the poverty line for an individual. For persons with shorter careers (generally more prevalent for women), the beneficial effect of the minimum pension would be greater.

Under the base scenario of the valuation and a minimum pension established at 50 percent of the minimum wage, around one third of new pensioners would be eligible for the minimum pension in the long term. Hence, the minimum pension should not be set at a higher level than this threshold in order to keep costs at a reasonable level.

As a matter of equity, for periods of contribution shorter than 15 years, the amount of the minimum pension should be prorated (this would apply to persons receiving age credits).

2.6 Employment injury: the necessary move to social insurance

A social insurance system for employment injury would entail a number of advantages compared to the present system of insurance coverage offered by insurance companies.

Problems with the present system

Presently, employers are not required to get insurance coverage for employment injury. To be covered, employers must contract with an insurance company and large enterprises actually do. However, an important number of employers do not get insurance (70% of workers are in enterprises that are not covered by insurance contracts). If the employer is not insured, he faces the risk of bankruptcy in case of claim.

Despite the efforts of the Ministry of Labour and its inspection team, an important number of accidents are not reported. The under-reporting of work injuries leads to a number of negative consequences. A large number of injured workers and their families do not receive an appropriate compensation. Some workers, especially those working in small enterprises, have a weak bargaining power and have no option but to agree to conceal the real cause of their injuries/diseases or to accept any illegal settlement offered by their employer. The lack of proper knowledge on the frequency and severity of work accidents and occupational diseases also make it difficult for the authorities to design and implement effective prevention measures and to monitor their impacts. Without reliable statistics, it is difficult to set appropriate targets and identify priority areas of action in which investments in prevention activities need to be made to reduce work-related accidents and diseases.

Other problems include the following:

- Occupational diseases are not covered. There is no diagnosis infrastructure.

- While partial disability is covered and the person has the right to go back to work as long as there is a suitable job available, the employer has no obligation to adapt the workplace to reintegrate partially disabled workers.

Advantages of a social insurance system

Social insurance provides a better protection to workers and to employers against the undesirable consequences of employment injuries, while maintaining an incentive to provide safe and healthy workplaces.

It offers a full and more predictable compensation system to all injured workers, not only those who can demonstrate employers' guiltiness. For example, in case of permanent incapacity and in case of death, insurance contracts generally provide for the payment of lump sums, while a social insurance scheme would pay periodic pensions (insurance companies prefer to administer lump-sums instead of indexed pensions, even for these long-term risks).

For employers, it provides full protection of their assets against the financial consequences of work injuries and do not let them manage their financial vulnerability through the private insurance market.

In addition, the free circulation of information offered by a public social insurance scheme is critical to the cohesion between compensation and prevention. Social insurance would create this necessary link between these two missions.

Finally, social insurance ensures effective representation of contributors (employers and workers) and the government concerning the management of the scheme. One of the reasons why private insurance contracts often are not in conformity with ILO Convention No. 121 concerns Article 24, which states that:

> *"Where the administration is not entrusted to an institution regulated by the public authorities or to a government department responsible to a legislature, representatives of the persons protected shall participate in the management, or be associated therewith in a consultative capacity, under prescribed conditions; national legislation may likewise decide as to the participation of representatives of employers and of the public authorities."*

Possible reaction of the insurance sector

Insurance for employment injury represents a significant part of the business of insurance companies (10 percent of their revenue). Hence it is expected that insurers would be opposed to the introduction of a social insurance Employment injury scheme.

3. Demographic and financial projections of the proposed scheme

This valuation deals with the ability of the proposed scheme to meet its future obligations at the time they fall due. This is done under an open-group approach. It is assumed that workers will continue to be insured by the scheme indefinitely, thus paying contributions, accruing benefit entitlements and later receiving benefits in accordance with the legal provisions of the system. Projections are performed over a period of 100 years in order to adequately present the long-term cost of the scheme after reaching a certain level of maturity and once the demographic evolution of the insured population has stabilised.

This review deals with the revenue and expenditures of the following benefits provided by the scheme: Long-term benefits (old-age, invalidity and survivors' pensions and the funeral grant), Maternity benefits and Employment injury benefits. The general methodology of the actuarial review is described in Annex 1. Future contributions and benefits are calculated according to the demographic and economic framework presented in Annex 2 and on the basis of the database and assumptions presented in Annex 3.

Since the valuation concerns a new scheme, no specific social security data were available for establishing most of the actuarial assumptions. In particular:

- PCBS data on wages were limited. Scarce data were available on wage distributions. Different cross-references were necessary in order to establish a coherent wage distribution.
- The retirement pattern under the new scheme has been deduced from the observed labour force structure. It must be realised that the introduction of a new pension scheme could affect the retirement behaviour of Palestinian workers.
- In the absence of data on invalidity incidence, assumptions had to be based on the experience of other countries.
- Regarding employment injury, limited data were obtained from insurers and from the Labour Inspection Department of the Ministry of Labour. Incidence rates for the different benefits had to be established on the basis of partial data and international experience.

These limitations of the database may affect the precision of projections and have influenced the modelling process. Nevertheless, the main conclusions of the actuarial valuation remain valid.

The main purpose of the valuation is to find out whether the financing of the scheme is on course, and not to forecast numerical values exactly. Due to the long-term nature of the assumptions, absolute figures contain a high degree of uncertainty. Therefore, results should be interpreted carefully and future actuarial reviews undertaken on a regular basis will make possible a validation of the assumptions in light of the actual experience.

The base scenario of this valuation considers the provisions of the scheme as described in Section 1. It is supposed that the scheme will enter into force on 1 January 2015. It must be noted that these projections were made without considering any rights arising from the transfer of contributions from Israel to the oPt concerning Palestinians working in Israel (discussed in Section 4.1).

3.1 Long-term benefits

Long-term benefits comprise the old-age pension, the invalidity pension, survivors' pensions and the funeral grant. This section presents demographic and financial projections concerning that branch.

Demographic projections

The projection of the population covered by the scheme has been calculated from the salaried employees of the private sector. This population has been adjusted to exclude Palestinians working in Israel and the settlements where it will be difficult to enforce coverage. It has also been considered that coverage will increase gradually over a certain period following the introduction of the scheme, that coverage will be difficult to enforce in small enterprises (which represent a large proportion of the economy) and that workers in the Gaza Strip will not be participating during the first 5 years of application. After a transition period, it is assumed that 60 percent of the population of salaried employees of the private sector (excluding workers in Israel and the settlements) will be covered by the scheme from year 2024 (detailed methodology concerning the covered population is presented in Section A3.1 of Annex 3).

On that basis, the total number of contributors will increase from 82,646 in 2015 to 336,440 in 2025 (see Table 3.1). Thereafter, the increase of the total Palestinian population and the consequent increase of the labour force will cause a continuous and moderate increase of the scheme's insured population.

The first old-age pensioners will appear only in 2020. They represent persons aged 60 and over at the entry into force of the scheme who benefit from an age credit of 10 years.

The ratio of contributors to pensioners will decrease continuously during the period of projection. It will eventually reach 1.6 in 2100.

Table 3.1 Projected number of contributors and pensioners of the Long-term benefits branch (2015-2100)

Year	Number of contributors *	Number of pensioners					Ratio of contributors to pensioners
		Old-age	Invalidity	Widows(ers)	Children	Total	
2015	82,646	–	–	–	–	–	–
2016	114,538	–	–	–	–	–	–
2017	148,670	–	–	–	–	–	–
2018	185,077	–	–	–	–	–	–
2019	205,840	–	–	–	–	–	–
2020	227,678	120	35	43	111	309	736.8
2025	336,440	2,143	1,148	1,455	2,166	6,912	48.7
2030	391,690	5,729	3,222	4,398	4,411	17,760	22.1
2035	451,347	10,164	5,809	8,599	5,818	30,390	14.9
2040	513,273	18,054	8,731	14,005	6,415	47,204	10.9
2045	573,747	31,883	11,962	21,091	7,248	72,185	7.9
2050	632,818	52,822	15,448	29,910	8,179	106,358	5.9
2060	729,416	115,800	22,600	52,360	9,078	199,838	3.7
2070	816,100	184,136	29,430	82,610	8,934	305,110	2.7
2080	886,458	255,599	35,810	116,698	8,667	416,773	2.1
2090	934,845	317,879	41,527	145,752	8,509	513,668	1.8
2100	963,315	372,154	46,783	169,817	8,060	596,815	1.6

* The number of contributors presented here represents the number of persons who pay at least one contribution during the year. It is different from the number of contributors observed during a given month because the density of contribution is lower than 100%.

Financial projections

Apart from being driven by the evolution of the number of beneficiaries, the cost of the proposed scheme will also be affected by the average amount of benefits paid to these persons. One indicator of the evolution of pension amounts is the pensions' replacement ratio (the ratio of the average pension to the average wage of active contributors). Table 3.2 presents replacement ratios of new pensioners in selected years for each type of pension.

The long-term replacement rate of new old-age pensioners is 58 percent in the long-term. The average invalidity pension is approximately the same level (it must be recalled that the contemplated scheme would grant contribution credits for the period between the inception of invalidity and the normal retirement age). Replacement rates for widows (and widowers) stand at a level slightly lower than half of old-age pensions because (1) in the case of deaths before retirement, the accumulated service will be lower compared to those who reach the normal retirement age, and (2) in the case of death after retirement, widows' pensions are calculated from old-age pensions in payment which have been indexed according to inflation (instead of wage increase) between the retirement age and the age at death.

Table 3.2 Projected replacement ratios of NEW pensioners (2020-2100)

Year	Old-age	Disability	Widows / widowers	Children
2020	14%	37%	5%	2%
2030	34%	45%	11%	4%
2040	45%	53%	19%	8%
2050	51%	57%	21%	10%
2060	57%	59%	23%	13%
2070	58%	59%	24%	15%
2080	58%	59%	25%	16%
2090	58%	58%	25%	17%
2100	58%	58%	25%	17%

Table 3.3 presents financial projections for Long-term benefits. It supposes a contribution rate of 16.0 percent of insured earnings for that branch. This contribution rate would be sufficient to maintain a positive reserve during the next 100 years or so.

The cost of a scheme, on a going-concern basis, may be measured by the general average premium (GAP). The GAP represents the constant contribution rate necessary to finance all benefits over a period of 100 years. The GAP is estimated at 17.5 percent of insurable earnings. This GAP may be compared to the contemplated contribution rate of 16.0 percent.

Table 3.3 also presents the pay-as-you-go (PAYG) cost of the scheme. It represents the contribution rate that would be necessary to finance current annual expenditures in the absence of reserve funds. The PAYG starts to increase very slowly until 2050 (because of the maturing process of the scheme) and reaches 30.3 percent at the end of the projection period.

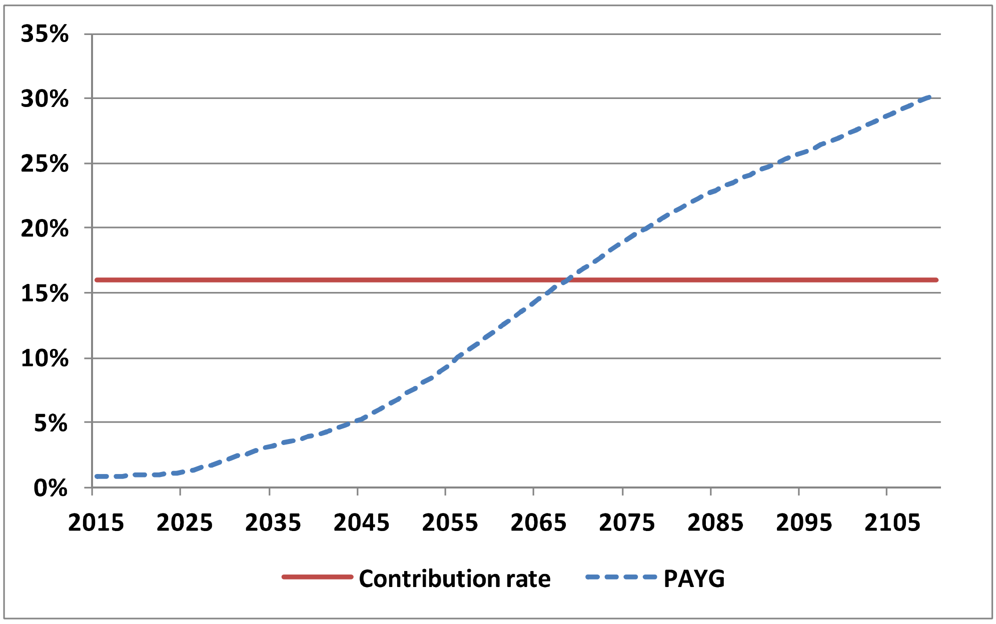
It must be remembered that these financial projections suppose a normal retirement age of 60. The financial impact of the application of different normal retirement ages is presented in Section 3.6.

Table 3.3 LONG-TERM BENEFITS – Projected revenue, expenditure and reserve of the proposed scheme, 2015-2110 (million NIS)

		REVENUE			EXPENDITURE			RESERVE		
Year	Contribution rate	Contribution income	Investment income	Total income	Benefits	Administrative expenses	Total expenditure	Amount (year-end)	Reserve ratio (number of times current year's expenditure)	PAYG (%)
2015	16.0%	329	6	335	-	16	16	319	19.4	0.8%
2016	16.0%	475	22	497	1	24	24	791	32.3	0.8%
2017	16.0%	642	44	686	1	32	34	1,443	43.0	0.8%
2018	16.0%	832	74	906	3	42	44	2,305	51.9	0.9%
2019	16.0%	966	111	1,077	8	48	56	3,326	59.5	0.9%
2020	16.0%	1,115	155	1,270	8	56	63	4,533	71.4	0.9%
2025	16.0%	2,033	508	2,540	52	102	154	14,061	91.4	1.2%
2030	16.0%	2,892	1,093	3,985	245	145	389	29,491	75.7	2.2%
2035	16.0%	4,068	1,955	6,023	609	203	812	52,110	64.1	3.2%
2040	16.0%	5,654	3,192	8,845	1,154	283	1,437	84,517	58.8	4.1%
2045	16.0%	7,736	4,914	12,650	2,177	387	2,564	129,468	50.5	5.3%
2050	16.0%	10,436	7,188	17,624	4,157	522	4,679	188,461	40.3	7.2%
2060	16.0%	17,925	13,322	31,247	12,606	896	13,502	346,122	25.6	12.1%
2070	16.0%	29,907	20,790	50,697	29,938	1,495	31,433	535,911	17.0	16.8%
2080	16.0%	48,507	27,325	75,832	61,657	2,425	64,083	697,497	10.9	21.1%
2090	16.0%	76,365	27,893	104,257	112,895	3,818	116,713	699,643	6.0	24.5%
2100	16.0%	117,472	13,215	130,687	194,546	5,874	200,419	299,238	1.5	27.3%
2110	16.0%	177,404	-36,158	141,246	327,486	8,870	336,356	-1,013,643	-3.0	30.3%

Chart 3.1 illustrates the difference between the contribution rate of the scheme (at 16.0 percent of insurable earnings) and the PAYG cost. It reveals that the investment income generated by the excess of the contribution rate over the PAYG cost during the first 55 years of existence of the new scheme will compensate for the higher PAYG cost in the longer term (after 2070), thus maintaining a positive reserve for the next 100 years or so.

