

Rwanda

Report to the Government

**Feasibility study of the introduction of a new
maternity cash benefits scheme in Rwanda**

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Executive summary

Public and private sector employers in Rwanda provide 12 weeks of paid maternity leave to female employees based on labour laws. Women on maternity leave receive full wage replacement for the first six weeks and a 20 per cent wage replacement for the remaining six weeks of leave.

The Government of Rwanda has tabled two reform options for maternity benefits. The first option is to set up a social insurance fund which pays 80 per cent of wages for the second half of the 12-week leave period in order to ensure the payment of a full salary for the entire 12 weeks of paid maternity leave. The fund is to be financed by female employees' voluntary contributions and the Government subsidies. The second option is to revise the provisions on maternity leave in the Labour Law and to reduce the duration of paid maternity leave from the current 12 weeks to eight weeks at full wage.

The ILO was requested by the Government to review the reform options and to provide recommendations on the direction of reforms concerning maternity benefits for female workers. Based on ILO standards and international good practices, the ILO recommends establishing a compulsory social insurance scheme which provides maternity benefits to be paid at least for 12 weeks. The ILO recommends that a compulsory social insurance fund, supported by contributions from both male and female employees and employers, should be established to finance maternity benefits.

Only through compulsory coverage of all wage earners, gender discrimination in employment practices, employers' non-compliance in benefit provision, and adverse selection of participation among female workers can be prevented and a lower contribution rate can be achieved. The following three options are recommended by the ILO.

Table 1. Options recommended by the ILO

Option	Scheme	Financing	Duration (weeks)
1	Compulsory social insurance scheme	Male and female employees	12
2		Employers	14
3		(Government)	18

The Pay-As-You-Go (PAYG) cost rate is projected to decrease from 0.89 per cent in 2014 to 0.70 per cent in 2020 for Option 1, from 1.04 per cent to 0.81 per cent for Option 2, and from 1.33 per cent to 1.04 per cent for Option 3, mainly due to future expected decreases in fertility rates.

Under Option 1, a total contribution rate of 1 per cent of salary is recommended. The margin between the PAYG cost rate and the contribution rate of 1 per cent will allow for the accumulation of contingency reserves for unexpected fluctuations in scheme income and expenditures. If the contribution rate is split equally between employees and employers, the employees would contribute 0.5 per cent of their salaries.

The Government is considering an option where employees on maternity leave are paid 100 per cent of their salaries by their employers for the first six weeks and 100 per cent of their salaries by the social insurance scheme for the latter six weeks. Since there is a risk of under-declaration and compliance with this option, it is not recommended by the ILO as a reform option. The PAYG cost rate is conservatively assumed as half of the PAYG cost rate of Option 1. Under this option, a total contribution rate of 0.6 per cent of

wages would cover benefits and administrative costs for the latter six weeks and would allow for the accumulation of a contingency reserve.

As the current actuarial assessment relies on limited data, it is recommended that scheme-specific data be collected once the scheme is implemented. Data collection and analysis should be used for monitoring the implementation of the scheme and for improving accuracy of future assessments of the contribution rate.

The ILO does not recommend the following options proposed by the Government, but the PAYG cost rate for each case is estimated for illustrative purposes.

Table 2. Options proposed by the Government

Option	Scheme	Financing	Duration (weeks)
4	Supplementary social insurance scheme to provide 80% of wages for the latter 6 weeks	Male and female employees Employers (Government)	12
5	Compulsory social insurance scheme	Female employees Employers (Government)	12
6			14
7			18
8	Supplementary social insurance scheme to provide 80% of wages for the latter 6 weeks		12
9	100% salary to be paid by employers for the first 6 weeks and 100% salary to be paid by the social insurance scheme for the latter 6 weeks.	First 6 weeks: directly by employer Latter 6 weeks: male and female employees, employers (Government)	12 (6 + 6)

The PAYG cost rate is estimated to decrease from 0.36 per cent in 2014 to 0.27 per cent in 2021 for Option 4, from 2.98 per cent to 2.32 per cent for Option 5, from 3.48 per cent to 2.71 per cent for Option 6, from 4.48 per cent to 3.48 per cent for Option 7, from 1.19 per cent to 0.93 per cent for Option 8, and from 0.44 per cent to 0.34 per cent for Option 9.

An option in which 100 per cent of wages are provided for eight weeks through both female and male contributions is also assessed since this option is currently being considered by the Government. The PAYG cost rate is expected to decrease from 0.59 per cent in 2014 to 0.45 per cent in 2025. Nevertheless, the ILO does not recommend this Option as the Social Security (Minimum Standards) Convention, 1952 (No. 102), stipulates a minimum benefit duration of 12 weeks.

Abbreviations and acronyms

DHS	Demographic and Health Survey
DWT/CO – Yaoundé	ILO Decent Work Team for Central Africa and ILO Country Office for Cameroon, Angola and Sao Tome and Principe
EAC	East African Countries
EICV	Enquête Intégrale sur les Conditions de Vie des ménages (i.e. Household Living Conditions Survey)
GAD	Government Actuary's Department (of the United Kingdom)
GDP	gross domestic product
ILC	International Labour Conference
ILO	International Labour Organization / Office
IPAR	Institute of Policy Analysis and Research (in Rwanda)
MMR	maternal mortality ratio
PAYG	pay-as-you-go
Reserve ratio	ratio of the end-of-year reserve to total annual expenditure of the scheme
RDHS	Rwanda Demographic and Housing Survey
RSSB	Rwanda Social Security Board
SOC/PFACTS	Public Finance, Actuarial and Statistics Services Branch (of the ILO)
SOCPRO	Social Protection Department (ILO)
TFR	total fertility rate
UN WPP	United Nations World Population Prospects
WSPR	World Social Protection Report (ILO)

Introduction

Employers pay maternity benefits directly to female employees in Rwanda. Two laws are in place for private and public sector employees. The Labour Law of Rwanda of 27 May 2009, which governs private sector employees, stipulates that employees are entitled to maternity leave of 12 weeks duration with full salary paid for the first six weeks and 20 per cent of salary paid for the remaining six weeks. This law is currently under review. The law that governs public servants was modified on 21 October 2013. Maternity leave, with the payment of full salary for 90 days, has been changed such that full salary is paid for the initial six weeks and 20 per cent of salary is paid for the remaining six weeks.

The Government of Rwanda, represented by the Rwanda Social Security Board (RSSB), requested the ILO to conduct a feasibility study on the introduction of a new maternity benefits scheme and the agreement was concluded on 18 July 2014. The Government is proposing a Maternity Insurance Fund to ensure the payment of full salary to employees on maternity leave for 12 weeks. The Government has drafted a new law on the maternity benefits scheme which is to be submitted to the Senate.

This report provides quantitative and qualitative assessments of maternity insurance schemes based on the Government's proposed options and ILO's recommended options, which take into account ILO social security standards as well as international good practices.

This report consists of the following four sections:

Chapter 1 presents an overview of past and recent demographic, labour market, macro-economic, poverty, health, and social security contexts in Rwanda.

Chapter 2 describes international standards on maternity protection and financing maternity protection schemes.

Chapter 3 analyses the existing legislation on maternity protection, assesses gaps between the existing legislation and international standards on maternity protection, provides an overview of maternity protection all over the world, and lays down policy options in Rwanda.

Chapter 4 is the main chapter of the report as it presents financial assessments of policy options, including data, projection methodologies, assumptions, and results of the projections.

Chapter 5 concludes and recommends policy options based on the analysis and quantitative assessments.

1. Overview of demographic, economic, social, and social security contexts

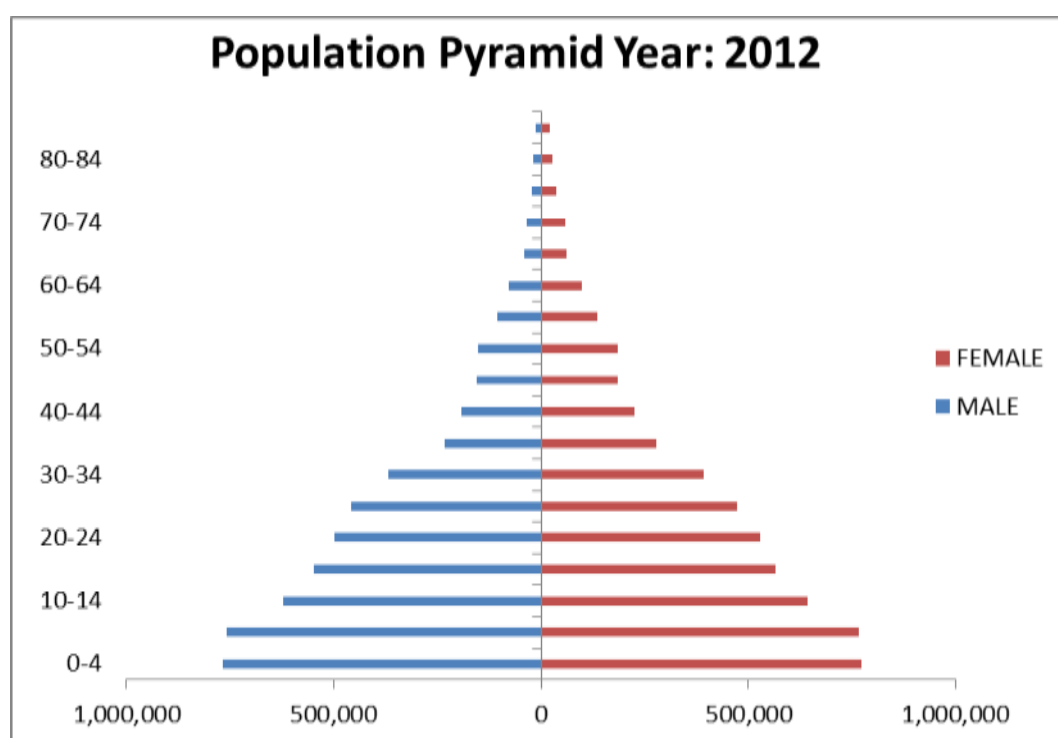
1.1. Demography ¹

The total population of Rwanda was 10,537,222 in 2012, an increase from 8,128,523 in 2002. The percentage increase over the past ten years was of 29.6 per cent and the average annual increase rate was 2.6 per cent.

1.1.1. Demographic structure

The age structure in 2012 indicates that Rwanda has a relatively young population, with 41.1 per cent under the age of 15. Furthermore, 48.4 per cent of the population is between 15 and 49 years of age and 10.4 per cent is 50 years of age and above.

Figure 1.1. Rwandan population pyramid in 2012, 5-year age-groups



Source: 2012 Population and housing census.

¹ Data are drawn from Population and Housing Censuses of Rwanda in the years 2002 and 2012, Rwanda Demographic and Housing Survey 2010, and Rwanda Demographic and Housing Survey (RDHS).

1.1.2. Fertility

The total fertility rate (TFR) substantially decreased from 6.1 in 2005 to 5.5 in 2007 and 4.6 in 2010. TFR in the urban area was 3.4 and TFR in the rural area was 4.8 in 2010. The mean child-bearing age of females increased from 22.0 in 2005 to 22.4 in 2010. The sex ratio at birth was 102 male new births per 100 female new births in 2010.

1.1.3. Mortality

Life expectancy at birth increased from 49 years for males and 51 years for females in 2000 to 61 and 65 years in 2010, respectively.

The maternal mortality ratio (MMR) remains as high as 487 deaths per 100,000 live births in 2010, but has substantially decreased from 1,071 in 2000 and 750 in 2005.

1.1.4. Population growth

The total population has doubled over the last two decades. The annual population growth rate was 1.2 per cent from the years 1991 to 2001 and 2.6 per cent from 2002 to 2012.

1.2. Labour ²

1.2.1 Labour force

The labour force participation rate was 88 per cent in 2000/01, 86 per cent in 2005/06 and 85 per cent in 2010/11. In 2012 there were 5,846,000 people in the working age population and 5,563,300 participated in the labour force, of which 4,152,700 were employed and 1,410,600 were unemployed.

1.2.2. Employment

The percentage of the employed population in the primary sector decreased from 87 per cent in 2002 to 73 per cent in 2010/11. The percentage of the employed population in the secondary sector grew from 3 per cent in 2002 to 6 per cent in 2010/11, while the percentage in the tertiary sector increased from 10 per cent in 2002 to 20 per cent in 2010/11.

1.3. Macroeconomy

1.3.1. Gross Domestic Product (GDP)

Despite the socio-economic crisis at the time of the 1994 war, economic growth over the last decade has been remarkable. The annual average real growth rate was 8.2 per cent between 2000 and 2012 and the annual average real growth per capita was 4.3 per cent between 2000 and 2012.

² Data are obtained from Enquête Intégrale sur les Conditions de Vie des ménages 2000/01 (EICV1), 2005/06 (EICV2) and 2010/11 (EICV3).

1.3.2. Inflation

Rwanda has achieved rapid, sustained growth and macroeconomic stability over the past decade. Inflation declined from 15.4 per cent to 4.2 per cent between 2008 and 2013. However, the inflation rate in Rwanda was high among East African Countries (EAC) in 2011 due to elevated oil and food prices and a drought in the horn of Africa.

1.4. Poverty and health ³

Increases in non-farm wages explain much of the decrease in the poverty rate from 57 per cent in 2005/06 to 45 per cent in 2010/11. Extreme poverty was reduced from 40 per cent in 2000/01 to 36 per cent in 2005/06 and 24 per cent in 2010/11. The Gini coefficient decreased from 0.52 in 2005 to 0.49 in 2011.

The health-care coverage rate stood at 91 per cent in 2010. Rwanda has improved the quality of health services, which has contributed to a rapid decrease in maternal and child mortality. Approximately 69 per cent of live births were attended by skilled health staff in 2010.

1.5. Social security benefits of the Rwanda Social Security Board (RSSB) ⁴

This section provides an overview of the pension, occupational hazard, and medical schemes of the Rwanda Social Security Board (RSSB).

1.5.1. Pension scheme

Coverage

All salaried workers are covered, including temporary and casual workers, professional and in-service trainees, apprentices, civil servants, political appointees, and government officials. The coverage is voluntary for self-employed persons and for persons who were previously insured for at least six consecutive months and who had mandatory coverage in the last 12 months. Voluntary members must be less than 45 years of age in order to be accepted. If an individual has previously participated in mandatory insurance, they are eligible to apply for voluntary insurance within the first 12 months of the date on which their mandatory insurance ended.

Financing

The employee and employer both contribute 3 per cent of earnings. The salary declared under voluntary insurance must be at least the minimum monthly salary, subject to a ceiling of 104,000 Rwandan francs (RWF).

³ Data are drawn from the ECIVs, Institute of Policy Analysis and Research (IPAR), Rwanda, and the ILO's *World Social Protection Report 2014-15*.

⁴ Information is taken from Social Security Programs throughout the World, Africa 2013 (ISSA/SSA) and the web page of the RSSB <http://www.csr.gov.rw/>.

Benefits

Normal retirement pension

A pension is provided to those who reach the age of 55 after 15 or more years of contributions. After 15 years of contributions, the benefit amount is 30 per cent of the average monthly earnings during the last 3 or 5 years of employment, whichever is greater. An additional 2 per cent of average monthly earnings is added for each additional year of contribution beyond 15 years.

Early retirement pension

An early retirement pension is given in case the insured is physically or mentally incapacitated. It is replaced by an old-age pension at the age of 55.

Retirement lump sum

A lump sum settlement is given to the insured older than 55 and having less than 15 years of contributions. In order to qualify, the member must have contributed for at least 12 months. The amount is equal to the average monthly salary times the number of contributing years.

Invalidity pension

To qualify for an invalidity pension, the member must have at least five years of contributions and be insured for at least six months in the 12 months preceding the invalidity.

The invalidity pension is replaced by an old-age pension at the age of 55.