Chart 3.1 LONG-TERM BENEFITS – Comparison of PAYG and contribution rate of the proposed scheme (2015-2110)



Financial projections show that the proposed initial contribution rate of 16.0 percent, even if sufficient to ensure the financial sustainability of the scheme for several decades, will have to be modified at some point in time. For the initial stage of application of the scheme, it represents a good balance between the need to ensure an adequate initial financing, the objective of a certain stability of the contribution rate and the present capacity of employers and workers to support a given level of contributions. Periodic actuarial reviews will represent the appropriate tool to measure the adequacy of the contribution rate over time and to recommend adjustments if necessary.

An automatic mechanism (or rule) should be adopted and included in the law for the determination of future contribution rates, on the basis of periodic actuarial valuations. In the future, the contribution rate of the Long-term branch could be established at a level equal to the larger of:

i) the contribution rate in application at the moment of the valuation, and

ii) the general average premium (GAP) calculated over the period of 50 years following the valuation date, rounded to the lowest 1.0 percent.

Such a rule would ensure a stability of the contribution rate for several decades, during the initial stage of maturation of the scheme, and would call thereafter for a gradual increase of the contribution rate towards its long-term level.

3.2 Maternity benefits

It has been assumed that the projected number of beneficiaries of Maternity benefits would be equal to the age-specific fertility rates (see Table 3.4) applied to the corresponding number of projected insured women. For the period 2015-2025, the applied fertility rates result from a weighted average of fertility rates projected for the West Bank and the Gaza Strip, in line with the specific increase in coverage that is assumed for the two territories during the initial stage of implementation of the scheme. Financial projections take into account the projected average earnings of female insured persons and the macroeconomic framework of the valuation. More detailed assumptions are presented in Annex 3.

Table 3.4 Age-specific fertility rates for selected years, by age of mother and territory

	West Bank		Gaza Strip	
Age	2015	2050	2015	2050
15-19	0.05044	0.03066	0.05172	0.03121
20-24	0.15193	0.11924	0.15894	0.12521
25-29	0.17086	0.16650	0.20457	0.18512
30-34	0.13718	0.11576	0.18389	0.13441
35-39	0.09520	0.06169	0.13276	0.07385
40-44	0.02681	0.01472	0.05038	0.02175
45-49	0.00301	0.00119	0.00709	0.00235
Total	**3.18**	**2.55**	**3.95**	**2.87**

Demographic projections

The projected number of Maternity beneficiaries is projected to start at 1,381 women in 2015 and to gradually increase to a level around 12,000 from 2050 onwards, as shown in the last column of Table 3.5. This is the result of two opposite factors. On one hand, the female insured population (in the private sector) is projected to increase over time under the demographic framework of the valuation and to follow the increase of the coverage rate that is projected during the period 2015-2015. On the other hand, the total fertility rate of the oPt (West Bank and Gaza Strip combined) is assumed to decrease from 3.5 in 2015 to 2.1 in 2075.

Table 3.5 Projected number of insured women and beneficiaries of Maternity benefits

Year	Number of insured women (private sector)	Number of beneficiaries
2015	13,730	1,381
2020	40,478	4,063
2025	62,594	6,181
2030	78,499	7,203
2040	116,208	9,506
2050	160,263	11,834
2060	188,659	12,258

Financial projections

Table 3.6 presents financial projections for Maternity benefits. It supposes a contribution rate of 0.50 percent of insured earnings for that branch.

The contribution rate of 0.50 percent allocated to the branch is more than sufficient to support the projected expenditures of the branch. This contribution rate may be compared to the general average premium (GAP) of 0.36 percent associated with this branch. However, it is recommended to set the contribution rate associated with Maternity benefits at a level slightly higher than the GAP in order to accumulate a small contingency reserve for facing any unexpected fluctuations of expenditure and/or income in the short-term. Financial projections show that it will take some years, under the proposed contribution rate, before the reserve ratio starts to show an increasing trend. The next actuarial review will represent an opportunity to look at a possible revision of the contribution rate of this branch.

Table 3.6 MATERNITY BENEFITS – Projected revenue, expenditure and reserve of the proposed scheme, 2015-2110 (million NIS)

		REVENUE			EXPENDITURE			RESERVE		
Year	Contribution rate	Contribution income	Investment income	Total income	Benefits	Administrative expenses	Total expenditure	Amount (year-end)	Reserve ratio (number of times current year's expenditure)	PAYG (%)
2015	0.5%	10	0	10	7.72	1	8	2	0.3	0.4%
2016	0.5%	15	0	15	11	1	12	5	0.4	0.4%
2017	0.5%	20	0	20	16	1	17	9	0.5	0.4%
2018	0.5%	26	0	26	20	1	22	13	0.6	0.4%
2019	0.5%	30	1	31	24	2	25	19	0.7	0.4%
2020	0.5%	35	1	36	28	2	30	25	0.8	0.4%
2025	0.5%	64	3	66	52	3	55	69	1.2	0.4%
2030	0.5%	90	5	96	74	5	79	138	1.7	0.4%
2035	0.5%	127	9	136	104	6	110	250	2.3	0.4%
2040	0.5%	177	16	192	145	9	154	419	2.7	0.4%
2045	0.5%	242	25	267	201	12	213	655	3.1	0.4%
2050	0.5%	326	38	364	268	16	285	994	3.5	0.4%
2060	0.5%	560	91	651	411	28	439	2,414	5.5	0.4%
2070	0.5%	935	223	1,158	622	47	669	5,898	8.8	0.4%
2080	0.5%	1,516	513	2,029	934	76	1,010	13,501	13.4	0.3%
2090	0.5%	2,386	1,079	3,466	1,415	119	1,535	28,291	18.4	0.3%
2100	0.5%	3,671	2,124	5,795	2,112	184	2,296	55,533	24.2	0.3%
2110	0.5%	5,544	3,982	9,526	3,138	277	3,415	103,862	30.4	0.3%

3.3 Employment injury benefits

Demographic projections

Demographic projections concerning Employment injury benefits are presented in Table 3.7. Temporary disability beneficiaries follow the general evolution of the number of active insured persons. Disability and widows' pensions, on the other hand, are paid for longer periods and their number gradually matures over the projection period. Orphans' pensions stabilize earlier because they are paid for shorter periods.

Table 3.7 Projected number of beneficiaries of employment injury benefits

	Temporary disability	Permanent disability	Widows pensions	Orphans pensions
2015	1,240	0	0	0
2016	1,718	13	2	6
2017	2,230	43	5	17
2018	2,776	84	10	30
2019	3,088	135	17	45
2020	3,415	195	24	61
2025	5,047	610	73	143
2030	5,875	1,168	134	201
2035	6,770	1,803	199	219
2040	7,699	2,509	268	218
2045	8,606	3,273	351	235
2050	9,492	4,076	444	264
2060	10,941	5,734	625	284
2070	12,242	7,322	786	267
2080	13,297	8,759	914	256
2090	14,023	10,068	998	239
2100	14,450	11,227	1,046	214

Financial projections

For the projection of Employments injury benefits, the cost drivers are the incidence rates and the severity of injuries in each accident year. Each component is determined by benefit category, in-kind services and cash benefits (separately for temporary disability, permanent disability and survivors' benefits). They reflect several societal factors such as industry mix, medical and judicial practices, as well as the culture and management of safety and security at work.

Since the data of public institutions involved in the management of occupational safety and health (OSH) activities are limited and those of private insurers providing liability coverage to employers are not available because of confidentiality rules, assumptions are based on a mix of national and international experience and thus subject to significant uncertainty. They have been kept constant over the projection period. The contribution rate should be revised a few years after implementation of the system as the actual experience will emerge.

A complete database should be obtained from insurers on employers' experience under insurance contracts for employment injury. These data would permit to establish a more precise costing for the Employment injury branch.

The recommended contribution rate of the Employment injury branch is set at 1.6 percent of insured earnings and is sufficient to cover the benefit costs and administrative expenditures of an accident year under the recommended funding method, which is (1) PAYG for in-kind services and temporary disability benefits and (2) full-funding for disability and survivors pensions. Table 3.8 shows the cost components for the first accident year (2015).

Table 3.8 Composition of the EI annual cost rate

Heath care and rehabilitation services	0.22%
Temporary disability benefits	0.22%
Permanent disability benefits	0.85%
Survivors' benefits	0.09%
Administration	0.20%
Total	**1.58%**

A mixed funding mechanism is recommended because it is appropriate to implement contribution rates differentiated by industry risk as it prevents cost transfers between generations of employers. If stakeholders are willing to implement an industry-based rating, it should be introduced gradually, after a certain period following the introduction of the social security system, when the volume of data will become statistically credible. An earlier adoption could be possible if private insurers make available their database or if employers submit audited information regarding their employment injury costs.

Table 3.9 presents the evolution of the EI fund over the projection period.

Table 3.9 EMPLOYMENT INJURY BENEFITS – Projected revenue, expenditure and reserve of the proposed scheme, 2015-2110 (million NIS)

Year	Contribution rate	REVENUE			EXPENDITURE			RESERVE		PAYG (%)
		Contribution income	Investment income	Total income	Benefits	Administrative expenses	Total expenditure	Amount (year-end)	Reserve ratio (number of times current year's expenditure)	
2015	1.6%	33	1	33	1	5	6	28	4.7	0.3%
2016	1.6%	47	2	49	7	7	14	62	4.3	0.5%
2017	1.6%	64	3	68	13	10	23	107	4.6	0.6%
2018	1.6%	83	5	89	19	12	32	164	5.2	0.6%
2019	1.6%	97	8	104	26	14	40	228	5.6	0.7%
2020	1.6%	112	10	122	32	17	49	301	6.2	0.7%
2025	1.6%	203	31	234	74	30	104	842	8.1	0.8%
2030	1.6%	289	61	350	127	43	170	1,635	9.6	0.9%
2035	1.6%	407	103	510	202	61	263	2,727	10.4	1.0%
2040	1.6%	565	160	725	309	85	393	4,207	10.7	1.1%
2045	1.6%	774	235	1,009	455	116	571	6,173	10.8	1.2%
2050	1.6%	1,044	334	1,378	654	157	810	8,740	10.8	1.2%
2060	1.6%	1,792	619	2,411	1,252	269	1,521	16,110	10.6	1.4%
2070	1.6%	2,991	1,056	4,047	2,245	449	2,694	27,413	10.2	1.4%
2080	1.6%	4,851	1,712	6,563	3,841	728	4,569	44,332	9.7	1.5%
2090	1.6%	7,636	2,652	10,289	6,352	1,145	7,497	68,536	9.1	1.6%
2100	1.6%	11,747	3,931	15,678	10,232	1,762	11,994	101,340	8.4	1.6%
2110	1.6%	17,740	5,554	23,294	16,127	2,661	18,788	142,832	7.6	1.7%

3.4 Expenditure and reserve as percentage of GDP

Table 3.10 shows that the scheme will have a long maturing process, with total pension expenditures increasing slowly during the first 35 years of application of the new scheme, representing 0.9 percent of GDP in 2050. The coverage of the scheme being limited to the private sector and the relatively low coverage rates that may ultimately be reached will limit the global impact of the scheme.

Table 3.10 Total expenditures and reserve of the proposed scheme, as percentage of GDP

Year	Total expenditures as % of GDP	Reserve as % of GDP
2015	0.1%	0.7%
2016	0.1%	1.5%
2017	0.1%	2.5%
2018	0.1%	3.7%
2019	0.2%	4.9%
2020	0.2%	6.1%
2025	0.3%	12.9%
2030	0.4%	18.7%
2035	0.5%	23.3%
2040	0.6%	26.9%
2045	0.7%	29.7%
2050	0.9%	31.7%

The reserve of the scheme will increase rapidly, representing 12.9 percent of GDP in 2025 and 31.7 percent in 2050. This reserve will have to be invested productively but, as discussed in Section 4.2, investment opportunities appear scarce in Palestine. The determination of the initial contribution rate to be applied to the Long-term branch may have to consider this reality in addition to the objective of stability of the contribution rate.

3.5 Sensitivity tests

Projections include an extensive set of demographic, economic and scheme-specific assumptions. Actual experience will inevitably differ from projections. This section analyses alternative assumptions regarding (1) scheme's coverage rates, (2) wage increases and (3) the rate of return of the fund. It presents their effect on the GAP of Long-term benefits and on the PAYG cost in 2110.

Projected coverage rates

The results of the valuation are not very sensitive to the long-term coverage rate. If it is assumed that the ultimate coverage rate will reach 80 percent instead of 60 percent, both the GAP and the long-term PAYG rate are similar to the base scenario (see Table 3.11).

Table 3.11 Sensitivity test on projected coverage rates (% of insurable earnings)

Scenario	GAP of Long-term benefits	PAYG in 2110
Base scenario (ultimate coverage of 60%)	17.5%	30.3%
Sensitivity test (ultimate coverage of 80%)	17.5%	30.3%

Projected wage increases

The base scenario assumes that wages will increase in the future at a real rate of 1.0 percent (nominal rate of 4 percent with an inflation rate of 3.0 percent). Table 3.12 shows that with a real wage increase assumption of 1.5 percent instead of 1.0 percent, the GAP would decrease from 17.5 to 16.5 percent and the PAYG in 2110 would decrease from 30.3 to 28.4 percent.

Table 3.12 Sensitivity test on projected wage increases (% of insurable earnings)

Scenario	GAP of Long-term benefits	PAYG in 2110
Base scenario (real wage increase of 1.0%)	17.5%	30.3%
Sensitivity test (real wage increase of 1.5%)	16.5%	28.4%

Rate of return of the fund

The results of the valuation are very sensitive to the assumed rate of return of the social security fund. With a rate of return 1.0 percent higher (5.0 percent per year instead of 4.0 percent), Table 3.13 shows that the GAP would decrease from 17.5 to 15.3 percent. The PAYG cost is not affected by this assumption because this cost measure does not consider the reserve accumulated under the scheme.

Table 3.13 Sensitivity test on the rate of return of the fund (% of insurable earnings)

Scenario	GAP of Long-term benefits	PAYG in 2110
Base scenario (4% return)	17.5%	30.3%
Sensitivity test (5% return)	15.3%	30.3%

3.6 Alternative design provisions

During discussions regarding the design of the scheme, the stakeholders have asked to measure the financial impact of certain alternative provisions departing from those described in Section 1. They concern (1) the normal retirement age,

(2) the accrual rate used in the pension formula and (3) the number of years of contribution for eligibility to invalidity and survivors' benefits.

Increase of the normal retirement age

Table 3.14 presents the result of the application of different normal retirement ages (NRA). The base scenario uses a normal retirement age of 60. Three additional scenarios are presented with a retirement age of 63, a retirement age of 65 and a retirement age that starts at 60 but increases by one year every 15 years.

For example, the application of a NRA of 63 instead of 60 would cause a reduction of the GAP from 17.5 to 16.5 percent. The application of a NRA of 65 instead of 60 would cause a reduction of the GAP from 17.5 to 15.8 percent.

As a rule of thumb, each year of increase of NRA would reduce the required contribution rate of the Long-term branch by approximately 0.4 percent. For example, if the NRA is set at 65 instead of 60, the recommended contribution rate of the branch could be reduced from 16.0 to 14.0 percent.