Survivor pension

Survivor pensions are given to eligible survivors in the case of death of an insured person who qualifies for an old-age or invalidity pension or who has contributed more than 180 months, or the death of an old-age or invalidity pensioner. Eligible survivors include widows, children, or parents of the deceased. A widow must have been married for at least six months before the death of the insured. Children must be legitimate, adopted, or recognized by law, be single without obtaining wages, and younger than 18 years old (younger than 25 years old if the child is engaged in full-time education) or disabled. A parent can be legitimate or adopted and is eligible only if the deceased does not have a wife, a husband, or children left.

The amount is a percentage of the deceased's original pension, namely 50 per cent for an eligible widow, 25 per cent for each child if they have a remaining parent, 40 per cent for each child if both parents are dead, and 25 per cent for each parent if the deceased has no remaining widow or children.

Funeral grant

A lump sum is granted to the survivor if the deceased did not fulfil the eligibility criteria for an old-age pension. The amount is equal to the pension that the deceased would have received if they had contributed for 15 years times the number of six-month periods during which they contributed.

1.5.2. Occupational hazard scheme

Coverage

The scheme covers all employed persons, excluding the self-employed. Workers are protected from accidents incurred while at work, on their way to work, or on work-related journeys.

Financing

Employers contribute 2 per cent of employee wages. No contributions are collected from the employees and no voluntary members are admitted.

Benefits

Temporary disability

The benefit amount is 75 per cent of the average earnings of the last three months before the injury took place. The benefit lasts until the worker is fully recovered or until a permanent disability certificate is issued, with a maximum duration of 180 days.

Total permanent disability

In the case of a permanent disability where the degree of disability is 100 per cent, the benefit amount is 85 per cent of the average earnings of the last three months before the injury takes place.

Partial permanent disability

When the insured is partially disabled, the beneficiary receives a percentage of the total permanent disability benefit based on the disability percentage. In case the disability is less than 15 per cent, a lump-sum payment equal to a three years periodical payment is paid.

Survivor pension

In case of death of the insured, the survivors receive a survivor's pension. Eligible widows receive 30 per cent of the salary and children receive 15 per cent each if they have a remaining parent and 20 per cent each if they become orphans. The direct parents also receive 10 per cent each. All survivor benefits combined must not exceed 100 per cent of the deceased person's permanent disability pension. These allowances are not offered in case the death of the insured results from a crime, from an illegal act committed by the worker, or by an intentional fault.

Funeral grant

A lump sum of 100 times the legal monthly minimum wage, which varies by sector, is paid.

1.5.3. Medical scheme

Coverage

This scheme covers all civil servants, pensioners who previously contributed to medical care, and workers from private institutions who have been accepted.

Financing

The employee and employer both contribute 7.5 per cent of earnings. Pensioners also contribute 7.5 per cent of their monthly pension.

Benefits

An insured person must have contributed for at least three months in order to benefit from this scheme and is still covered for three months after losing their job.

In case of sickness, the fund pays 85 per cent of the bills from health facilities accredited by the RSSB. The remaining 15 per cent is paid by the insured person. The scheme covers medical consultations, prescribed drugs, surgical interventions, dental care, medical imaging, laboratory tests, physiotherapy, hospitalization, eye treatment, prosthesis, orthosis, and dialysis. Full medical check-ups are provided only for women older than 35 and men older than 40.

2. International labour standards on maternity protection and international practices

2.1. International labour standards on maternity protection

Maternity protection is multidimensional and encompasses different perspectives—be it labour law (leave, employment protection), occupational safety and health (health protection), or social security (maternal health care and maternity cash benefits)—and has long been seen by the international community as an essential prerequisite for the achievement of women’s rights and gender equality. Hence, the right of women to maternity protection has been included in all major fundamental human rights instruments. Maternity protection is enshrined in the Universal Declaration of Human Rights,⁵ which states that motherhood and childhood are entitled to special care and assistance, as well as in the International Covenant on Economic, Social and Cultural Rights,⁶ which includes special protection for mothers during a reasonable period before and after childbirth, including paid leave or leave with adequate social security benefits. While maternity protection contributes to the advancement of gender equality in the world of work, it also contributes to the achievement of Millennium Development Goals 3, 4, and 5, which seek to promote gender equality and the empowerment of women, to reduce child mortality, and to improve maternal health, respectively, by 2015.

Maternity protection for female workers falls directly under the mandate of the ILO and has been a core issue since its foundation in 1919. The main concern for the protection of female workers has been, on one hand, to ensure that the women’s reproductive role does not compromise their economic and employment security. On another hand, protections ensure that women’s work does not pose risks to the health of the woman and her child. There is a global consensus that paid maternity leave is one of the crucial elements of maternity protection. This consensus is reflected in the fact that various maternity cash benefit provisions exist in the legislation of almost all developed and developing countries, including Rwanda’s labour legislations. International labour standards on maternity protection demonstrate the crucial value placed on having paid leave available for working women as a replacement for lost income. As of November 2014, 67 ILO member states have ratified at least one of the three Maternity Protection Conventions, namely Convention Nos 3, 103, and 183, explained below.

2.2. ILO maternity protection standards

ILO maternity standards go as far back as its foundation in 1919 when governments, employers, and trade union representatives of member States adopted the first Maternity Protection Convention, 1919 (No. 3). ILO constituents have further enhanced protections for working mothers through adopting no less than 42 standards that are directly or indirectly linked to maternity protections in its multidimensional facets. With the adoption of the Convention on Social Security (Minimum Standard), No. 102, 1952, maternity was recognized as one of the nine branches comprising comprehensive social security. In recent

⁵ Article 25(2) Universal Declaration of Human Rights, 1948.

⁶ Article 10(2).

years, ILO members have reaffirmed their commitment to protecting maternity and developing the social protection systems required to make maternity protection a reality for all women. It is in this spirit that ILO members revised Convention No. 103 by adopting Convention No. 183 and Maternity Protection Recommendation, 2000 (No. 191), and included maternity protection in the Social Protection Floors Recommendation, 2012 (No. 202), aimed at guiding countries towards building comprehensive social security schemes comprising, among others, basic social security guarantees that combine both maternal health care and basic income security in case of maternity.

The body of ILO standards on maternity protection, especially those exclusively dedicated to it (Conventions Nos 3, 103, and 183 and Recommendations Nos 95 and 191), have progressively expanded the coverage, material scope, and entitlements of maternity protection at work, providing detailed guidance to orient national policy and action. These standards should be viewed as representing a minimum level for protection. Countries are encouraged to grant more favourable conditions in line with national circumstances. Although Rwanda has not ratified the minimum social security standard (Convention No. 102) or the higher maternity protection standard (Convention No. 183), these Conventions, as well as Recommendation No. 191, should serve as guidance to the Rwandan Government as it redefines its maternity protection policy, as they represent the most up-to-date internationally accepted minimum levels of maternity protection.

In regards to the minimum social security standard, Part VIII of Convention No. 102 provides for maternity benefits comprising of medical care and periodical payments to compensate for the suspension of earnings due to maternity. The Convention calls for free maternity medical care (at least prenatal, confinement, and postnatal care either by medical practitioners or by qualified midwives, and hospitalization where necessary) and cash benefits for at least 12 weeks or a longer period corresponding to the actual duration of maternity leave.

As for the most advanced and up-to-date maternity protection instruments, the Maternity Protection Convention, 2000 (No. 183), and Maternity Protection Recommendation, 2000 (No. 191), are notable for several advances in maternity protection. For instance, Convention No. 183 expands the scope of maternity protection to cover all employed women, including those in atypical forms of dependent work in the informal economy. The minimum leave period was extended from the 12 weeks specified in earlier Conventions to 14 weeks in Convention No. 183, and 18 weeks in Recommendation No. 19. Convention No. 183 requires cash benefits to reach at least two-thirds of previous earnings, while Recommendation No. 191 suggests that the level of cash benefits should be raised to the full amount of previous earnings, where practicable. Furthermore, Convention No. 183 provides stronger employment protections by requiring health protection measures as well as to ensure that maternity does not constitute grounds for discrimination in employment, including in access to employment, and explicitly prohibiting pregnancy tests as part of candidate selection procedures (except in very limited specific circumstances to protect the woman's and the baby's health). In terms of breastfeeding, Recommendation No. 191 calls for the establishment of breastfeeding facilities at the workplace.