Table 3.14 Alternative scenarios on the increase of the normal retirement age (% of insurable earnings)

Scenario	GAP of Long-term benefits	PAYG in 2110
Base scenario (age 60)	17.5%	30.3%
Alternative scenario (age 63)	16.5%	29.1%
Alternative scenario (age 65)	15.8%	28.0%
Alternative scenario (age 60 increasing by one year every 15 years)	16.0%	27.1%

Accrual rate of the pension formula

This alternative scenario presents the impact of introducing a pension formula at 2.0 percent of insurable earnings, instead of 1.5 percent. Under such a scenario, the GAP would increase from 17.5 to 21.9 percent and the PAYG rate in 2110 would increase from 30.3 to 38.3 percent (see Table 3.15). It shows that the contribution rate required to support such a level of benefits would have to be substantially higher than what is recommended in this report. Such a level of pension would bring up the cost of the scheme to unaffordable levels.

Table 3.15 Alternative scenario on the accrual rate of the pension formula (% of insurable earnings)

Scenario	GAP of Long-term benefits	PAYG in 2110
Base scenario (1.5% per year of contribution)	17.5%	30.3%
Alternative scenario (2.0% per year of contribution)	22.0%	38.3%

Number of years of contribution for eligibility to invalidity and survivors' benefits

Under the base scenario, 5 years of contribution are required for eligibility to the invalidity and survivors' benefits. Under this alternative scenario, the eligibility period would be reduced to 2 years. Table 3.16 shows that this shorter period for eligibility to these benefits would cause an increase of the GAP from 17.5 to 17.6 percent and the PAYG in 2110 would increase from 30.3 to 30.4 percent.

Table 3.16 Alternative scenario on the number of years of contribution for eligibility to invalidity and survivors' benefits (% of insurable earnings)

Scenario	GAP of Long-term benefits	PAYG in 2110
Base scenario (5 years)	17.5%	30.3%
Alternative scenario (2 years)	17.6%	30.4%

4. Other issues

This section discusses various topics related to the introduction of the new social security scheme.

4.1 Recognition of the rights of Palestinians working in Israel

It must be recalled that projections presented in Section 3 do not consider any rights arising from the transfer of contributions from Israel to the oPt concerning Palestinians who have worked in Israel.

Funds to be transferred

An annex to the *Protocol on Economic Relations between the Government of the State of Israel and the P.L.O.* (the Paris Protocol of 1994) deals, in its Article VII, with labour issues and in particular with the question of transfer of social security contributions between Israel and the oPt. The relevant extracts from the Paris Protocol appears in Annex 4. According to this agreement:

> *"Israel will transfer, on a monthly basis, to a relevant pension insurance institution to be established by the Palestinian Authority, pension insurance deductions collected after the establishment of the above institution; these deductions will be collected from wages of Palestinians employed in Israel and their employers, according to the relevant rates set out in the applicable Israeli collective agreements; the sums so transferred will be used for providing pension insurance for these workers. Israel will continue to be liable for pension rights of the Palestinian employees in Israel, to the extent accumulated by Israel before the entry into force of the agreement.*
>
> *Upon the receipt of the deductions, the Palestinian Authority and its relevant social institutions will assume full responsibility in accordance with the Palestinian legislation and arrangements, for pension rights and other social benefits of Palestinians employed in Israel, that accrue from the transferred deductions related to these rights and benefits. Consequently, Israel and its relevant social institutions and the Israeli employers will be released from, and will not be held liable for any obligations and responsibilities concerning personal claims, rights and benefits arising from these transferred deductions*."

From the agreement, it appears that the transfer of contributions from Israel to the oPt would apply only for the period following the creation of the social security institution in oPt (no retroactive effect). However, the provisions of the Israeli National Insurance scheme does not provide for the payment of benefits to persons living in Palestine. So it could be expected that Israel and the oPt would eventually reach an agreement whereby Israel would transfer to the Palestinian social security scheme the funds related to contributions paid by Palestinian workers in Israel before the entry into force of the Palestinian social security scheme.

Israel could transfer these contributions in two ways:

i) Pay benefits directly to Palestinians living outside Israel as they come due. This would be similar to the application of an international social security agreement under which Israel National Insurance pensions would become payable abroad, or

ii) Transfer a global amount to the Palestinian social security scheme corresponding to the accumulated value of contributions paid in Israel by Palestinian workers.

In the case of scenario (ii), the new Palestinian social security scheme would obtain the funds necessary to recognize social security rights associated with past contribution periods accomplished in Israel.

No precise estimate exists of the accumulated value of these past contributions paid in Israel. According to PCBS, 59,048 persons were registered as employed in Israel and the settlements in 2012. This represents 7.1 percent of the total Palestinian employment. On the other hand, partial data from the Ministry of Finance of Israel have circulated concerning payroll deductions from the salaries of approximately 29,000 Palestinian workers in Israel during the first 9 months of 2012 (see Table 4.1). The nature of pension contributions appearing in that table is not clear and could include contributions associated with complementary schemes in addition to National Insurance contributions.

Table 4.1 Monthly deductions from salaries of registered Palestinian workers in Israel in 2012 (in NIS)

Month	Number of workers (note 1)	Number of working days	Total salaries	Pension contributions	Health insurance	Income tax	Histadrut deductions (note 2)
January	27,338	474,131	120,900,286	22,986,169	2,515,650	1,362,901	820,106
February	28,786	532,067	139,943,861	26,077,625	2,750,289	1,159,516	947,783
March	27,256	494,757	131,104,220	25,005,544	2,594,421	1,119,768	888,040
April	28,792	519,362	138,494,635	26,504,693	2,901,507	1,162,429	939,067
May	27,531	549,232	145,345,120	27,763,087	2,605,116	1,127,492	984,258
June	29,034	612,349	162,152,526	31,068,294	2,899,275	1,172,202	1,096,680
July	26,885	512,349	137,677,537	26,130,610	2,503,932	1,247,001	932,594
August	28,880	493,287	132,410,757	25,003,044	2,785,536	1,220,639	897,698
September	30,298	458,990	124,001,103	23,197,868	2,698,860	1,274,718	848,869

Note 1: These data indicate significant underreporting.
Note 2: Union dues.
Source: Ministry of Finance of Israel.

A precise estimate of the initial funds that could eventually be transferred from Israel to the oPt for the recognition of rights accrued under the Israeli pension system is not possible without obtaining more complete information from the Israeli authorities (Ministry of Finance). In addition, the application of the Paris Protocol to pension contributions associated with occupational pension plans and other social benefits will have to be clarified.

Rights to be recognized by the Palestinian scheme under the scenario of a global transfer from Israel

Once the global amount to be transferred from Israel to the oPt will be known (and segregated by individual worker), it will be necessary to determine the rights or potential benefits that will arise from the recognition of these past contributions paid in Israel. There are two ways to operate this recognition:

1. Based on the defined-contribution approach, the amount transferred on behalf of each individual would be set aside in an individual account and would be converted into benefits at the occurrence of a specific contingency. This approach would ensure the cost neutrality of the operation.

2. Based on the defined-benefit approach, periods of contribution in Israel would be recognized as past service for the determination of eligibility and benefits under the Palestinian scheme. Under that approach, the value of benefits arising from past periods of coverage in Israel could be higher or lower than contributions transferred from Israel to the oPt, hence generating cost savings or additional expenditures for the Palestinian scheme. However, it should be possible to determine a formula for the recognition of those rights that would aim at cost neutrality for the scheme.

From a social security point of view, the defined-benefit approach would be preferable for the following reasons:

- Under a defined-benefit scheme, the individual does not have to bear the risks associated with the rate of return of the funds before retirement and inflation after retirement.

- Under a defined-contribution scheme, the individual who does not choose to convert funds into a life annuity faces the risk of longevity.

- The recognition of past service makes easier for the individual to meet the minimum eligibility conditions for pensions.

- The individual can benefit from minimum pension provisions.

- The use of a single collective social security fund (instead of individual accounts) facilitates the attainment of redistribution objectives inherent in a social security scheme.

4.2 Investments

As shown in Section 3.3, total funds accumulated under the scheme will represent 12 percent of GDP in 2025. Investment opportunities will thus be necessary to absorb this important level of funds available.

According to the PCBS, 3.5 billion $ of investments would be needed each year in Palestine, while actual investments amount to only 615 million $. The lack of investments results from various constraints faced by the Palestinian economy. In agriculture, 62 percent of the land in the West Bank is occupied and any construction is subject to Israel approval. There are clear opportunities in tourism but the sector faces restrictions by Israel on the entry of foreigners to the Palestinian territory. Investment possibilities exist in stone and marble and in infrastructures, but constraints are important. The Palestinian industry cannot import raw material for transformation and has difficulty in developing industrial zones because of security constraints. There are tax incentives to invest in certain sectors, but the local market is small for investment. The Ministry of Economy is working on a revision of the investment law to provide incentives for investments to local investors and to attract foreign investments.

> *Movement into and out of the West Bank continues to be severely constrained by a multi-layered system of physical, institutional, and administrative restrictions that have fragmented the territory into small enclaves lacking most forms of economic cohesion. Although physical restrictions are the most visible, there are other, often unpredictable, measures and practices that have a profound economic impact on private sector firms. For example, the high level of uncertainty linked to the political environment makes Palestinian firms reluctant to make further investments or upgrade their product lines. Obtaining visas for foreign investors to enter the Palestinian territories is controlled by the GoI, and investors report facing high levels of uncertainty in obtaining such permits which discourages them from exploring potential business opportunities (...) The West Bank is endowed with a variety of significant tourism sites that could be developed to provide a large number of jobs. However, many of these sites are within Area C, largely preventing Palestinian development opportunities.*[2]

On the same line, the Palestinian Investment Promotion Agency (PIPA) has identified the following problems concerning investments in Palestine:

- Lack of infrastructure;
- High price of facilities (e.g. electricity);
- Lack of industrial zones;
- High cost of doing business because of security controls;
- Difficulty to obtain entry visa for investors.

Regarding fixed-income investments, according to the Palestinian Monetary Authority (PMA), banks lending rates vary between 5 percent (in USD) and 7 percent (in NIS). Deposit rates are very low (1.0 to 1.5 percent) and corporate bond rates yield around 5 percent, according to a recent PADICO issue. The introduction of Islamic bonds and government bonds is envisaged in the short run.

It is true that possible investments in Palestine include stocks and corporate bonds (the stock market includes 40 corporations with a capitalisation of 2.8 billion$). However, even if the system is well regulated, the stock market is not very active (liquidity problem) and relatively risky. Mortgages and leasing are not well developed in Palestine.

Considering the uncertainties concerning the investment opportunities in Palestine, social security funds should be invested at the earlier stage into government fixed-income securities, if available. Given the long-term horizon of the pension scheme and the continuous growth of the reserve which is

---

[2] World Bank, *Fiscal Crisis, Economic Prospects, The Imperative for Economic cohesion in the Palestinian Territories, Economic Monitoring Report to the Ad Hoc Liaison Committee*, September 23, 2012.

anticipated over the coming decades, these social security investments should be of long duration. Suitable investments could also include corporate bonds and mortgages as these markets will develop. Considering the lack of opportunities and the risk associated with equity investments in the Palestinian private sector, investments abroad could be considered, at least for a small portion of the investment portfolio. In any case, it will be important that the investments of the proposed pension scheme will guarantee, as much as possible, the security of capital and will offer a protection against inflation.

In the absence of suitable investment vehicles, it could be possible to establish the initial contribution rate of the Long-term branch at a level lower than the recommended 16.0 percent for a certain period.

4.3 Transition regarding Employment injury coverage

The base scenario of this valuation assumes that the coverage of workers under the new social security scheme will start at a relatively low level and will increase gradually. In the case of Long-term and Maternity benefits, this does not cause any problem of application since rights to benefits are gradually accumulated by insured persons as contributions are paid to the new system.

However, in the case of Employment injury coverage, it means that there could be a need to maintain for some time the present system of employment injury coverage through private insurance while the new social insurance system will start its operation. Such a dual compensation systems (private insurance and social insurance coexisting for some time) would cause certain problems of application and legal issues. Inter alia, it will be necessary to:

- establish a transition period (e.g. two years) for employers to cancel (or not renew) their insurance contracts and move to the new social insurance system. During that period, compensation of workers for employment injury will depend on the actions of his/her employer.

- maintain the employer’s liability in case of employment injury during the period preceding his move to the new social insurance system;

- maintain the employer’s liability in case of employment injury if the employer does not adhere to the new social insurance system (this will apply to employers who do not get private insurance for employment injury in the present context and do not adhere to the new system).

The contribution rate of 1.6 percent recommended for the Employment injury branch would be adequate no matter the length of the transition period.

4.4 Future actuarial valuations

Regular actuarial valuations should take place every three years in order to assess the financial sustainability of the scheme and allow for regular adjustments as necessary.

If, as recommended in Section 3.1, an automatic mechanism is included in the law for the determination of future contribution rates, periodic actuarial valuations will represent the tool to determine contribution rates in the future.

4.5 Governance

In line with international social security principles, the institution administering the social security scheme should be governed by a tripartite board in order to give effective representation to contributors (employers and workers) and the government.

The investment of funds should be clearly separated from the day-to-day administration of the scheme. The new scheme will require a clear investment policy and full independence of investment managers.

It will be important that the administration of the new scheme be based on complete and accurate data. Efficiency of administration and record-keeping are key to the success of the contemplated social security scheme.

Conclusion

The report has presented a possible design for the contemplated Palestinian social security system, including Long-term benefits (old-age pension, invalidity pension, survivors' pensions and funeral grant), Maternity benefits and Employment injury benefits. The proposed benefit package ensures the respect of ILO standards and results in the application of realistic contribution rates.

The question of the recognition of rights of Palestinians working in Israel linked to a transfer of funds from Israel to the oPt remains to be assessed with more data to be obtained from the Israeli government, in order to correctly define the benefits that should be granted to insured persons on the basis of these past contributions.

The question of defining the normal retirement age under the scheme should be further analysed in light of the labour force needs, the individual retirement patterns and the expected cost of the scheme. Alternative scenarios show that significant cost savings could result from an increase of the normal retirement age (presently established at age 60 under the proposed scheme).

On the question of the cost of the Employment injury branch, a complete database should be obtained from insurers on employers' experience under insurance contracts for employment injury. These data would permit to establish a more precise costing for the Employment injury branch.

According to the financial projections presented in this report, the reserve of the scheme will increase rapidly because of the long maturing process of the Long-term branch. But investment opportunities appear scarce in Palestine. The determination of the initial contribution rate of the Long-term branch will have to take into account this reality.

Annex 1 Methodology of the actuarial valuation

This actuarial review makes use of the comprehensive methodology developed at the ILO Financial and Actuarial Service for reviewing the long-term actuarial and financial status of national pension schemes. These modelling tools include a population model, an economic model, a labour force model, a wage model and a pension model.

The actuarial valuation starts with a projection of the future demographic and economic environment of Palestine. Next, projection factors specifically related to the scheme under study are determined and used in combination with the demographic and economic framework.

A1.1 Modelling the demographic and economic environment

The use of the ILO actuarial projection model requires the development of demographic and economic assumptions related to the general population, the economic growth, the labour market and the increase and distribution of wages. Other economic assumptions relate to the future rate of return on investments, the indexation of benefits and the adjustment of parameters like the maximum insurable earnings.