With regards to cash benefits, a consistent theme in all ILO maternity protection Conventions is to ensure that maternity cash benefits are provided through public funds or social insurance. Convention No. 183 insists in Article 6 paragraph 8 that "benefits in respect of the leave referred to in Articles 4 and 5 [maternity leave and leave in case of

illness or complications] ⁷ shall be provided through compulsory social insurance or public funds, or in a manner determined by national law and practice.” Recommendation No. 191 emphasizes the way the collective resource pool should be comprised, specifically that **both men and women should contribute**: “Any contribution due under compulsory social insurance providing maternity benefits and any tax based on payrolls which is raised for the purpose of providing such benefits, whether paid by both the employer and the employees, [...] should be paid in respect of the total number of men and women employed, without distinction of sex.” Furthermore, Convention No. 102, with regards to general principles in financing social insurance schemes, states that the total of insurance contributions borne by the employees should not exceed 50 per cent of the total financial resources allocated to social security. These principles ensure a broad, stable pooling of resources that avoids adverse selection and ensures fair distribution of the costs and responsibilities for reproduction **between non-childbearing individuals and childbearing individuals, regardless of age and sex, and comparable to child benefits**. Thus, even persons who can certify medically an inability to bear children should contribute.

As to the frequency of payments for cash maternity benefits, international labour standards require periodic payments as opposed to a lump-sum payment during the entire duration of maternity leave (Article 52 of Convention No. 102). This is consistent with the function of income replacement attributed to cash benefits. In practice, most maternity cash benefit schemes around the world provide for a benefit payment mechanism that follows the same frequency of payments as usual salaries and wages.

2.3. Financing maternity protection schemes: Social insurance versus employer liability ⁸

Maternity cash benefits can be financed through different types of schemes, including social insurance, social assistance, universal schemes, and employer liability schemes. The ILO strongly advocates for publically funded or social insurance schemes and places the responsibility for the sound financing of maternity schemes on the State through all its social security and maternity protection standards. Financing of maternity benefits should be borne collectively based on insurance contributions and/or taxation. Pooling financial resources ensures fair distribution of the cost and redistribution through pooling creates incentives for employers to hire females and males on an equitable basis.

According to worldwide experience, employer liability schemes create disincentives for employers to hire women who may become pregnant and incentives to discharge pregnant employees in order to avoid paying maternity benefits as well as wages to replacement workers during maternity leave. ⁹ Labour administrations often face difficulties in enforcing employers’ compliance in employer liability compensation schemes, particularly in developing countries. Administrative costs with respect to providing direct maternity compensation is substantial for small enterprises. In summary, employer liability schemes are detrimental to the promotion of equal treatment for men and

⁷ Our addition.

⁸ ILO: *Maternity Protection Resource Package: From aspiration to reality for all*, ILO Conditions of Work and Employment Programme (TRAVAIL) (Geneva, 2012), p. 26.

⁹ *Ibid.*

women in the labour market. There has been a shift in the last 20 years from employer liability systems to collectively financed maternity benefits, mainly through social insurance schemes. The percentage of countries that finance cash maternity benefits through employer liability systems decreased from 31 per cent in 1994 to 26 per cent in 2009.

Figure 2.1. Brief overview of the main requirements: ILO social security standards on maternity¹⁰

	ILO Convention No. 102 Minimum standards	ILO Convention No. 183a and Recommendation No. 191b Higher standards	ILO Recommendation No. 202 Basic protection
What should be covered?	Medical care required by pregnancy, confinement and their consequences; resulting lost wages	C. 183: Medical care required by pregnancy, child birth and their consequences; resulting lost wages R.191: Same as C.183.	Goods and services constituting essential maternity health care Basic income security for those who are unable to earn a sufficient income due to maternity
Who should be protected?	At least: <ul style="list-style-type: none"> 50% of all women employees; or all women in categories of the active population (forming not less than 20% of all residents); or all women with means under prescribed threshold 	C. 183: All employed women including those in atypical forms of dependant work R.191: Same as C.183.	At least all women who are residents, subject to international obligations
What should the benefit be?	<i>Medical benefits:</i> At least: <ul style="list-style-type: none"> prenatal, confinement and post-natal care by qualified practitioners; hospitalization if necessary <i>Cash benefits:</i> periodic payment: at least 45% of the reference wage	C. 183: <i>Medical benefits:</i> At least prenatal, childbirth and post-natal care by qualified practitioners; hospitalization if necessary Daily remunerated breaks or reduced hours for breastfeeding <i>Cash benefits:</i> At least 66.67% of previous earnings; should maintain mother and child in proper conditions of health and a suitable standard of living R.191: Cash benefits should be raised to the full amount of the woman's previous earnings	<i>Medical benefits:</i> should meet criteria of availability, accessibility, acceptability and quality; free prenatal and post-natal medical care should be considered for the most vulnerable <i>Benefits in cash or in kind:</i> should ensure basic income security, so as to secure effective access to necessary goods and services, and be at a level that prevents or alleviates poverty, vulnerability and social exclusion and allows life in dignity. Levels should be regularly reviewed
What should the benefit duration be?	At least 12 weeks for cash benefits	C. 183: 14 weeks' maternity leave, including 6 weeks' compulsory leave after childbirth; additional leave before or after maternity leave in case of illness, complications or risk of complications arising from pregnancy or childbirth R.191: 18 weeks' maternity leave Extension of the maternity leave in the event of multiple births	As long as the incapacity to earn a sufficient income remains
What conditions can be prescribed for entitlement to a benefit?	As considered necessary to preclude abuse	C.183: Conditions must be met by a large majority of women; those who do not meet conditions are entitled to social assistance R.191: Same as C.183	Should be defined at national level and prescribed by law, applying the principles of non-discrimination, responsiveness to special needs and social inclusion, and ensuring the rights and dignity of women

^a Maternity Protection Convention, 2000. ^b Maternity Protection Recommendation, 2000.

¹⁰ ILO: 2014 World Social Protection Report 2014/15: Building economic recovery, inclusive development and social justice. Available in: http://www.ilo.org/global/research/global-reports/world-social-security-report/2014/WCMS_245201/lang--en/index.htm [03 Nov. 2014].

3. Maternity cash benefits in Rwanda

Rwanda has put in place various laws and policies on maternity protection at work. The current labour laws provide for paid leave and benefits, including maternity leave and cash benefits for public and private sector employees. The public sector maternity scheme is regulated through the Law Establishing the General Statutes for Public Service No. 86/2013 of 11 September 2013, while the private sector maternity scheme is organized through the Law Regulating Labour in Rwanda No. 13/2009 of 27 May 2009. The following section provides a brief description and analysis of current maternity leave and cash benefits provisions. While existing collective agreements might offer better maternity protection from the current legislation, the report does not comment on them as they may differ from one company/employer to another.

3.1 Existing national legislation on maternity protection

A general law regulating general labour relations and a specific law governing labour relations for public servants include existing legal provisions for maternity protection through social security.

Law Regulating Labour in Rwanda No. 13/2009 of 27 May 2009

The Law Regulating Labour in Rwanda No. 13/2009 of 27 May 2009 is the foundation of all labour relations in Rwanda, outlining and defining employment relations, the actors of the formal labour sector, and their obligations to each other. Articles 2 and 3 determine the scope of the Law and to whom it applies. Thus, all workers under a contract of employment either oral or written (see article 1(2) (32) for definitions of contract of employment and worker), trainees, and apprentices under employment contracts are covered by the general labour law. Exclusions from the scope of this law are public sector employees who are governed by specific statutes, workers in family agricultural, breeding, commercial or industrial activities, and informal sector workers (defined in article 1(38)). However, the exclusion from the scope of this legislation does not extend to social security provisions, thus making maternity provisions in this law applicable to all categories of workers in the private sector.

Maternity protection is primarily covered in section 3, articles 64 through 69, of the Law Regulating Labour in Rwanda. Article 64 sets the scope of maternity leave, while article 66 sets the replacement rate of lost income during maternity leave:

Article 64: Maternity leave duration

Every employed woman has the right to a maternity leave of **twelve (12) consecutive weeks**. This woman may decide to start benefiting from this leave **two (2) weeks before** the tentative date of delivery.

[...]

Article 66: Remuneration during maternity leave

The mother with **no maternity insurance coverage** shall, during the **first six (6) weeks** of her maternity leave, have the right to her **entire salary**. During the **last six (6) weeks** of her maternity leave, this mother may **either, resume service** and receive her full salary **or else**, have the right to **twenty per cent (20%)** of her salary.

She shall also keep enjoying the right to other types of benefits.

Thus, every employed woman, as defined by articles 2 and 3, is entitled to 12 consecutive weeks of maternity leave, with a possibility to commence the leave up to two weeks before the tentative date of delivery. The level of benefits to be paid by the employer for women without maternity insurance depends on the number of weeks taken. The first six weeks of maternity leave are payable at the full rate of the beneficiary's previous salary, while the latter six weeks are payable at 20 per cent of her previous salary. However, the law permits the beneficiary to resume work after the sixth week of maternity leave in order to recover her full salary. During the whole period of maternity leave the beneficiary continues to enjoy the right to other types of benefits (article 66(2)) including annual leave, incidental leave, among others.

Moreover, in the event of complications related to the delivery or a congenital condition in the baby that has been diagnosed and certified by a doctor, the beneficiary is entitled to additional paid maternity leave for a maximum of one month to ensure the child's and/or the mother's health (article 69).

Law Establishing the General Statutes for Public Service No. 86/2013 of 11 September 2013

As mentioned in the subsection above, public sector employees are excluded explicitly from the scope of the general Law Regulating Labour in Rwanda. A specific legislation, the Law Establishing the General Statutes for Public Service adopted in 2013, governs their labour relationships. This law applies to public servants employed on a permanent basis (article 2), thus excluding contractual public servants who are governed by the Law Regulating Labour in Rwanda No. 13/2009 of 27 May 2009.¹¹

Maternity leave and cash benefits are provided for and determined under chapter 4, articles 22 through 24 of the legislation. These provisions encompass similar rights as those awarded to private sector workers. Indeed, the duration and replacement rate of maternity leave and cash benefits are identical. Thus, the replacement rate for the first six weeks is established at 100 per cent of the beneficiary's salary while in the latter six weeks the replacement rate falls to 20 per cent of the beneficiary's salary. The option to go back to work after six weeks of maternity leave is also maintained for public servants. In addition, the public servant is also entitled to additional leave of at most one month payable at 100 per cent of the income replacement rate in the case of complications related to childbirth.

The only notable difference between the public and private regimes is that the voluntary two weeks of maternity leave before delivery or due date is made compulsory in the public sector maternity regime.

¹¹ Article 13 defines a public servant as *any person with a permanent job position or working on employment contract in public service and who is paid out of the public funds.*

3.2. Gaps between the duration and levels of cash benefits established by national legislation and international standards

In light of Chapter VIII of the Social Security (Minimum Standards) Convention, 1952 (No. 102), and the most advanced and up-to-date Maternity Protection Convention, 2000 (No. 183), explained in section 2 of this report, gaps regarding maternity cash benefits have been identified between the current Rwandan provisions for maternity and these international labour standards, namely on the level and duration of cash benefits and the financing mechanisms of the cash benefits.

The **first gaps** identified pertain to the level and duration of maternity cash benefits. The Rwandan provisions for maternity protection provide an average of a 60 per cent replacement rate for 12 weeks of maternity leave (100 per cent for the first six weeks and 20 per cent for the remaining six weeks). On average the replacement rate of the maternity cash benefit meets the requirement under Convention No. 102, which requires an average replacement rate of 45 per cent over the total 12-week maternity leave. However, under more recent standards on maternity protection, Convention No. 183 establishes a replacement rate of two-thirds (approximately 67 per cent) of previous earnings for at least 14 weeks, including six compulsory weeks after childbirth. Provisions from both the Law Establishing the General Statutes for Public Service and the Law Regulating Labour in Rwanda meet neither the requirement on the duration of protection nor the requirement on the replacement rate.

Furthermore, the current legal framework for maternity protection is based on employer liability, making the employer solely responsible for financing maternity cash benefits. Both Conventions Nos 102 and 183 require a financing mechanism based on collective risk sharing through social insurance, public funding, or any other risk-sharing mechanism identified and agreed upon by the government and representatives of workers and employers. In principle, these Conventions prohibit employers from being solely responsible for financing maternity cash benefits except under very strict conditions.¹²

3.3. Maternity protection around the world

This section examines trends in maternity protection around the world with particular focus on the duration of national statutory leave and the replacement rate to compensate the loss of income in light of international standards.

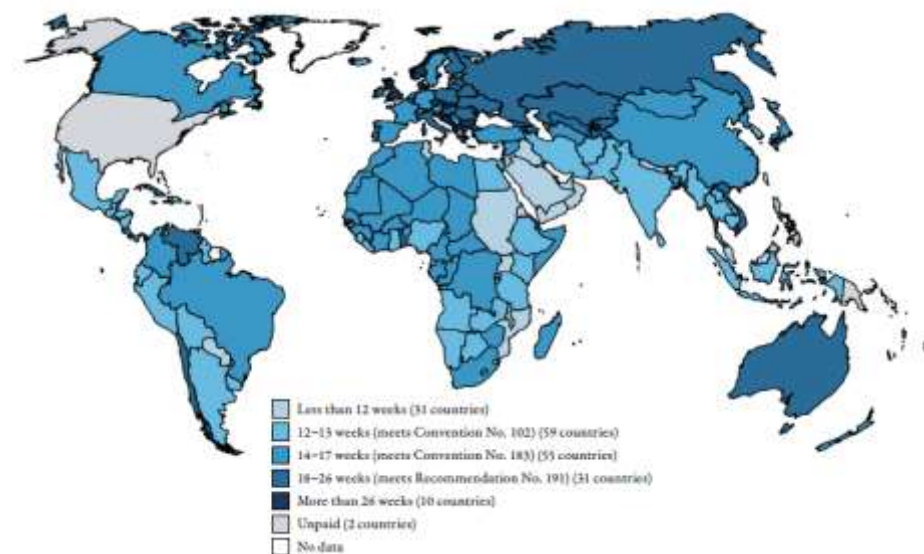
The majority of countries around the world offer more than 12 weeks of paid maternity leave, the minimum established by international standards. In fact, according to the *World Social Protection Report 2014/15*, of the 188 countries studied, 96 provided maternity leave of at least 14 weeks (51 per cent), meeting the requirements of Convention No. 183. Furthermore, 59 countries (32 per cent) provided 12 to 13 weeks of leave, meeting the minimum requirements in Convention No. 102, while 27 countries (15 per

¹² Article 8 of the Maternity Protection Convention, 2000 (No. 183), states that employers shall not be individually liable to finance cash benefits without their consent, except for member States where such a financing mechanism was in place before the adoption of the Convention in 2000 by the International Labour Conference (ILC) or have an agreement at the national level between the government and the representatives of employers and workers.

cent) provide less than 12 weeks of paid maternity leave.¹³ Among the 52 African countries analysed, almost half (48 per cent) provide at least 14 weeks of leave and an additional 35 per cent provide 12 to 13 weeks. A minority of countries (17 per cent) provides less than 12 weeks of leave.

Looking at the evolution of national legislation, a recent ILO study on maternity and paternity at work found that the global trend over the last 20 years has been to increase the duration of maternity leave to exceed the ILO's minimum standards.¹⁴ Thus, more and more countries are shifting towards longer maternity leave. It is to be noted that **none** of the countries studied reduced the duration of existing statutory paid maternity leave below the 12-week minimum required by ILO standards in the last 20 years.