The selection of projection assumptions takes into account recent experience to the extent this information is available. The assumptions are selected to reflect long-term trends rather than giving undue weight to recent experience.

General population

General population is projected starting with most current data on the general population (obtained from PCBS), and applying appropriate mortality, fertility and migration assumptions.

Economic growth

Increase of the productivity of labour, wage share of GDP and inflation rates are exogenous inputs to the economic model. Real GDP growth is the result of assumptions on the future evolution of the labour force, the employment rate in the labour force and the productivity of labour.

Labour force, employment and insured population

The projection of the labour force, i.e. the number of persons available for work, is obtained by applying assumed labour force participation rates to the projected number of persons in the general population. Age-specific employment rates are assumed constant in the future. The number of unemployed persons is then calculated as the difference between labour force and the number of employed persons.

The model assumes (implicit) movement of participants between the groups of active and inactive insured persons.

Wages

Based on an allocation of total GDP to capital income and to labour income, a starting average wage is calculated by dividing total wages in the GDP by the total number of employed persons.

In the medium term, real wage development is checked against the labour productivity growth. In specific labour market situations, wages might grow at a pace faster or slower than productivity. However, due to the long-term perspective of the present review, the real wage increase is assumed to converge with real labour productivity. It is expected that wages will adjust to efficiency levels over time.

Wage distribution assumptions are also needed to simulate the possible impact of the social protection system on the distribution of income, for example through minimum and maximum pension provisions. Assumptions on the differentiation of wages by age and gender are established, as well as assumptions on the dispersion of wages between income groups.

A1.2 Modelling the financial development of the scheme

The present actuarial review addresses all revenue and expenditure components of the contemplated social security scheme. The most important component concerns long-term (pension) benefits. This section focuses on them.

For Maternity benefits, income and expenditures are projected using simple projection methods using general fertility rates and insured wages of women. For Employment injury benefits, revenues and expenditures are projected using a model specifically developed by the ILO for that branch.

Purpose of pension projections

The purpose of the pension model is twofold. First, it is used to assess the financial viability of the pension scheme. This refers to the measure of the long-term balance between income and expenditure of the scheme. In case of imbalance, a revision of the contribution rate or the benefit structure is recommended. Second, the model may be used to examine the financial impact of different reform options, thus assisting policy-makers in the design of benefit and financing provisions. More specifically, the pension model is used to develop long-term projections of expenditures and insurable earnings under the scheme, for the purpose of:

- assessing the options to build up a contingency or a technical reserve;
- proposing a contribution rate consistent with the funding objective;
- testing how the system reacts to changing economic and demographic conditions.

Pension data and assumptions

Pension projections require the demographic and macro-economic frame already described and, in addition, a set of assumptions specific to the scheme.

The database as of the valuation date includes the insured population, the distribution of insurable wages of insured persons and the distribution of past credited service. Data are disaggregated by age and gender.

Scheme-specific assumptions such as the disability incidence rates and the incidence of retirement by age are determined with reference to the scheme provisions and views about the future evolution of retirement behaviour.

The projection of the annual investment income requires information on the existing assets on the valuation date. A rate of return assumption is formulated on the basis of the nature of the scheme's assets, the past performance of the fund, the scheme's investment policy and assumptions on future economic growth and wage development.

Pension projection approach

Pension projections are performed following a year-by-year cohort methodology. The existing population is aged and gradually replaced by the successive cohorts of participants on an annual basis according to the demographic and coverage assumptions. The projection of insurable earnings and benefit expenditures are then performed according to the economic assumptions and the scheme's provisions.

Pensions are long-term benefits. Hence the financial obligations that a society accepts when adopting financing provisions and benefit provisions for them are also of a long-term nature. Participation in a pension scheme extends over the whole adult life, either as contributor or beneficiary, i.e. up to 70 years for someone entering the scheme at the age of 16, retiring at the age of 65 and dying some 20 or so years later. During their working years, contributors gradually build entitlement to pensions that will be paid even after their death, to their survivors. The objective of pension projections is not to forecast the exact development of income and expenditures of the scheme, but to check its financial viability. This entails evaluating the scheme with regard to the relative balance between future revenue and expenditure.

Annex 2 Projected demographic and macroeconomic environment of Palestine

Future income and expenditure of the proposed scheme are closely linked to changes in the size and age structure of the population of the country, employment levels, economic and wage growth, inflation, and rates of return on investments. Therefore, in order to estimate the future financial developments of the scheme, a projection of Palestine's total population and economic activity is required. Demographic projections provide estimates of the size and composition of the labour force, while projections of the gross domestic product (GDP) and the growth of labour productivity are necessary to project the number of workers and their earnings.

Demographic and macroeconomic variables were projected following an analysis of past trends and an estimate of plausible future experience. Population and economic projections are an intermediary step to derive projections specific to the proposed scheme.

A2.1 Population projection

The determinants of future population changes are fertility, mortality and net migration. Fertility rates determine the number of births, while mortality rates determine how many and at what ages people are expected to die. Net migration represents the difference between the number of people who permanently enter and leave Palestine.

The last official population census has been conducted in 2007. For the period after 2007, the Palestinian Central Bureau of Statistics (PCBS) has published population estimates based on the 2007 figures. For this valuation, the starting 2011 population distribution by age and gender is based on the PCBS projection. According to that projection, the 2011 population is 2,580,168 in the West Bank and 1,588,692 in the Gaza Strip, for a total Palestinian population of 4,168,860 persons.

Fertility

The total fertility rate (TFR) represents the average number of children each woman of childbearing age would have if she had all her children in a particular year. If there is no migration, a TFR of 2.1 is required for each generation to replace itself. According to PCBS data, the present fertility rate in Palestine is 4.0 children per women of childbearing age (3.6 in the West Bank and 4.7 in the Gaza Strip). For this valuation, it is assumed that the fertility rate will gradually decrease from its current level to 2.1 in 2075 and will stay constant thereafter. In addition, it is assumed that the ratio of male to female births will be constant at 1.04.

Mortality

Current data on life expectancy are based on information obtained from the PCBS and improvements in mortality are assumed to occur in accordance with United Nations (UN) estimates. Life expectancy at birth in 2011 for the oPt is estimated at 71.0 for males and 73.9 for females. Future improvements in life expectancy are projected using the slow pace of UN improvement factors that lead to life expectancies at birth of 77.7 for males and 81.1 for females in 2060.

According to this life table, life expectancy at age 65 in 2011 is 14.6 and 16.7 years respectively for males and females and will increase to 17.4 and 19.6 years respectively for males and females in 2060.

Migration

Net migration is assumed to be zero for the whole projection period.

Total population

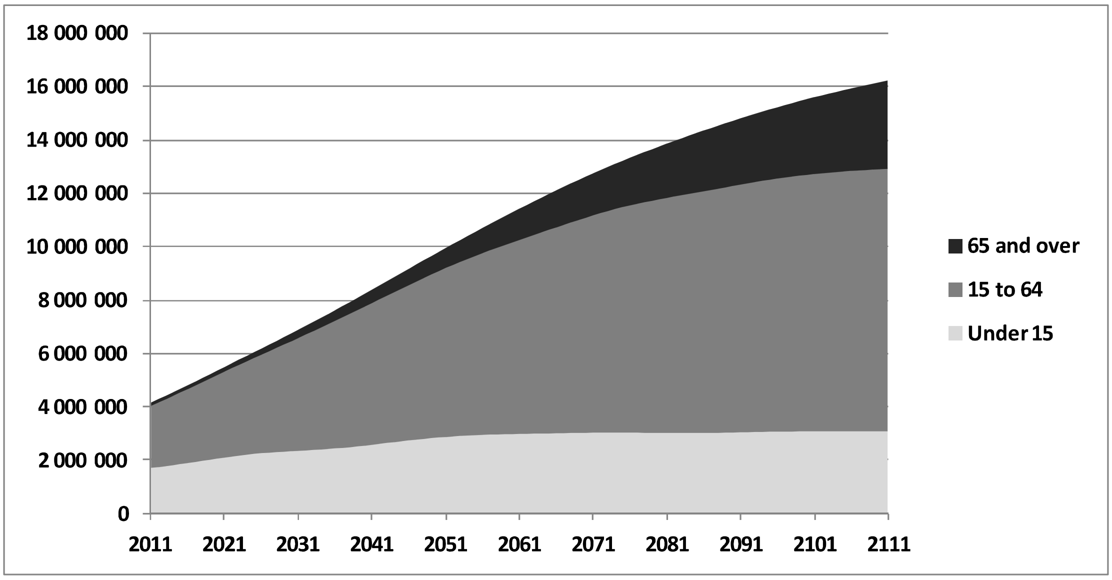
The population of Palestine is very young. The population below the age of 15 was representing 40.8 percent of the total population in 2011. Over the next 30 years (2011 to 2040), on the basis of the assumptions described above, the total population of Palestine is projected to double (from 4.2 million to 8.3 million). The rate of growth of the population is projected to slow down thereafter on the basis of the projected decrease of fertility rates. The phenomenon of population aging is illustrated by the continuous decline of the ratio of persons aged 15 to 64 to persons aged 65 and over (last column of Table A2.1). This ratio decreases from 19.1 in 2011 to 3.4 in 2100.

Table A2.1 Projected population of Palestine, by age groups (2011-2110)

Year	Total	Age			Ratio of persons 15-64 to 65 and over
		0-14	15-64	65 and over	
2011	4,168,860	1,702,900	2,343,211	122,749	19.1
2020	5,366,392	2,053,869	3,148,687	163,836	19.2
2030	6,758,753	2,324,412	4,141,016	293,325	14.1
2040	8,250,093	2,539,314	5,231,471	479,308	10.9
2050	9,816,821	2,840,288	6,256,386	720,146	8.7
2060	11,298,931	2,970,689	7,205,789	1,122,454	6.4
2070	12,647,342	3,017,055	8,086,036	1,544,250	5.2
2080	13,777,146	3,013,514	8,780,674	1,982,958	4.4
2090	14,740,705	3,026,576	9,268,901	2,445,228	3.8
2100	15,550,086	3,071,551	9,641,646	2,836,890	3.4
2110	16,188,676	3,077,377	9,843,248	3,268,050	3.0

The population below age 15 will be stable from 2070. On the other hand, the population aged 65 and over will increase from 122,749 in 2011 to 720,146 in 2050 and 3,268,050 in 2110. The population aged 15 to 64, that part of the population feeding the labour force and financing social security, will grow at a continuous declining rate over the projection period.

Chart A2.1 Projected population of Palestine, by age groups (2011-2101)

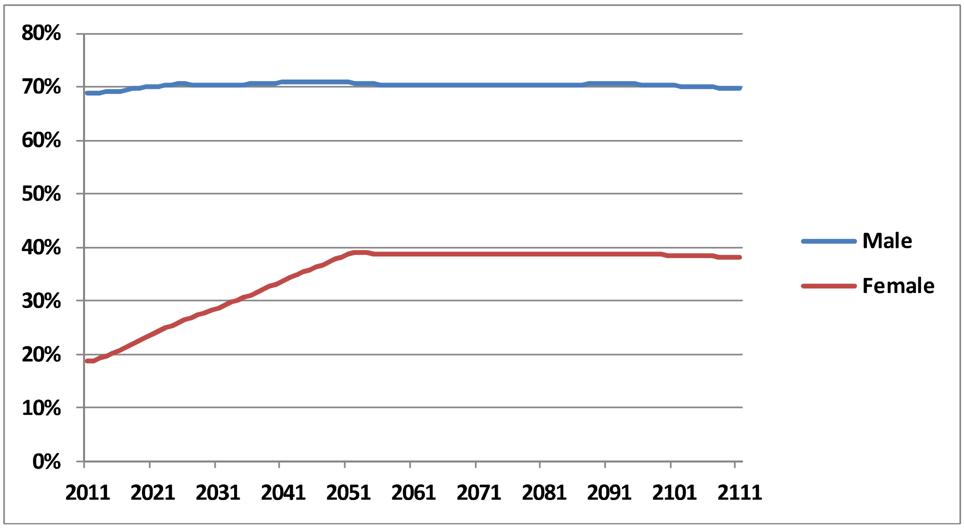


A2.2 Macroeconomic framework

Labour force

Labour force participation rates are presently 68.7 percent for males and 18.6 percent for females. It is assumed that age-specific participation rates for males will be constant in the future. For females, the labour force framework assumes that age-specific participation rates will double over the next 40 years. Consequently, the total female participation rate will increase from 18.6 percent in 2011 to 38.7 percent in 2060. This evolution of total participation rates by gender is presented in Chart A2.2. Detailed labour force projections appear in Table A2.2.

Chart A2.2 Projected participation rate, by gender (2011-2011)



High and persistent unemployment can be attributed to:

- *Restrictions on imports and exports. This is particularly, but not exclusively, an impediment for job creation in Gaza, where there have been tight restrictions, including a virtual export ban and severe restrictions on imports of building materials.*
- *Continued restrictions on labor mobility and on the reallocation of productive capital between the Gaza Strip and the West Bank.*
- *Low levels of private sector investment, other than for construction.*
- *High reservation wage of some job seekers. Some job seekers may opt for temporary unemployment or underemployment hoping for a job in either public sector or in Israel or settlements where wages exceed those paid by the private sector in WBG.*
- *The small size of most enterprises. Most enterprises in the WBG employ less than 20 employees. They tend to be more flexible than large enterprises and may make a significant contribution to employment at a relatively low capital cost. However, they face obstacles to their development and ability to create jobs, including the absence of a legal framework for their operations, lack of access to markets and technology, and relatively limited financing opportunities.*[3]

For the purpose of the valuation, age-specific employment rates are supposed constant for the projection period. Because of the evolution of the age structure of the labour force over time, the total unemployment rate decreases from 23.6 percent in 2011 to 21.1 percent in 2060.

[3] International Monetary Fund, *West Bank and Gaza: Labor Market Trends, Growth and Unemployment*, December 2012.

Table A2.2 Labour market balance (2011-2060) for Palestine, in thousand

	2011	2020	2030	2040	2050	2060
Total population	**4,169**	**5,366**	**6,759**	**8,250**	**9,817**	**11,299**
Male	2,117	2,728	3,433	4,183	4,966	5,701
Female	2,052	2,638	3,325	4,067	4,851	5,597
Population 15-69	**2,388**	**3,216**	**4,268**	**5,414**	**6,515**	**7,617**
Male	1,215	1,638	2,171	2,754	3,304	3,854
Female	1,173	1,577	2,097	2,660	3,211	3,762
Labour force	**1,053**	**1,511**	**2,119**	**2,830**	**3,564**	**4,165**
Male	835	1,146	1,528	1,948	2,340	2,710
Female	218	365	591	882	1,224	1,455
Total participation rate	**44.1%**	**47.0%**	**49.7%**	**52.3%**	**54.7%**	**54.7%**
Male	68.7%	69.9%	70.4%	70.7%	70.8%	70.3%
Female	18.6%	23.2%	28.2%	33.1%	38.1%	38.7%
Total employed	**804**	**1,158**	**1,642**	**2,200**	**2,793**	**3,287**
Male	658	911	1,227	1,571	1,903	2,212
Female	146	247	414	629	891	1,075
Unemployed	**249**	**353**	**477**	**629**	**771**	**878**
Male	177	235	301	376	438	498
Female	72	118	177	253	333	379
Unemployment rate	**23.6%**	**23.4%**	**22.5%**	**22.2%**	**21.6%**	**21.1%**
Male	21.2%	20.5%	19.7%	19.3%	18.7%	18.4%
Female	33.1%	32.4%	29.9%	28.7%	27.2%	26.1%

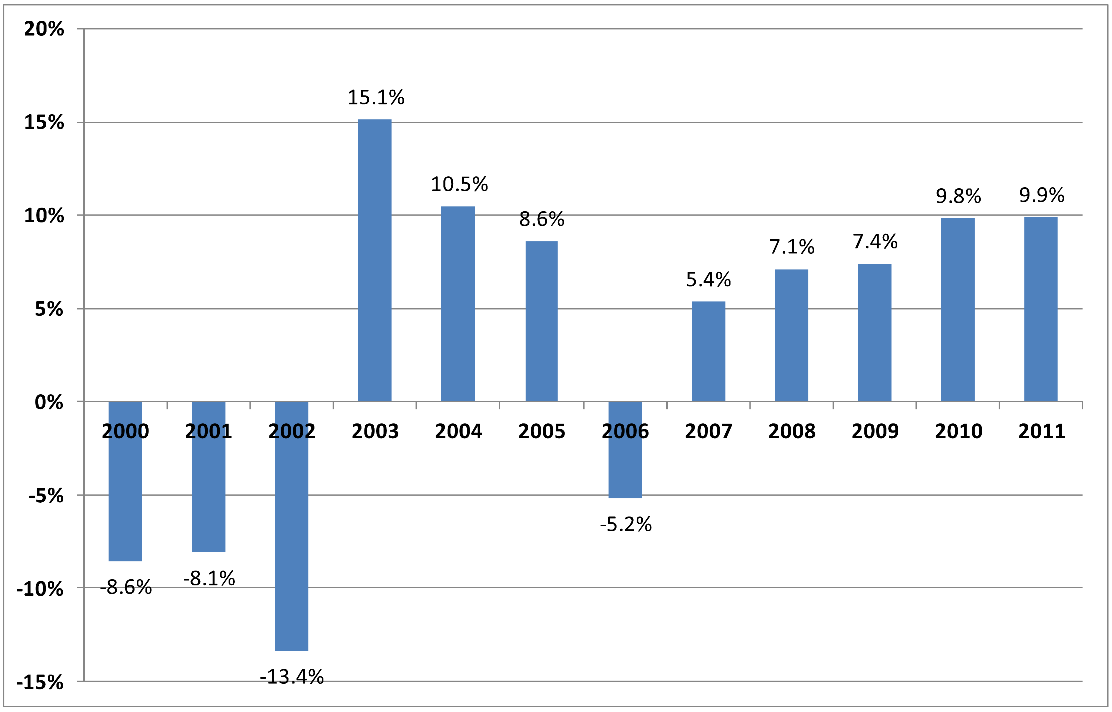
Productivity of labour

In this valuation, productivity of labour is an exogenous assumption. Considering recent data and long-term perspectives of the Palestinian economy, it is assumed that productivity of labour will increase by 1.0 percent per year from 2015.

GDP growth

Chart A2.3 shows that economic growth has been quite volatile over the past decade. However, the economy recovered from 2007, with an average real GDP growth rate of 7.9 percent over the period 2007-2011.

Chart A2.3 Growth rate of real GDP in Palestine (2000-2011)



Source: Palestinian Central Bureau of Statistics and Palestinian Monetary Authority.

Short-term forecasts on economic growth entail a high degree of uncertainty.

The West Bank (which comprises some 70% of the combined GDP of the Palestinian Territories) has seen a limited recovery since mid-2007, following an easing in some Israeli restrictions, a pick-up in donor aid flows, and some private-sector investment from Gulf companies in construction and services. However, no major easing of internal and external closure mechanisms in the West Bank is expected in 2013-14 (over 500 Israeli obstacles to internal movement remain in place), crimping the economy's growth potential, and we expect real GDP per head to remain just below its level preceding the 2000 intifada (uprising). The completion of the Israeli separation barrier will have a lasting impact on the economic landscape in the West Bank, making it much harder for Palestinians to work in Israel (their major source of income before the intifada), cutting Palestinian communities off from one another and from their agricultural land and restricting mobility and economic activity.

The Palestinian economy grew by 9.9% in real terms in 2011, according to the latest data from the Palestinian Central Bureau of Statistics, boosted by a significant expansion in the construction sector and the base-effect recovery in Gaza. Although growth averaged 6.7% year on year in the first half of 2012, the pace of expansion is likely to have slowed sharply in the second half of the year, reflecting the PA's intensifying fiscal crisis (which will have been made even worse by Israel's recent confiscation of tax revenue) and problems in the agricultural sector (owing to unfavourable weather conditions). As a result, we have reduced our estimate for full-year growth in 2012 to 4.9%, from 5.7% previously. We expect growth to remain sluggish in 2013, as higher fuel prices (owing to lower subsidies, even though the fuel price hike was partly reversed) and the small uptick in VAT lift inflation, in turn depressing domestic *demand. More positively, however, assuming more favourable weather conditions, the agricultural sector should recover after a difficult 2012. In 2014 growth is expected to recover slightly to 5.5%, but this remains far below potential. Indeed, even this level of growth will of course be contingent on a relatively stable political environment and on continued donor funding. Substantive progress in the peace process or in Israel's easing of closure restrictions would increase growth opportunities.*[4]

In this valuation, real GDP growth is the product of the rate of increase of total employment by the increase of the productivity of labour. Consequently, it is projected that real GDP growth will average 5.3 percent over the period 2013-2015 and will then gradually decrease to 2.4 percent in 2060 and 1.9 percent in 2080, driven down by the decrease of the rate of growth of the employed population (see Table A2.3).

Table A2.3 Projected GDP growth, productivity and total employment (2013-2080)

Year	Real GDP growth (%)	Increase of the productivity per worker (%)	Increase of the number of workers (%)
2013	5.0	0.6	4.4
2014	5.5	1.1	4.3
2015	5.3	1.0	4.3
2020	5.0	1.0	3.9
2030	4.3	1.0	3.3
2040	3.7	1.0	2.7
2050	3.2	1.0	2.2
2060	2.4	1.0	1.4
2070	2.1	1.0	1.1
2080	1.9	1.0	0.9

Inflation

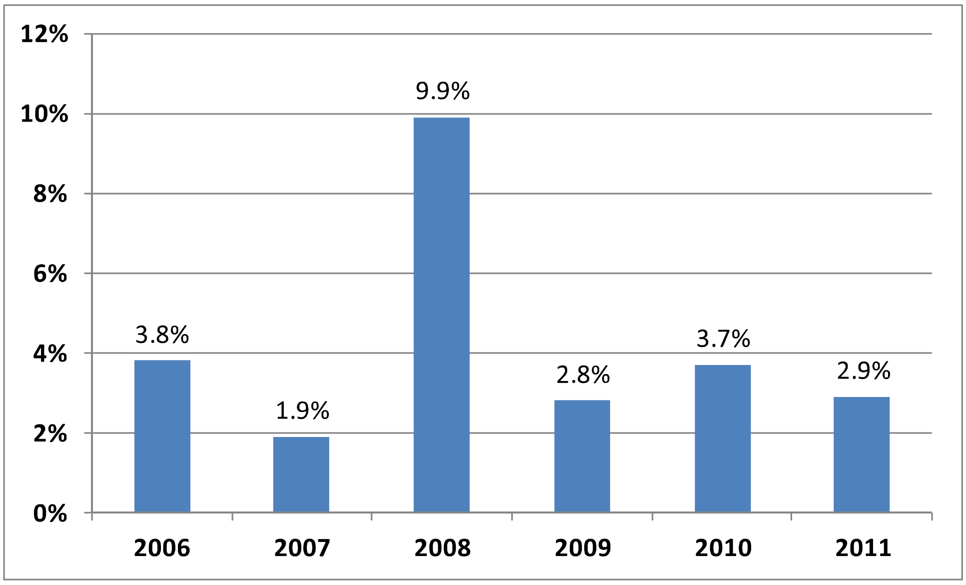
Inflation has averaged 3.1 percent during the period 2009-2011, as shown in Chart A2.4.

The slowdown in global economic performance was accompanied by a rise in inflation rates ... due to the increase seen by oil prices (31.6 percent) and world food prices (19.4 percent). The Palestinian Territory had been affected by this increase in global prices, especially that the main influence to consumer prices in the Palestinian Territory are costs of imports and world food prices, plus some domestic factors such as freight costs and fluctuation in supply (seasonal changes to agricultural goods in particular) and others. PCBS data indicate an increase in Consumer Price Index (CPI) during 2011 by 2.9 percent compared to 2010.[5]

[4] Economist Intelligence Unit, *Country Report – Palestinian Territories*, March 2013.

[5] Palestine Monetary Authority, *Financial Stability Report 2011*, July 2012.

Chart A2.4 CPI increases (2006-2011)



Source: Palestinian Central Bureau of Statistics

It is projected that inflation will be constant at 3.0 percent for the whole projection period. Projected inflation rates appear in Table A2.4.

Wage increase

Real wage growth has been almost suppressed over recent years. According to PCBS data, the average daily wage in the Palestinian Territory has increased by 4.9 percent in 2009, 0.4 percent in 2010 and 0.0 percent in 2011.

> *Real private sector wages have declined in the West Bank, despite strong economic growth, by 8 percent in 2008-11. In Gaza real private sector wages have dropped 4 percent since 2008 and are now significantly lower than in 1999, before the start of the second Intifada. Wages in Israel and the settlements far exceed public and private sector wages in WBG, although there too real wage growth has been stagnant. In 2012, the average daily wage of a West Bank worker in the private sector was about half of the average wage for Palestinians employed in Israel and settlements. Public sector wages declined sharply by 9 percent in real terms in 2008 and recovered somewhat thereafter. In the West Bank they are now roughly back at their 2006 level while in Gaza real public sector wages are about 20 percent lower than in 2006. Public sector wages exceed private sector wages (in the West Bank since 2006) which is the result of downward pressures on wages in the private labor market owing to economic constraints related to restrictions on movement and access. These restrictions result in lower investment, lower growth and hence less private sector job creation, and thus excess labor supply. All of those factors put downward pressure on private sector wages.*[6]

In the future, it is assumed that real wage increases will gradually converge towards the productivity per worker, as it is expected that wages will adjust to

[6] International Monetary Fund, *West Bank and Gaza: Labor Market Trends, Growth and Unemployment*, December 2012.

efficiency levels over time. On that basis, the nominal wage increase is projected at 3.6 percent in 2013, 4.2 percent in 2014 and will be constant at 4.0 percent from 2015 onwards (see Table A2.4).

Rate of return of the Social Security Fund

The real rate of return of the Social Security Fund is projected as equal to the productivity growth rate.

> *Bank of Israel has gradually increased the interest rate from 2 percent in late 2010, to stand at 3.25 percent during the third quarter of 2011. It has cut down that rate again to 2.75 percent by the end of December of the same year as part of the efforts to stimulate economic growth, which depreciated the NIS exchange rate. These changes in interest rates, plus the changes in inflation rates (and interest rates on borrowing from abroad), has highly influenced the volume of risk on nominal and real interest rates in the Palestinian market on loans and deposits, in addition to affecting price levels and exchange rates.*[7]

Table A2.4 Projected inflation rate, wage increase and rate of return of the fund (2013-2080)

Year	Inflation rate (%)	Annual nominal increase of average wage (%)	Rate of return of the fund (%)
2013	3.0	3.6	3.6
2014	3.0	4.2	4.2
2015	3.0	4.0	4.0
2020	3.0	4.0	4.0
2030	3.0	4.0	4.0
2040	3.0	4.0	4.0
2050	3.0	4.0	4.0
2060	3.0	4.0	4.0
2070	3.0	4.0	4.0
2080	3.0	4.0	4.0

[7] Palestine Monetary Authority, *Financial Stability Report 2011*, July 2012.

Annex 3 Actuarial assumptions specific to the scheme

In addition to the demographic and economic assumptions presented in Annex 2, the projection of the future financial development of the proposed social security scheme requires actuarial assumptions specific to the scheme under study.

A3.1 Assumptions regarding the insured population

Projected coverage rates

Scheme's coverage is limited to salaried employees in the private sector. However, a proportion of this labour force works in Israel and the settlements where it will be difficult to enforce coverage. Hence, the projection of the population to be covered by the social security scheme has been calculated by isolating, in a first stage, the salaried employees of the private sector working in Palestine (the potential contributors).

In a second stage, it has been considered that (1) coverage will increase gradually over a certain period following the introduction of the scheme, (2) coverage will be difficult to enforce in small enterprises which represent a large proportion of the economy and (3) coverage of workers in the Gaza Strip will be delayed due to the unstable political context. Consequently, the population of potential contributors has been reduced on the basis of the adjustment factors appearing in Tables A3.1. It is thus assumed that 60 percent of the population of salaried employees of the private sector (excluding workers in Israel and the settlements) will be covered by the scheme from year 2024 onwards.

Table A3.1 Coverage adjustment factors applied to the population of potential social security contributors

Year	West Bank	Gaza Strip
2015	30%	0
2016	40%	0
2017	50%	0
2018	60%	0
2019	60%	10%
2020	60%	20%
2021	60%	30%
2022	60%	40%
2023	60%	50%
2024+	60%	60%

The resulting projected coverage rates used for this valuation are presented in Table A3.2. These rates are applied to the total population of salaried employees in order to target salaried private sector workers (not working in Israel and the settlements). Coverage rates are higher below the age of 30 because young persons are more heavily represented in the private sector.

Table A3.2 Projected coverage rates (applied to total salaried population excluding workers in Israel and the settlements), by age and gender

Age	Male			Female		
	2015	2020	2024+	2015	2020	2024+
17	18.3%	40.8%	49.0%	25.1%	51.8%	55.1%
22	15.0%	33.8%	41.6%	19.5%	41.2%	45.6%
27	11.8%	27.2%	34.6%	14.3%	31.3%	36.8%
32	9.5%	22.4%	29.2%	10.7%	24.5%	30.4%
37	8.5%	20.2%	26.5%	9.8%	22.3%	27.4%
42	8.1%	19.2%	25.3%	9.3%	20.9%	25.7%
47	8.4%	19.9%	26.2%	9.2%	20.8%	25.6%
52	8.8%	20.7%	26.8%	9.6%	21.5%	26.1%
57	9.2%	21.3%	26.9%	10.7%	23.3%	27.2%
62	13.0%	28.4%	33.4%	12.4%	28.0%	34.5%
Average	**11.1%**	**25.3%**	**31.8%**	**11.9%**	**26.2%**	**31.0%**

Initial insured population

Table A3.3 presents the age, gender and wage profile of insured persons assumed to be covered at the inception of the proposed scheme. It represents the average covered population for a given month of the year.[8]

Table A3.3 Initial insured population (2015) and average salary, by age and gender

	Male		Female	
Age	Number	Average monthly salary in 2012 (NIS)	Number	Average monthly salary in 2012 (NIS)
15-19	8,229	1,426	902	1,193
20-24	10,855	1,726	2,084	1,372
25-29	10,381	2,043	2,534	1,557
30-34	8,002	2,304	2,326	1,757
35-39	6,131	2,484	2,086	1,977
40-44	4,583	2,621	1,542	2,111
45-49	3,547	2,695	1,042	2,119
50-54	2,475	2,819	662	2,399
55-59	1,315	3,015	364	3,099
60-64	708	2,981	157	2,887
65-69	310	2,620	32	1,517
Total	**56,534**	**2,136**	**13,730**	**1,804**

[8] To obtain the total number of persons who will pay contributions in 2015, these figures must be divided by the contribution density factor of 0.85 (described below).