Figure 3.1. Paid maternity leave: A world map



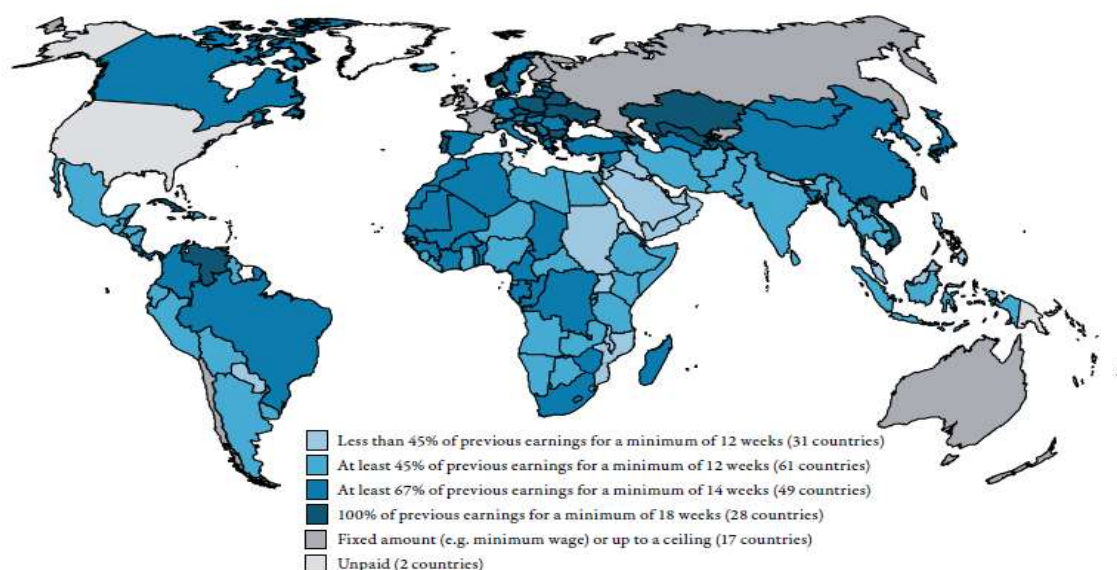
Source: *World Social Protection Report 2014-15*, 2014, p.65

Regarding the levels of compensation for the loss of income due to maternity, the levels of maternity cash benefits vary widely from country to country. According to the *World Social Protection Report 2014-15*, 77 countries out of 188 countries analysed offered new mothers at least two-thirds of their regular salaries for at least 14 weeks, conforming to Convention No. 183. In 28 countries women have a right to 100 per cent of their regular salary for at least 18 weeks, which is consistent with the highest standard set out in Recommendation No. 191. In 61 countries women are entitled to benefits of between 45 per cent and 67 per cent of their previous salaries for a period of 12–13 weeks, complying with the minimum standard set by Convention No. 102. In 31 countries, the cash benefit corresponds to less than 45 per cent of the previous salary and/or the period of paid maternity leave is inferior to 12 weeks.

¹³ ILO: *World Social Protection Report (WSPR) 2014-15: Building economic recovery, inclusive development and social justice* (Geneva, 2014).

¹⁴ ILO: *Maternity and paternity at work: Law and Practice around the World*, ILO Conditions of Work and Employment Programme (TRAVAIL) (Geneva, 2014).

Figure 3.2. Level of benefits around the world



Note: Where the level of maternity benefits changes at some point during the maternity leave (hypothetical example: 100 per cent of the previous earnings for the first four weeks and 80 per cent for weeks thereafter), the figure shows the average level over the entire maternity leave.

Source: Based on ILO Working Conditions Laws database.

Link: <http://www.social-protection.org/gimi/gess/RessourceDownload.action?ressource.ressourceid=42013>.

As Rwanda is revising its maternity protection scheme, this is an opportunity to be a trendsetter for the African region and specifically the East African Community for the advancement of women's rights at work. By providing working women in Rwanda better maternity protection, the Rwandan Government sends a clear message that it is taking concrete action to reduce gender inequality and discrimination at work.

3.4. Insurance options for maternity schemes

The present report analyses various policy options with respect to schemes, benefits, and financing of benefits. Dimensions of the different options are as follows:

Three different schemes are proposed providing different levels of benefits:

- a compulsory social insurance scheme that provides 100 per cent of wages for the entire maternity period;
- a supplementary social insurance scheme that provides 80 per cent of wages for the latter six weeks of the maternity leave; and
- an employer liability scheme that provides 100 per cent of wages for the first six weeks of maternity leave.

Proposed contributors to the scheme include:

- both male and female workers, employers, and the Government;
- female workers, employers, and the Government; and

-
- employers and the Government.

Benefit durations include:¹⁵

- 12 weeks;
- 14 weeks; and
- 18 weeks.

Three options have been proposed by the ILO and six by the Government. The first three options are in line with the ILO Conventions and Recommendations on maternity benefits. The six options proposed by the Government are not in line with ILO recommendations as they are discriminatory and against gender equality. Nevertheless, cost estimates of these options are provided for illustrative purposes only since they are proposed by the Government.

The first three options in line with ILO recommendations are:

- Option 1: A compulsory social insurance scheme that provides a maternity benefit of 100 per cent of wages for 12 weeks. Both male and female workers, employers, and the Government will contribute.
- Option 2: A compulsory social insurance scheme that provides a maternity benefit of 100 per cent of wages for 14 weeks. Both male and female workers, employers, and the Government will contribute.
- Option 3: A compulsory social insurance scheme that provides a maternity benefit of 100 per cent of wages for 18 weeks. Both male and female workers, employers, and the Government will contribute.

The six options proposed by the Government are:

- Option 4: A supplementary social insurance scheme that provides a maternity benefit of 80 per cent of wages during the latter six weeks of maternity leave. Both male and female workers, employers, and the Government will contribute.
- Option 5: A compulsory social insurance scheme that provides a maternity benefit of 100 per cent of wages for 12 weeks. Only female workers, employers, and the Government will contribute.
- Option 6: A compulsory social insurance scheme that provides a maternity benefit of 100 per cent of wages for 14 weeks. Only female workers, employers, and the Government will contribute.
- Option 7: A compulsory social insurance scheme that provides a maternity benefit of 100 per cent of wages for 18 weeks. Only female workers, employers, and the Government will contribute.

¹⁵ Durations correspond to the minimum period in Convention No. 102, Convention No. 183, and Recommendation No. 191.

Option 8: A supplementary social insurance scheme that provides a maternity benefit of 80 per cent of wages during the latter six weeks of maternity leave. Only female workers, employers, and the Government will contribute.

Option 9: Employers pay the 100 per cent of salary for the first six weeks and the social insurance scheme pays the 100 per cent of salary for the latter six weeks. Both male and female workers, employers, and the Government will contribute to the social insurance scheme for the benefit paid in the latter six weeks.

Another Option for which 100 per cent of wages are provided for eight weeks with both female and male contributors is also assessed since this option is being considered by the Government.

3.4.1. Qualifying conditions

Qualifying conditions for the new maternity benefit are set as follows:

- The benefit is payable to all female employees currently insured under the pension and occupational hazards schemes.
- The benefit is granted in the event of suspension of earnings due to pregnancy and confinement and their consequences.
- There should be conditions to preclude abuse. For example, a woman must contribute for at least three months out of six months or six months out of 12 months preceding the commencement of maternity leave.¹⁶
- The beneficiary must present a medical certificate with an estimated date of birth (only in cases where leave starts before delivery) or a birth record.
- There is no limit on the number of claims for individual females.
- Payments cease upon return to work.

3.4.2. Pay-As-You-Go (PAYG) financing method

Maternity benefits are usually provided for several months and annual expenditures are relatively stable over time. Therefore, the Pay-As-You-Go (PAYG) financing system is adopted. Under this system, a contribution rate is set to meet annual benefit expenditures and administration costs. A small margin is usually added to the contribution rate in order to build contingency reserves for unexpected fluctuations of income and expenditures.

¹⁶ There should be transitional measures stipulated during the introduction of the chosen scheme. For example, eligibility could be determined by counting the working period before the implementation date of the scheme as the contribution period.

4. Demographic and financing projections

The main objective of this study is to assess, for each policy option, the contribution rate of a newly introduced social insurance scheme. Options include the Government proposal to set up a social insurance scheme which provides 80 per cent of salary for the latter six weeks of maternity leave in order to supplement the 20 per cent of salary paid directly by employers, as well as the ILO's recommended options of entirely shifting from an employer liability to a social insurance scheme.