Salary scales

Table A3.4 presents the salary scales used in the valuation for each gender. These scales were derived from PCBS data for 2012 (concerning salaried employees of the private sector in the West Bank) on average wages by 10-year age groups and gender.

Table A3.4 Salary scales (ratio of salary at a given age to salary at age 15), by gender

Age	Male	Female
17	1.081245	1.057675
22	1.310554	1.217391
27	1.551253	1.381544
32	1.750949	1.558119
37	1.886105	1.754215
42	1.990888	1.877551
47	2.047077	1.875776
52	2.138193	2.110914
57	2.292331	2.776398
62	2.274867	2.610470
67	1.987092	1.196816

Table A3.5 presents the coefficient of variation of salaries used for this valuation. This gives an indication of the dispersion of salaries around the average. They are based on the experience under the Kuwait pension scheme, which appears to have similarities with Palestine regarding the concentration of workers into a small number of industrial sectors. This dispersion of salaries is also compatible with data published by a Palestinian workers' association.[9]

Table A3.5 Coefficient of variation of salaries, by age and gender

Age	Male	Female
17	39%	35%
22	51%	36%
27	56%	41%
32	56%	46%
37	54%	50%
42	52%	52%
47	52%	53%
52	54%	53%
57	60%	55%
62	70%	63%

[9] Arab World for Research and Development, *Palestinian Worker – A Comprehensive Report on Work Conditions, Priorities and Recommendations*, 2013, p. 30-31.

Finally, the actuarial model separates the insured population into three subgroups of earnings: the lowest 30 per cent, a medium range of 40 per cent and the highest 30 per cent, in order to adequately reflect the impact of minimum and flat-rate benefits.

Density of contributions

Density of contributions represents the average proportion of the year during which contributions are paid under the scheme. Since the average density of contributions under a social security scheme is normally lower than 100 percent, it means that the number of persons who contribute to the scheme during a given year is larger than the number of actual contributors observed during any month of that year.

Data were not available on the exact number of months of work of Palestinian workers. The density factor has been assumed equal to 85 percent at all ages and for both genders, based on the general contribution pattern observed under similar social security schemes in other countries. Density of contributions is assumed constant for the whole period of projection.

A3.2 Demographic assumptions related to the scheme

Mortality of insured persons

Mortality rates for the insured population were assumed to be equal to the mortality rates of the general population (sample mortality rates are presented in Table A3.6). Mortality rates were projected to decline continuously during the projection period in line with the assumed increase of the average life expectancy. This mortality pattern is also used to project survivors' benefits payable after the death of insured persons and pensioners. For disability pensioners, it is assumed that mortality rates are equal to five times those of the general population at age 20, decreasing gradually to two times at age 60.

Table A3.6 Sample mortality rates, by age and gender

Age	Male			Female		
	2015	2050	2100	2015	2050	2100
0	0.02880	0.00482	0.00435	0.02901	0.00601	0.00301
5	0.00058	0.00026	0.00008	0.00059	0.00031	0.00006
10	0.00033	0.00004	0.00005	0.00028	0.00010	0.00003
15	0.00046	0.00033	0.00012	0.00030	0.00024	0.00008
20	0.00070	0.00076	0.00036	0.00045	0.00034	0.00019
25	0.00088	0.00100	0.00053	0.00061	0.00041	0.00029
30	0.00108	0.00094	0.00054	0.00078	0.00049	0.00033
35	0.00143	0.00100	0.00057	0.00106	0.00068	0.00040
40	0.00210	0.00149	0.00088	0.00154	0.00103	0.00062
45	0.00326	0.00226	0.00159	0.00238	0.00162	0.00090
50	0.00521	0.00413	0.00278	0.00379	0.00257	0.00169
55	0.00842	0.00614	0.00433	0.00615	0.00383	0.00223
60	0.01365	0.00955	0.00657	0.01003	0.00598	0.00332
65	0.02210	0.01513	0.01005	0.01636	0.00944	0.00480
70	0.03562	0.02396	0.01604	0.02660	0.01633	0.00785
75	0.05696	0.04290	0.02849	0.04301	0.03017	0.01617
80	0.08987	0.07478	0.05140	0.06882	0.05733	0.03560
85	0.13902	0.12311	0.08773	0.10838	0.10157	0.07256
90	0.20889	0.19211	0.14842	0.16662	0.16895	0.13511
95	0.30158	0.28071	0.23637	0.24747	0.25801	0.22402
100	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

Invalidity incidence rates (natural cause)

Invalidity incidence rates have been based on the experience under the Canada Pension Plan, considering that the type of invalidity recognized under the Palestinian scheme would be similar to the definition of invalidity under the Canadian scheme. Invalidity incidence rates appear in Table A3.7.

Table A3.7 Invalidity incidence rates, by age and gender (per 1,000)

Age	Male	Female
25	0.5	0.4
30	0.7	1.0
35	1.1	1.6
40	1.6	2.4
45	2.5	3.3
50	3.9	4.9
55	7.2	7.7
60	11.8	11.0

Retirement behaviour

The actuarial model used for the actuarial valuation considers retirement as the residual element of a series of factors. The macro-economic valuation framework provides the number of people employed each year, for each age and gender. For a given age (at which retirement is possible under the scheme), the difference between the number of insured persons in two consecutive years (for two consecutive ages) is considered to represent net exists from the labour force. Even if some of these exits may result from death or invalidity, most of the exits from the labour force at those ages are new retirees. Table A3.8 presents the net exits from the labour force for ages 55 and over which provide an illustration of the retirement pattern in Palestine.

However, for the purpose of projections, it has been assumed that workers who leave the labour force before age 60 would wait until age 60 before claiming their old-age pension in order to obtain more substantial pension amounts (it must be recalled that the scheme provides for an actuarial adjustment of pensions in case of early retirement). Otherwise, the methodology described in the preceding paragraph would have generated too many new pensions at age 55, a result that would not be compatible with the retirement behaviour in the context of existence of a social pension scheme. Because of the actuarial adjustment, the actual timing of old-age pension claims does not have a significant impact on the global cost of the scheme.

Table A3.8 Net rate of exit from the labour force, by age and gender

Age	Male	Female
55	8%	6%
56	8%	6%
57	9%	7%
58	9%	7%
59	10%	7%
60	10%	8%
61	1%	3%
62	3%	7%
63	6%	10%
64	9%	14%
65	12%	19%
66	16%	25%
67	22%	38%
68	29%	50%
69	45%	100%

Family structure

Information on the family structure of the insured population is necessary for the projection of survivors' benefits. Assumptions have to be established on the probability of being married at death, the average age differential between spouses, the average number of children and the average age of the orphans. Since the total pension associated with children is shared among them, it is also necessary to establish an assumption on the probability of having at least one child. The applicable family statistics appear in Table A3.9, separately for each gender. Finally, the probability of survival of children has been set equal to 1.0 from age 0 to age 18 and 0.5 from age 19 to age 24.

Table A3.9 Family statistics

MALES

Age	Probability of having an eligible spouse	Average age of spouse	Average number of children	Average age of children	Proportion with at least one child
17	0.0114	15.9	0.2	0.7	0.1928
22	0.2032	19.7	0.8	2.9	0.5302
27	0.6450	23.2	1.7	6.3	0.8326
32	0.9030	27.9	3.0	9.9	0.9149
37	0.9624	32.9	4.4	14.2	0.9522
42	0.9768	37.9	5.2	18.4	0.9596
47	0.9803	42.9	4.9	20.9	0.9543
52	0.9808	47.9	3.7	22.5	0.9509
57	0.9293	52.9	2.4	22.8	0.9500
62	0.9293	57.9	1.4	22.8	0.7053
67	0.9293	62.4	0.8	22.8	0.3799
72	0.9293	66.9	0.4	22.8	0.2046
77	0.9293	71.3	0.2	22.8	0.1102
82	0.9293	76.3	0.1	22.8	0.0593
87	0.9293	81.3	0.1	22.8	0.0320
92	0.9293	86.3	0.0	22.8	0.0172

FEMALES

Age	Probability of having an eligible spouse	Average age of spouse	Average number of children	Average age of children	Proportion with at least one child
17	0.1549	18.1	0.2	0.5	0.1587
22	0.5834	24.3	1.1	1.5	0.7778
27	0.8048	30.9	2.3	3.9	0.9149
32	0.8581	36.1	3.2	6.9	0.9522
37	0.8673	41.1	3.6	10.6	0.9596
42	0.8586	46.1	3.3	15.1	0.9543
47	0.8297	51.1	2.5	19.2	0.9509
52	0.7896	56.1	1.7	21.3	0.9500
57	0.5038	61.1	0.8	22.8	0.7975
62	0.5038	66.1	0.2	22.8	0.2182
67	0.5038	71.6	0.0	22.8	0.0407
72	0.5038	77.1	0.0	22.8	0.0076
77	0.5038	82.7	–	–	–
82	0.5038	87.7	–	–	–
87	0.5038	92.7	–	–	–
92	0.5038	97.7	–	–	–

A3.3 Assumptions specific to Maternity benefits

The projected number of Maternity beneficiaries is determined by the application of age-specific fertility rates to the corresponding number of projected insured women. For the period 2015-2025, the applied fertility rates result from a weighted average of fertility rates projected for the West Bank and the Gaza Strip, in line with the specific increase in coverage assumed for the two territories during the initial stage of implementation of the scheme (see Table A3.10).

Table A3.10 Weighted fertility rates (West Bank and Gaza Strip) for the determination of the cost of Maternity benefits, by age of mother and year of projection

Age	2015	2020	2025	2030	2040	2050	2060	2070	2080
15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
16	0.0210688	0.0196344	0.0182991	0.0168386	0.0140889	0.0115678	0.0092754	0.0072115	0.0062652
17	0.0518329	0.0482179	0.0447389	0.0413351	0.0349121	0.0290019	0.0236043	0.0187194	0.0164693
18	0.0783729	0.0734554	0.0687053	0.0640951	0.0553452	0.0472227	0.0397274	0.0328595	0.0296608
19	0.1009108	0.0954613	0.0902145	0.0850295	0.0751077	0.0657836	0.0570570	0.0489281	0.0450878
20	0.1267033	0.1204523	0.1144021	0.1085334	0.0972233	0.0864830	0.0763124	0.0667116	0.0621249
21	0.1427405	0.1370486	0.1316112	0.1260459	0.1151715	0.1046388	0.0944479	0.0845988	0.0798023
22	0.1552352	0.1505729	0.1462405	0.1413132	0.1314915	0.1217134	0.1119788	0.1022879	0.0974587
23	0.1644270	0.1611528	0.1583061	0.1542443	0.1458974	0.1372531	0.1283111	0.1190716	0.1143403
24	0.1705557	0.1689141	0.1678170	0.1647403	0.1580965	0.1507988	0.1428471	0.1342415	0.1296935
25	0.1739757	0.1743016	0.1753030	0.1733932	0.1687878	0.1631351	0.1564349	0.1486872	0.1444206
26	0.1750415	0.1777481	0.1812663	0.1807692	0.1786502	0.1750315	0.1699131	0.1632951	0.1594237
27	0.1734192	0.1777815	0.1830747	0.1832809	0.1823955	0.1797797	0.1754335	0.1693568	0.1656695
28	0.1691191	0.1738327	0.1795424	0.1792963	0.1776050	0.1743145	0.1694250	0.1629365	0.1590925
29	0.1627252	0.1669414	0.1721425	0.1706907	0.1668728	0.1618353	0.1555785	0.1481023	0.1439069
30	0.1546672	0.1586698	0.1635646	0.1610282	0.1553140	0.1487447	0.1413202	0.1330406	0.1285800
31	0.1446868	0.1478984	0.1520036	0.1484837	0.1410999	0.1332574	0.1249561	0.1161961	0.1116441
32	0.1355145	0.1378251	0.1410235	0.1366249	0.1277531	0.1187816	0.1097105	0.1005398	0.0959171
33	0.1285010	0.1299242	0.1322138	0.1271775	0.1172302	0.1074499	0.0978367	0.0883906	0.0837302
34	0.1225063	0.1230755	0.1244785	0.1190044	0.1083299	0.0980202	0.0880754	0.0784955	0.0738424
35	0.1156042	0.1152301	0.1156498	0.1096991	0.0982352	0.0873548	0.0770580	0.0673447	0.0627068
36	0.1088573	0.1074063	0.1067017	0.1002173	0.0878622	0.0763253	0.0656066	0.0557061	0.0510626
37	0.0990789	0.0970516	0.0957187	0.0891428	0.0767021	0.0652097	0.0546655	0.0450695	0.0406272
38	0.0847087	0.0828844	0.0817005	0.0756791	0.0643315	0.0539108	0.0444170	0.0358501	0.0319143
39	0.0677277	0.0665994	0.0660551	0.0610072	0.0515146	0.0428261	0.0349417	0.0278614	0.0246228
40	0.0519638	0.0513971	0.0513581	0.0471952	0.0393918	0.0322848	0.0258743	0.0201602	0.0175644
41	0.0379060	0.0378976	0.0383361	0.0350370	0.0288726	0.0232868	0.0182794	0.0138505	0.0118530
42	0.0250485	0.0255631	0.0264453	0.0240070	0.0194681	0.0153792	0.0117405	0.0085518	0.0071263
43	0.0139531	0.0148806	0.0161038	0.0144730	0.0114523	0.0087527	0.0063743	0.0043169	0.0034087
44	0.0051815	0.0063806	0.0078046	0.0068669	0.0051447	0.0036266	0.0023127	0.0012029	0.0007245
45	0.0058278	0.0058290	0.0059147	0.0052153	0.0039247	0.0027783	0.0017763	0.0009187	0.0005439
46	0.0042588	0.0043342	0.0044792	0.0039418	0.0029512	0.0020727	0.0013064	0.0006521	0.0003671
47	0.0028199	0.0029530	0.0031428	0.0027592	0.0020530	0.0014280	0.0008842	0.0004216	0.0002207
48	0.0015752	0.0017536	0.0019752	0.0017280	0.0012737	0.0008730	0.0005258	0.0002323	0.0001056
49	0.0005893	0.0007900	0.0010218	0.0008877	0.0006423	0.0004273	0.0002426	0.0000882	0.0000224
Total	**3.18**	**3.16**	**3.17**	**3.06**	**2.85**	**2.63**	**2.42**	**2.21**	**2.10**

An average duration of benefits of 12 weeks has been used. This corresponds to the maximum duration provided under the proposed scheme.

A3.4 Assumptions specific to Employment injury benefits

The cost of the different Employment injury (EI) benefits has been determined as follows.

For temporary disability, an average incidence rate of 1.50 percent has been used. This reflects the incidence of temporary disability observed by the Labour Inspection Department (LID). The average number of benefit days has been assumed equal to 60, in line with international experience. On that basis, the average annual cost of temporary disabilities is equal to 0.22 percent of insurable earnings. The projected annual expenditure related to temporary disabilities is based on development factors, presented in Table A3.11. The development factors express the pattern of payments over time of temporary disabilities occurring during a given year and they are based on the experience of a typical scheme.

Table A3.11 Development factors for EI temporary disability

Payment year minus injury year	Development factors
0	1.0000
1	6.3275
2	0.3726
3	0.1038
4	0.3080
5	0.0922
6	0.7890
7	0.3395
8	0.3258

For permanent disability, incidence rates reflect LID data and international experience. Sample incidence rates are presented in Table A3.12. It is assumed that all permanent disability cases are total disabilities (100 percent incapacity). Annual cash flows are determined with the use of a pension model specifically established for that type of benefit.

Table A3.12 Incidence rates for EI permanent disability, by age and gender (per 1,000)

Age	Male	Female
17	0.12	–
22	0.11	–
27	0.19	0.03
32	0.33	0.11
37	0.50	0.17
42	0.67	0.22
47	0.81	0.26
52	0.90	0.28
57	0.91	0.30
62	0.81	0.30

For work-related deaths, annual cash flows are determined with the use of a pension model specifically established for that type of benefit. Inter alia, it uses a proportion of total deaths related to work accidents of 0.06 percent at younger ages, gradually decreasing to zero.

The cost of medical care and rehabilitation is set equal to the cost of temporary disability benefits.

A3.5 Other assumptions

Indexing of pensions in payment

It is supposed that pensions in payment will be indexed annually on the basis of the inflation rate.

Administrative expenses

For the purpose of actuarial projections, administrative expenses are set equal to 5 percent of contribution income for the Long-term and the Maternity branches and 15 percent of contribution income for the Employment injury branch.

It must be understood that a detailed analysis of administrative expenses will be necessary before the introduction of the scheme in order to clearly identify the implementation costs of the new scheme and to make an assessment of the personnel required for the administration of the different benefit branches. This study will also consider the existence of an administrative body for the public sector pension plan (the Palestinian Pension Agency) and the possibility to use its capacities or to share certain administrative functions.

Annex 4 Extracts from the Paris Protocol

This annex reproduces an article of the *Protocol on Economic Relations between the Government of the State of Israel and the P.L.O., representing the Palestinian people* (signed in 1994), also called the *Paris Protocol*, concerning labour issues and the question of transfer of social security contributions between Israel and the oPt.

(…)

Article VII (Labour)

1. Both sides will attempt to maintain the normality of movement of labor between them, subject to each side's right to determine from time to time the extent and conditions of the labor movement into its area. If the normal movement is suspended temporarily by either side, it will give the other side immediate notification, and the other side may request that the matter be discussed in the Joint Economic Committee.

   The placement and employment of workers from one side in the area of the other side will be through the employment service of the other side and in accordance with the other sides' legislation. The Palestinian side has the right to regulate the employment of Palestinian labor in Israel through the Palestinian employment service, and the Israeli Employment Service will cooperate and coordinate in this regard.

2. a. Palestinians employed in Israel will be insured in the Israeli social insurance system according to the National Insurance Law for employment injuries that occur in Israel, bankruptcy of employers and maternity leave allowance.

   b. The National Insurance fees deducted from the wages for maternity insurance will be reduced according to the reduced scope of maternity insurance, and the equalization deductions transferred to the Palestinian Authority, if levied, will be increased accordingly.

   c. Implementation procedures relating thereto will be agreed upon between the Israeli National Insurance Institute and the Palestinian Authority or the appropriate Palestinian social insurance institution.

3. a. Israel will transfer to the Palestinian Authority, on a monthly basis, the equalization deductions as defined by Israeli legislation, if imposed and to the extent levied by Israel. The sums so transferred will be used for social benefits and health services, decided upon by the Palestinian Authority, for Palestinians employed in Israel and for their families. The equalization deductions to be so transferred will be those collected after the date of the signing of the Agreement from wages of Palestinians employed in Israel and from their employers. These sums will not include:

   1. Payments for health services in places of employment.

   2. 2/3 of the actual administrative costs in handling the matters related to the Palestinians employed in Israel by the Payments Section of the Israeli Employment Service.

4. Israel will transfer, on a monthly basis, to a relevant pension insurance institution to be established by the Palestinian Authority, pension insurance deductions collected after the establishment of the above institution and the completion of the documents mentioned in para 6. These deductions will be collected from wages of Palestinians employed in Israel and their employers, according to the relevant rates set out in the applicable Israeli collective agreements. 2/3 of the actual administrative costs in handling these deductions by the Israeli Employment Service will be deducted from the sums transferred. The sums so transferred will be used for providing pension insurance for these workers. Israel will continue to be liable for pension rights of the Palestinian employees in Israel, to the extent accumulated by Israel before the entry into force of this para 4.

5. Upon the receipt of the deductions, the Palestinian Authority and its relevant social institutions will assume full responsibility in accordance with the Palestinian legislation and arrangements, for pension rights and other social benefits of Palestinians employed in Israel, that accrue from the transferred deductions related to these rights and benefits. Consequently, Israel and its relevant social institutions and the Israeli employers will be released from, and will not be held liable for any obligations and responsibilities concerning personal claims, rights and benefits arising from these transferred deductions, or from the provisions of paras 2-4 above.

6. Prior to the said transfers, the Palestinian Authority or its relevant institutions, as the case may be, will provide Israel with the documents required to give legal effect to their aforesaid obligations, including mutually agreed implementation procedures of the principles agreed upon in paras 3-5 above.

7. The above arrangements concerning equalization deductions and/or pension deductions may be reviewed and changed by Israel if an authorized court in Israel will determine that the deductions or any part thereof must be paid to individuals, or used for individual social benefits or insurance in Israel, or that it is otherwise unlawful. In such a case the liability of the Palestinian side will not exceed the actual transferred deductions related to the case.

8. Israel will respect any agreement reached between the Palestinian Authority, or an organization or trade-union representing the Palestinians employed in Israel, and a representative organization of employees or employers in Israel, concerning contributions to such organization according to any collective agreement.

9. a. The Palestinian Authority may integrate the existing health insurance scheme for Palestinians employed in Israel and their families in its health insurance services. As long as this scheme continues, whether integrated or separately, Israel will deduct from their wages the health insurance fees ("health stamp") and will transfer them to the Palestinian Authority for this purpose.

   b. The Palestinian Authority may integrate the existing health insurance scheme for Palestinians who were employed in Israel and are receiving pension payments through the Israeli Employment Service, in its health insurance services. As long as this scheme continues, whether integrated or separately, Israel will deduct the necessary sum of health insurance fees ("health stamp") from the equalization payments and will transfer them to the Palestinian Authority for this purpose.

10. The JEC will meet upon the request of either side and review the implementation of this Article and other issues concerning labor, social insurance and social rights.

11. Other deductions not mentioned above, if any, will be jointly reviewed by the JEC. Any agreement between the two sides concerning these deductions will be in addition to the above provisions.

12. Palestinians employed in Israel will have the right to bring disputes arising out of employee–employer relationships and other issues before the Israeli Labor Courts, within these courts' jurisdiction.

13. This Article governs the future labor relations between the two sides and will not impair any labor rights prior to the date of signing of the Agreement.

Annex 5 Matrix of design parameters of the new schemes

GENERAL

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension Law n° 7 of 2005)	Requirements of ILO Convention No. 102
Type of scheme	Defined-benefit (DB) system.	Defined-benefit (DB) system.	Combination of defined-benefit (DB) and defined-contribution (DC) systems.	ILO standards are based on the defined-benefit (DB) concept.

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension Law n° 7 of 2005)	Requirements of ILO Convention No. 102
Persons covered	All private sector workers.	All private sector workers.	Covers the following workers and their family members: – Civil servants, security forces who were less than 45 years old on 1/9/2006 and who are paid from the Palestine National Authority (PNA) general budget; – Palestine Liberation Organization employees who are working outside the country and who are paid from the PNA general budget, unless they are not participant in any other governmental pension scheme; – Employees of local authorities and public institutions; – NGOs and private sector employees (not implemented). As of June 2009, the pension system covered 74,367 civil servants and 63,194 security personnel, representing approximately 16 per cent of labour force.[10]	The persons protected shall alternatively comprise prescribed classes of employees, constituting at least 50% of all employees, or prescribed classes of economically active persons, constituting at least 20% of all residents, or all residents whose means during the contingency do not exceed prescribed limits.

[10] World Bank, *Towards a Palestinian Stat : Reforms for Fiscal Strengthening, Economic Monitoring Report to the Ad Hoc Liaison Committee*, 13 April 2010.

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension Law n° 7 of 2005)	Requirements of ILO Convention No. 102
Earnings covered	Gross wage (excluding subsidies)	Earnings base reflecting gross wage and which facilitates the payment of contributions by employers *Example: gross wage (excluding subsidies)*	Basic salary, fixed increments (linked to the nature of work), periodic increments and increment for cost of living.	
Ceiling on earnings	5 times minimum wage	Multiple of minimum wage **Recommendation***: 5 times minimum wage*	No ceiling on covered earnings	The earnings' ceiling shall cover the average earnings of a skilled manual male employee (alternatively, may be a level higher than the earnings of 75 % of all insured persons or 125% of the average earnings of all insured persons)

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension Law n° 7 of 2005)	Requirements of ILO Convention No. 102
Financing	**Contribution rates:** • *Old-Age, Invalidity and Survivors' Pensions*: – Employer: 8.5% – Employee: 7.5% • *Maternity Cash Benefit*: – Employer: 0.3% – Employee: 0.2% • *Employment Injury Benefits*: – Employer: 1.6% – Employee: None **Financing mechanisms:** • *Old-Age, Invalidity and Survivors' Pensions*: – Partial funding with accumulation of a technical reserve for an orderly financing. • *Maternity Cash Benefit*: – Pay-as-you-go with accumulation of a small contingency reserve. • *Employment Injury Benefits*: – Pay-as-you-go for temporary disability and medical expenses. – Full-funding for disability and survivors pensions.	**Contribution rates:** • *Old-Age, Invalidity and Survivors' Pensions*: – Employer: 8.5% – Employee: 7.5% • *Maternity Cash Benefit*: – Employer: 0.3% – Employee: 0.2% • *Employment Injury Benefits*: – Employer: 1.6% – Employee: None **Financing mechanisms:** • *Old-Age, Invalidity and Survivors' Pensions*: – Partial funding with accumulation of a technical reserve for an orderly financing. • *Maternity Cash Benefit*: – Pay-as-you-go with accumulation of a small contingency reserve. • *Employment Injury Benefits*: – Pay-as-you-go for temporary disability and medical expenses. – Full-funding for disability and survivors pensions.	**DB system:** – Employer: 9% – Employee: 7% **DC system:** – Employer: 3% – Employee: 3%	The cost of administering and providing social security benefits shall be borne collectively by way of insurance contributions or taxation. The total of insurance contributions to be borne by the employees protected shall not exceed 50%.

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension Law n° 7 of 2005)	Requirements of ILO Convention No. 102
Regular adjustment of pensions	Annual indexing of pensions and funeral grant in line with CPI	Should be automatic and reflecting changes in the cost of living **Recommendation:** *Annual indexing of pensions and funeral grant in line with CPI*		Pensions shall be reviewed following substantial changes in the general level of earnings where these result from substantial changes in the cost of living.
General responsibility of the State	The government shall accept the general responsibility for the due provision of benefits and proper administration of the system. It shall ensure, where appropriate, that the necessary actuarial reviews and calculations concerning the financial equilibrium are made periodically.	The government shall accept the general responsibility for the due provision of benefits and proper administration of the system. It shall ensure, where appropriate, that the necessary actuarial reviews and calculations concerning the financial equilibrium are made periodically.		The government shall accept the general responsibility for the due provision of benefits and proper administration of the system. It shall ensure, where appropriate, that the necessary actuarial reviews and calculations concerning the financial equilibrium are made periodically.

OLD-AGE pension

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Objective of the scheme	To secure replacement of lost earnings during retirement	To secure replacement of lost earnings during retirement		The contingency covered shall be survival beyond a prescribed age.
Eligibility and qualifying conditions	Age 60 with at least 15 years of contribution. Early retirement possible from age 55 with at least 15 (or 20) years of contribution.	Normal retirement age aligned to public sector **Recommendation:** *Age 60 with at least 15 years of contribution.* Possibility of early retirement **Recommendation:** *Early retirement possible from age 55 with at least 15 years of contribution.*	Mandatory retirement: – Age 60 with at least 15 years of service Early retirement: – Civil servant: age 55 with at least 15 years of service – Security forces: age 50 with at least 15 years of service.	Pensionable age shall not be higher than 65 years or such higher age as may be fixed by the competent authority with due regard to the working ability of elderly persons A reduced old-age benefit shall be paid after at least 15 years of contribution or employment.

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Amount of benefit	**Pension formula:** 1.5% per year of paid contributions, multiplied by indexed career-average salary. **Minimum pension:** 50% of minimum wage (could alternatively refer to the poverty line). Pro-rated if number of paid contributions lower than 15. Not available in case of early retirement. **Early retirement** Reduction of 6% (or 5%) per year before normal retirement age **Retirement grant:** Retirement grant equal to the value of employee plus employer contributions plus interest (at least equal to inflation plus real rate of return). **Further contributions:** Possibility of contributing after normal retirement age for three years, if not eligible to pension at normal retirement age.	Based on the recommendations of the actuarial valuation, pension amount in line with ILO minimum standards **Recommendation:** *1.5% per year of paid contributions, multiplied by indexed career-average salary.* Minimum pension available **Recommendation:** *50% of minimum wage. Pro-rated if number of paid contributions lower than 15. Not available in case of early retirement.* Early retirement with neutral actuarial adjustment **Recommendation:** *Reduction of 6% per year before normal retirement age* Retirement grant payable, if not eligible to pension at normal retirement age. **Recommendation:** *Retirement grant equal to the value of employee plus employer contributions plus interest (at least equal to inflation plus real rate of return).* Possibility of contributing after normal retirement age for three years, if not eligible to pension at normal retirement age.	DB system: – 2% per year of service, multiplied by average salary of the last 3 years (maximum 70%) – Early retirement: 4% reduction per year before age 60. – If not eligible to pension at age 60, retirement grant equal to employee's contributions plus interest. DC system: – Based on the amount accumulated with interest. – May be paid as a lump sum, life annuity or scheduled payments.	The amount of old-age benefit payable to a standard beneficiary (skilled manual male employee with wife of pensionable age) after 30 years of contribution or employment shall represent at least 40% of the wage of a skilled manual male employee earned during the same time basis.

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Transitional provisions	Age credits (for eligibility purposes) granted to persons aged 45 and over at scheme's introduction.	Easier eligibility conditions for a certain period after introduction of the scheme. **Recommendation:** *Age credits (for eligibility purposes) granted to persons aged 45 and over at scheme's introduction.*		Reduced benefit shall be payable to insured persons, who, by reason only of their advanced age when the new come into force, do not qualify for a pension.