In principle, the financing method for maternity benefits is a PAYG method, namely to finance annual total expenditures solely by social insurance contributions. However, some margins are added to the PAYG cost rate in order to build up contingency reserves for fluctuating income and expenditures.

Based on the information obtained for the year 2013, projections have been calculated from 2014 until 2025.

4.1. Assumptions

The main assumptions used for the projections are summarized in the following table:

Table 4.1. Main assumptions used for the projections

Assumptions	Description
Total fertility rate (TFR)	TFR 3.4 in 2010 (TFR for urban areas) is assumed to decrease linearly to 2.98 in 2020 and kept constant afterwards.
Coverage rate of the insured population	Coverage rate is defined as the ratio of the number of insured members divided by the number of the labour force. The coverage rate has been maintained constant for each age and sex for the whole projection period.
Covered population	Active insured members of RSSB Pension and Occupational Hazard Scheme.
Administrative expenditures	Assumed to be 10% of total benefit expenditures.
Density of contributions and salaries	Estimated, based on RSSB pension scheme data for the year 2013, separately by gender, age, and sector (public vs. private).
Rate of return on investment	An investment return of 7.5% is assumed for the projection period.

4.2. Estimation of the population covered by the maternity scheme

The ILO estimates of labour force participation rates classified by age and sex is used. (See table A3 in the annex). The projection provides a slight decrease in the labour force participation rates for both men and women between the years 2013 and 2025. The male labour force participation rates are projected to decline for younger and older ages while remaining constant for the ages in between. The female labour force participation rates are projected to decline for all ages and especially for younger and older ages.

Active members of the RSSB, as seen in table 4.2, are regarded as the insured members of the new maternity benefit scheme.

Table 4.2. Distribution of insured active members from private and public sectors, 2013

Both sexes	Number	Percentage of LF	Average salary
15-19	4 567	0.5%	146 418
20-24	39 560	5.2%	640 271
25-29	83 939	8.3%	1 320 338
30-34	75 862	9.2%	1 988 322
35-39	52 712	8.9%	2 466 807
40-44	37 598	8.8%	2 722 792
45-49	24 274	6.8%	2 794 433
50-54	16 459	5.3%	2 760 619
55-59	8 912	3.8%	2 787 579
60-64	3 769	2.2%	2 921 567
Total	347 652	6.2%	1 924 882
Male			
15-19	2 773	0.6%	155 020
20-24	26 874	7.4%	610 581
25-29	56 997	11.7%	1 261 774
30-34	52 086	13.3%	1 927 655
35-39	37 447	13.0%	2 454 005
40-44	27 354	13.5%	2 767 197
45-49	17 617	10.2%	2 863 342
50-54	12 188	8.3%	2 822 273
55-59	6 909	6.7%	2 839 498
60-64	3 061	4.0%	2 991 606
Total	243 304	9.1%	1 933 226
Female			
15-19	1 795	0.4%	133 130
20-24	12 686	3.2%	703 167
25-29	26 947	5.1%	1 444 235
30-34	23 776	5.5%	2 121 227
35-39	15 265	4.9%	2 498 214
40-44	10 244	4.6%	2 604 226
45-49	6 658	3.7%	2 612 093
50-54	4 271	1.1%	2 584 662
55-59	2 003	0.5%	2 608 529
60-64	709	0.2%	2 619 153
Total	104 348	3.5%	1 905 427

Sources: RSSB, ILO Stats.

The coverage rates for active members in the labour force are calculated by gender and age groups as seen in the second column of table 4.2. The coverage rates by gender and age groups have been maintained constant over the whole projection period. Implicitly, this means that the absolute numbers of active members are assumed to evolve in line with projected growth in the labour force. The numbers of insured active members by age, gender, year, and sector are shown in tables A4 and A5 in the Annex.

Table 4.3. Population, labour force (ages 15-64), and covered population (in thousands), and coverage rates for the projection period, 2014-25

Both sexes	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total population	10 925	11 141	11 363	11 590	11 820	12 053	12 290	12 529	12 772	13 017	13 264	13 514
Labour force	5 844	6 046	6 234	6 411	6 586	6 767	6 962	7 172	7 395	7 627	7 862	8 096
Population covered	359	371	384	397	411	425	439	454	469	485	500	516
Male												
Total population	5 273	5 383	5 496	5 610	5 727	5 845	5 964	6 085	6 207	6 331	6 456	6 582
Labour force	2 785	2,884	2 978	3 066	3 153	3 244	3 341	3 446	3 558	3 673	3 790	3 906
Population covered	251	260	269	279	288	298	309	319	330	341	353	364
Female												
Total population	5 652	5 758	5 868	5 979	6 093	6 209	6 326	6 444	6 564	6 686	6 808	6 932
Labour force	3 059	3 161	3 256	3 346	3 433	3 523	3 620	3 726	3 838	3 954	4 072	4 190
Population covered	108	111	115	119	122	126	130	134	139	143	148	152
Coverage rates												
Both	6.1%	6.1%	6.2%	6.2%	6.2%	6.3%	6.3%	6.3%	6.3%	6.4%	6.4%	6.4%
Male	9.0%	9.0%	9.0%	9.1%	9.1%	9.2%	9.2%	9.3%	9.3%	9.3%	9.3%	9.3%
Female	3.5%	3.5%	3.5%	3.5%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%

4.3. Estimation of salaries and salary mass

A projection of the total salary mass was carried out in order to compute the contributory basis for the scheme needed to finance expenditures.

Salary data for active members of the Rwanda Pension and Occupational Hazard Scheme have been provided by age, gender, and sector for the year 2013. The average salary by age and gender is shown in table A6 of the annex. Average salaries have been estimated over the whole projection period by using salary growth assumptions shown in table 4.5.

Table 4.4 reports the density of contributions estimated separately for the private and public sectors by both gender and age based on contributing months for the year 2013.

Table 4.4. Density of contributions by sector, gender, and age, 2013

Age	Private		Age	Public	
	Males	Females		Males	Females
15	0.525510	0.426829	18	0.607143	0.657407
20	0.559083	0.595213	23	0.856969	0.83667
25	0.699234	0.718956	28	0.912767	0.919106
30	0.765007	0.792131	33	0.935311	0.934783
35	0.789888	0.806402	38	0.946464	0.934965
40	0.793263	0.801887	43	0.945800	0.932095
45	0.795664	0.791041	48	0.931217	0.949115
50	0.803095	0.804974	53	0.911142	0.954545
55	0.784799	0.782369	58	0.907186	0.942446
60	0.785514	0.783708	63	0.893466	0.908333
64	0.791494	0.755000	64	0.922535	0.904762

Source: RSSB data and own calculations.

Note: the density of contribution is the ratio of the average number of contributed months divided by 12.

The salary growth rate is assumed to be the same as the productivity growth rate. Real productivity growth has been estimated based on assumed GDP real growth and the projected number of the employed population. The inflation projection from the *IMF World Economic Outlook* is adopted to inflate the real values into nominal values. The economic variables used to estimate salary growth are reported in table A7 in the annex.

Table 4.5. Annual inflation, nominal salary increase, and nominal interest rate (in %)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Inflation	4.07	4.75	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Nominal salary increase rate	7.78	8.80	9.41	9.67	9.80	9.78	8.64	8.34	8.04	7.74	7.44	7.14
Interest rate	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50

Sources: IMF World Economic Outlook 2014, actuarial valuation of the Rwanda Pension and Occupational Hazards Scheme as at 30 June 2012, ILO statistics, and ILO's own calculations.

The total salary mass has been estimated by multiplying the number of active insured members by the average salary and density of contributions classified by age, gender, and sector.

4.4. Estimation of annual births

The fertility rates for actively insured female members are assumed to be the same as the fertility rates of the urban population. Since fertility rates for female wage earners are usually lower than the fertility rates for residents in urban areas, the estimate of annual births and hence the cost incurred for the maternity benefits is deemed to be conservative. Data with respect to insured members as well as female beneficiaries should be collected once the scheme is implemented in order to improve the accuracy of future projections.