INVALIDITY pension

	Recommendations of tripartite constituents	ILO Recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Objective of the scheme	Inability to engage in any gainful activity which is likely to be permanent.	Restricted definition of invalidity that would take into account the present diagnosis capacities (at least initially). **Recommendation:** *Inability to engage in any gainful activity which is likely to be permanent.*	Physical disability confirmed by a specialised medical committee appointed by the Commission, provided that his condition is to be examined again in accordance with the decision of the medical committee.	The contingency shall include inability to engage in any gainful activity which is likely to be permanent.
Eligibility conditions	– 2 years or 5 years of contribution (or a dual approach: 6 months if the person is at work at the inception of invalidity, and 5 years if the persons is not). – Below age 60.	In line with ILO minimum standards **Recommendation:** *2 years or 5 years of contribution.* Payable if the person has not reached the normal retirement age. **Recommendation:** *Below age 60.*	Below age 60	A reduced invalidity benefit shall be payable at least after 5 years of contribution or employment.
Amount of benefit	1.5% per year of contribution, multiplied by indexed career-average salary, while years of contribution include period from invalidity to normal retirement age.	Consistent with old-age pension *Example: 1.5% per year of contribution, multiplied by indexed career-average salary.* Consider the period until normal retirement. **Recommendation:** *Years of contribution include period from invalidity to normal retirement age.*	DB system: 2% per year of service, multiplied by average salary of the last 3 years (maximum 70%). Years of service include half of years from invalidity to age 60. DC system: may receive the accumulated amount as a lump sum.	The amount of invalidity benefit payable to a standard beneficiary (skilled manual male employee with wife and two children) shall represent at least 40% of the wage of such an employee during the same time basis, after 15 years of contributions or employment.

	Recommendations of tripartite constituents	ILO Recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Duration	Payable throughout the contingency.	Payable throughout the contingency. **Recommendation:** *Payable throughout the contingency.*		The benefit shall be granted throughout the contingency or until an old-age benefit becomes payable.

SURVIVORS pension

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Objective of the scheme	The contingency covered shall include the loss of support suffered by the widow or child as the result of the death of the breadwinner.	The contingency covered shall include the loss of support suffered by the widow or child as the result of the death of the breadwinner.		The contingency covered shall include the loss of support suffered by the widow or child as the result of the death of the breadwinner.
Eligibility conditions	2 years or 5 years of contribution	In line with ILO minimum standards **Recommendation:** *2 years or 5 years of contribution*	The deceased was receiving a retirement pension at the time of death or was eligible to receive a retirement pension in accordance with the DB system.	A reduced survivors' benefit shall be payable at least after 5 years of contribution or employment.

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Eligible survivors	– Widow or widows of the insured person. – Children younger than eighteen (18) years of age supported by the insured person prior to his/her death. – Children younger than eighteen (18) years of age or younger than twenty-four (24) years of age if pursuing their higher education supported by the insured person prior to his/her death. – Children supported by the insured person prior to his/her death and who are unable to earn a living by virtue of physical reasons. – Unmarried, divorced or widowed female daughters and sisters. – Parents of the insured person.	In line with civil servants scheme, however, in line with world wide good social security practice, also the widower of a female insured person should be covered. **Recommendation*:*** – *Widow or widows of the insured person.* – *Children younger than eighteen (18) years of age supported by the insured person prior to his/her death.* – *Children younger than eighteen (18) years of age or younger than twenty-four (24) years of age if pursuing their higher education supported by the insured person prior to his/her death.* – *Children supported by the insured person prior to his/her death and who are unable to earn a living by virtue of physical reasons.* – *Unmarried, divorced or widowed female daughters and sisters.* – *Parents of the insured person.*	– Widow or widows of the subscriber. – Children younger than twenty-one (21) years of age supported by the subscriber prior to his death. – Children younger than twenty-one (21) years of age or younger than twenty-four (24) years of age if pursuing their higher education, supported by the subscriber prior to his death. – Children supported by the subscriber prior to his death and who are unable to earn a living by virtue of physical reasons. – Unmarried, divorced or widowed female daughters and sisters. – Parents of the subscriber. – Husband of the female subscriber, if he was at the time of her death unable to earn a living in physical terms or unable to support himself.	In the case of a widow, the right to benefit may be limited to those who are presumed to be incapable of self support, and to those who are not engaged in a gainful activity.

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Amount of benefit	A percentage of the old-age or disability pension in payment (or that would have been payable) is shared among survivors. The benefit should be a minimum of 40% of the wage of the deceased insured person for a widow/widower with two children after 15 years of contributions. The right of the widow/widower should be made conditional on her/him being presumed to be incapable of self-support. Funeral Grant: 3,000 NIS (could be expressed as a multiple of minimum wage)	Consistent with old-age pension **Recommendation:** *A percentage of the old-age or disability pension in payment (or that would have been payable) is shared among survivors. The benefit should be a minimum of 40% of the wage of the deceased insured person for a widow/widower with two children after 15 years of contributions. The right of the widow/widower should be made conditional on her/him being presumed to be incapable of self-support.* Funeral Grant: *3,000 NIS*	DB system: 2% per year of service, multiplied by average salary of the last 3 years (maximum 70%), multiplied by: – Widow: 50% – Children: 30% for one child, 50% for 2 children or more DC system: may receive the accumulated amount as a lump sum.	The amount of survivors' benefits payable to a standard beneficiary (widow of skilled manual male employee with two children) shall represent at least 40% of the wage of such an employee during the same time basis, after 15 years of contributions or employment.
Duration	Children eligible until age 18, or until age 24 if in higher education.	**Recommendation:** *Children eligible until age 18, or until age 24 if in higher education.*	Children and siblings younger than twenty-one (21) years of age or younger than twenty-four (24) years of age if pursuing their higher education	The benefit shall be granted throughout the contingency. Children shall be entitled to a benefit at least up to school-leaving age or age 15.

	Recommendations of tripartite constituents	ILO recommendations	Civil servant pension scheme (Pension law n° 7 of 2005)	Requirements of ILO Convention No. 102
Suspension of benefit	- Pension to the widow/widower ceases upon remarriage and pension to daughters and sisters is suspended upon marriage or remarriage. - Pension to survivors' is suspended in case of earning an income.	**Recommendation*:*** - *Pension to the widow/widower ceases upon remarriage and pension to daughters and sisters is suspended upon marriage or remarriage.* - *Pension to survivors' is suspended in case of earning an income.*	Pension to the widow ceases upon remarriage.	Suspension of benefit is possible only as long as the widow is living with a man as his wife.

EMPLOYMENT INJURY

	Recommendations of tripartite constituents	ILO recommendations	Labour Law n° 7 of 2000	Requirements of ILO Convention No. 102
Objective of the scheme	In case of accident in the course of employment and on the way to or back from work and in case of occupational disease specified by the Law, to provide the following benefits: – medical care and rehabilitation services, – temporary incapacity, – permanent total and partial disability, – survivors' benefits in case of death; in the case of a widow/widower, the right to benefit may be made conditional on her/him being presumed, in accordance with national laws or regulations, to be incapable of self-support.	In case of accident in the course of employment and on the way to or back from work and in case of occupational disease specified by the Law, to provide the following benefits: – medical care and rehabilitation services, – temporary incapacity, – permanent total and partial disability, – survivors' benefits in case of death; in the case of a widow/widower, the right to benefit may be made conditional on her/him being presumed, in accordance with national laws or regulations, to be incapable of self-support.	The accident that the worker has due to or in the course of his employment, or on his way to or back from work sustaining one of the occupational injuries specified by the Law.	The contingencies covered shall include the following, where the state of affairs described is due to an industrial accident or a prescribed occupational disease: – medical care in case of personal injury, – cash benefits in case of temporary incapacity for work, – cash benefits (disablement pension) in case of permanent partial or total disability to work, and – survivors' benefits in case of death.

	Recommendations of tripartite constituents	ILO recommendations	Labour Law n° 7 of 2000	Requirements of ILO Convention No. 102
Amount of benefit	**Temporary disability:** 75% of salary at moment of accident **Permanent total disability:** 80% of average salary in the three months previous to the accident **Permanent partial disability:** 80% of average salary in the three months previous to the accident multiplied by the %of disability. **Death (survivors' pension):** – Spouse: 50% of average salary in the three months preceding the accident. The right to the benefit should be made conditional on her/him being presumed to be incapable of self-support. – Child and other dependents (e.g. parents):10% per dependent (maximum pension: 80% of reference salary. **Funeral grant:** 3,000 NIS All pensions indexed annually according to price inflation. **Medical care:** provide all necessary services free of charge to the beneficiary: emergency care, hospitalization, medical treatment, drugs, physiotherapy, prostheses.	**Recommendation*:*** *Temporary disability: 75% of salary at moment of accident* *Permanent total disability: 80% of average salary in the three months previous to the accident* *Permanent partial disability: 80% of average salary in the three months previous to the accident multiplied by the % of disability.* *Death (survivors' pension):* – *Spouse: 50% of average salary in the three months preceding the accident. The right to the benefit should be made conditional on her/him being presumed to be incapable of self-support.* – *Child and other dependents (e.g. parents):10% per dependent (maximum pension: 80% of reference salary.* *Funeral grant: 3,000 NIS.* *All pensions indexed annually according to price inflation.* *Medical care: provide all necessary services free of charge to the beneficiary: emergency care, hospitalization, medical treatment, drugs, physiotherapy, prostheses.*	Temporary disability: 75% of salary at the time of accident, maximum 180 days Permanent disability: Amount: 80% of salary of 3 months before accident x percentage of disability Duration: higher of – 3,500 compensated days – period remaining until age 60 Death: same as permanent disability ***Note:** Under the civil servant scheme, in case of death or physical unfitness due to a permanent disability resulting from a work injury or accident during work, the person is entitled to a lump sum equal to a percentage of the annual salary based upon age (267% at age 25, decreasing to 33% at age 60).*	The amount of cash benefit payable to a standard beneficiary shall represent at least the following percentage of the wage of such an employee: – 50% in case of temporary incapacity for work. – 50% in case of total loss of earning capacity and a suitable proportion thereof in case of partial loss of earning capacity, – 40% in case of death for the survivors. The periodical payment may be commuted for a lump sum, where the degree of incapacity is slight or where the competent authority is satisfied that the lump sum will be properly utilised. In the case of a widow, the right to benefit may be conditional on her being presumed to be incapable of self-support. Medical care: Victims of an employment injury shall be entitled to the full range of medical and hospital care. These benefits must be provided free of charge to the beneficiary.

	Recommendations of tripartite constituents	ILO recommendations	Labour Law n° 7 of 2000	Requirements of ILO Convention No. 102
Duration	**Temporary disability:** – until recovery, assessment of permanent disability or death. **Permanent total disability:** – for life. **Permanent partial disability:** – for life. – re-assessment of percentage of disability 2 years after onset, and every 5 years thereafter until age 55. **Death (survivors' pension):** – Spouse, throughout the contingency; in case the spouse is entitled to another pension, only the higher pension will be paid - Children: until age 18 (or until age 24 if in higher education).	In line with ILO minimum standards **Recommendation*:*** *Temporary disability:* – *until recovery, assessment of permanent disability or death.* *Permanent total disability:* – *for life.* *Permanent partial disability:* – *for life.* – *re-assessment of percentage of disability 2 years after onset, and every 5 years thereafter until age 55.* *Death (survivors' pension):* – *Spouse, throughout the contingency; in case the spouse is entitled to another pension, only the higher pension will be paid* – *Children: until age 18 (or until age 24 if in higher education).*		All benefits shall be granted throughout the contingency, except that, in respect of incapacity for work, the cash benefit (temporary incapacity benefit) need not be paid for the first three days.
Vocational rehabilitation	Rehabilitation services necessary to return to suitable work or to alleviate functional limitations	**Recommendation*:*** Rehabilitation services necessary to return to suitable work or to alleviate functional limitations.	Expenses of rehabilitation and requirements	The re-establishment of handicapped persons in suitable work shall be promoted through appropriate vocational rehabilitation services.

	Recommendations of tripartite constituents	ILO recommendations	Labour Law n° 7 of 2000	Requirements of ILO Convention No. 102
Suspension of benefit	Suspension of benefit is possible only: – where the contingency has been caused by a criminal offence or by a wilful misconduct of the person concerned, – in appropriate cases, where the person concerned neglects to make use of the medical or rehabilitation services placed at his/her disposal or fails to comply with the rules prescribed for verifying the occurrence or continuance of the contingency or for the conduct of beneficiaries, – in the case of survivors' benefit as long as the widow/widower is remarried.	Suspension of benefit is possible only: – where the contingency has been caused by a criminal offence or by a wilful misconduct of the person concerned, – in appropriate cases, where the person concerned neglects to make use of the medical or rehabilitation services placed at his/her disposal or fails to comply with the rules prescribed for verifying the occurrence or continuance of the contingency or for the conduct of beneficiaries, – in the case of survivors' benefit as long as the widow/widower is remarried.	Abate if injury caused by: – Premeditated act – Influence of alcohol or drugs Except if death of permanent disability more than 35%	Suspension of benefit is possible only: – where the contingency has been caused by a criminal offence or by a wilful misconduct of the person concerned, – in appropriate cases, where the person concerned neglects to make use of the medical or rehabilitation services placed at his disposal or fails to comply with the rules prescribed for verifying the occurrence or continuance of the contingency or for the conduct of beneficiaries, – in the case of survivors' benefit as long as the widow is living with a man as his wife.

MATERNITY

	Recommendations of tripartite constituents	ILO recommendations	Labour Law n° 7 of 2000	Requirements of ILO Convention No. 102
Objective of the scheme	The contingencies covered shall include suspension of earnings resulting from pregnancy and confinement and their consequences.	The contingencies covered shall include suspension of earnings resulting from pregnancy and confinement and their consequences.		The contingencies covered shall include pregnancy and confinement and their consequences, and suspension of earnings resulting from them.
Personal scope	Female private sector workers should be potential beneficiaries, however, all private sector workers and their employers shall be liable for the payment of contributions.	Female private sector workers should be potential beneficiaries, however, all private sector workers and their employers shall be liable for the payment of contributions.	Women covered by Labour Law	The persons protected shall alternatively comprise all women in prescribed classes of employees, constituting at least 50% of all employees, or all women in prescribed classes of economically active persons, constituting at least 20% of all residents and, for maternity medical benefit, also the wives of men of these classes.
Eligibility conditions	6 months of contribution during the year just preceding maternity leave.	Minimum period of contribution consistent with the present Labour Law **Recommendation:** *6 months of contribution during the year just preceding maternity leave.*	180 days of employment before each delivery	Any possible qualifying period shall not be longer than necessary to preclude abuse.

	Recommendations of tripartite constituents	ILO recommendations	Labour Law n° 7 of 2000	Requirements of ILO Convention No. 102
Amount of benefit	100% of average wage over the 6 months preceding maternity leave, considering a benefit duration of 12 weeks.	100% of average wage over the 6 months preceding maternity leave, considering a benefit duration of 12 weeks.	100% of wages.	The amount of maternity benefit payable to a standard beneficiary (woman employee whose previous earnings are equal to the wage of a skilled manual male employee) shall represent at least 45% of the wage of such an employee earned during the same time basis. Health care comprising pre-natal and post-natal care including hospitalisation shall be provided free of charge.
Duration	12 weeks, unless a longer period of abstention from work is required due to medical reasons (at least 6 weeks after delivery).	In line with ILO minimum standards: 12 weeks, unless a longer period of abstention from work is required due to medical reasons (at least 6 weeks after delivery).	10 weeks (at least 6 weeks after delivery).	Maternity benefit shall be provided for the whole duration of maternity leave, at least for 12 weeks.