The fertility rates for the urban population have been provided by the 2010 Demographic and Health Survey (DHS) classified by age groups. The projected fertility rates have been built based on 2010 urban fertility rates and the fertility trend of the UN World Population Prospects (WPP) between 2011 and 2020 (high fertility estimate). From 2020 onwards, the fertility rates are assumed to be constant.

Table 4.6. Assumed fertility ratios by age groups of females and total fertility rate

Age group	2010	2014	2020
15-21	0.0630	0.0855	0.0991
22-28	0.1721	0.1856	0.1938
29-35	0.1399	0.1146	0.0992
36-42	0.0926	0.0551	0.0323
43-49	0.0232	0.0095	0.0012
Total fertility rate	3.44	3.15	2.98

Sources: Own calculations from demographic data from the UN WPP and DHS 2010.

Notes: Urban fertility rates from the DHS 2010 have been used and projected using the high assumptions of the UN WPP.

The total number of beneficiaries is estimated by multiplying the projected fertility rate by the number of insured members classified by age groups. The number of new births for each year is shown in table A8 of the annex.

4.5. Estimation of costs and PAYG rate

The benefit expenditure is calculated as follows:

$$B = \left(\sum_x N \times T \times S \right) \times E \times R \times D$$

Where:

B: total benefit expenditures in y financial year;

N: number of females in the population covered by the system for each age, x;

T: percentage of women of age x who give birth (namely, age-wise fertility rates);

S: average monthly salary of women of age x;

E: percentage of women who satisfy the qualifying period;

R: percentage of salary paid during the maternity leave (namely, the replacement rate); and

D: average duration of maternity leave expressed in months.

Benefit expenditures are obtained by multiplying the projected number of beneficiaries by the number of months during which the cash benefit is paid and the average monthly benefit amount.

The number of beneficiaries is obtained by multiplying the number of births by the assumed percentage of women who satisfy the qualifying conditions for the benefits. Without any experience available, it was conservatively assumed that the percentage of women who satisfy the qualifying period is 100 per cent.

Administrative expenditures are assumed to be 10 per cent of total benefit expenditures.

The table below shows the estimated evolutions of the PAYG cost rates from 2014 to 2025 for the three options recommended by the ILO.

The PAYG cost rates are projected to decrease from 0.89 per cent in 2014 to 0.7 per cent in 2020 for Option 1, from 1.04 per cent to 0.80 per cent for Option 2, and from 1.33 per cent to 1.03 per cent for Option 3, mainly due to the assumed decrease of the fertility rates.

Table 4.7. Projected expenditures for maternity benefits, administration costs, and the PAYG cost rate for the three options recommended by the ILO, 2014-25 (in billions Rwandan francs)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Option 1												
Maternity benefit	5.12	5.50	5.94	6.43	7.00	7.69	8.46	9.43	10.51	11.71	12.98	14.29
Administrative costs	0.51	0.55	0.59	0.64	0.70	0.77	0.85	0.94	1.05	1.17	1.30	1.43
PAYG rate	0.89	0.84	0.80	0.76	0.73	0.71	0.69	0.68	0.68	0.68	0.68	0.68
Option 2												
Maternity benefit	5.97	6.42	6.93	7.50	8.17	8.97	9.88	11.00	12.27	13.66	15.14	16.68
Administrative costs	0.60	0.64	0.69	0.75	0.82	0.90	0.99	1.10	1.23	1.37	1.51	1.67
PAYG rate	1.04	0.98	0.94	0.89	0.85	0.82	0.80	0.80	0.80	0.80	0.79	0.79
Option 3												
Maternity benefit	7.68	8.26	8.91	9.65	10.50	11.54	12.70	14.14	15.77	17.56	19.47	21.44
Administrative costs	0.77	0.83	0.89	0.96	1.05	1.15	1.27	1.41	1.58	1.76	1.95	2.14
PAYG rate	1.33	1.27	1.20	1.15	1.10	1.06	1.03	1.03	1.02	1.02	1.02	1.01

Notes: ILO's own calculations. The PAYG cost rate is defined as total expenditures (benefits and administration) divided by the salary mass of active insured persons. The PAYG cost rate is the percentage of the salary needed to finance total expenditures only by contribution income from the scheme.

Table 4.8 shows the evolution of the PAYG cost rates from 2014 to 2025 for the options proposed by the Government only for illustrative purposes.

Table 4.8. Projected expenditure of maternity benefits, administration costs and the PAYG cost rate of the options proposed by the Government, 2014-25 (in billions Rwandan francs)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Option 4												
Maternity benefit	2.05	2.20	2.38	2.57	2.80	3.08	3.39	3.77	4.21	4.68	5.19	5.72
Administrative costs	0.20	0.22	0.24	0.26	0.28	0.31	0.34	0.38	0.42	0.47	0.52	0.57
PAYG rate	0.35	0.34	0.32	0.31	0.29	0.28	0.28	0.27	0.27	0.27	0.27	0.27
Option 5												
PAYG rate	2.98	2.82	2.69	2.56	2.46	2.38	2.40	2.32	2.32	2.32	2.32	2.31
Option 6												
PAYG rate	3.48	3.29	3.14	2.99	2.87	2.78	2.80	2.71	2.70	2.70	2.70	2.69
Option 7												
PAYG rate	4.48	4.24	4.03	3.85	3.69	3.57	3.60	3.48	3.48	3.48	3.47	3.46
Option 8												
PAYG rate	1.19	1.13	1.08	1.03	0.98	0.95	0.96	0.93	0.93	0.93	0.93	0.92
Option 9												
PAYG rate	0.44	0.42	0.40	0.38	0.37	0.35	0.34	0.34	0.34	0.34	0.34	0.34

Notes: the maternity benefit and administrative expenditures of option 5, 6, and 7 are the same as the options 1, 2, and 3, respectively. The maternity benefit and administrative expenditures of option 8 are the same as option 4. The total maternity benefit and administrative expenditures for option 9 are the same as option 1. Nevertheless, the social insurance benefit and administrative expenditures are only half of the total expenditures as the other half is paid by the employer liability scheme. Therefore, the estimated PAYG cost rate for option 9 concerns only the latter six weeks paid by the social insurance scheme.

The PAYG cost rates are estimated to decrease from 0.35 per cent in 2014 to 0.27 per cent in 2021 for Option 4, from 2.98 per cent to 2.32 per cent for Option 5, from 3.48 per cent to 2.71 per cent for Option 6, from 4.48 per cent to 3.48 per cent for Option 7, from 1.19 per cent to 0.92 per cent for Option 8, and from 0.44 per cent to 0.34 for Option 9.

The PAYG cost rates for options for which only female workers pay contributions are substantially higher than the PAYG cost rates for options for which both male as well as female workers contribute.

The option for which 100 per cent of wages are provided for eight weeks with both female and male contributors is also assessed as this Option is being considered by the Government. The PAYG rate is expected to decrease from 0.59 per cent in 2014 to 0.45 per cent in 2025. Nevertheless, the ILO does not recommend this option since ILO Convention No. 102 stipulates a minimum benefit duration of 12 weeks.

4.6. Simulation of the reserves

Building contingency reserves is important, even for short-term benefit schemes based on a PAYG financing method, in case of unexpected higher expenditures and lower income due to demographic or economic fluctuations. A contribution rate set above the PAYG cost rate allows for the accumulation of reserves and investment income from the reserves. The annual investment return assumed in the Government Actuary's Department (GAD) Actuarial valuation of the Rwanda Pension and Occupational Hazards Scheme, 2012, was 7.5 per cent for the entire projection period. This assumes a real return of 2.5 per cent over price inflation. The same assumption was adopted in the estimates.

Table 4.9 shows simulations of the cash flow at the end of the year (in millions Rwandan francs) of the maternity scheme based on Option 1, namely maternity benefits at the rate of 100 per cent of wages to be provided for 12 weeks.

The annual reserve at the end of the year is the annual reserve at the beginning of the year plus primary balance and investment income. The reserve ratio shown in the last row of table 4.9 is defined as the accumulated reserves divided by the total annual expenditures of the scheme. The reserve ratio represents the number of years that the reserve could finance the expenditures without income. This ratio is an indicator of the financial robustness of the scheme under adverse demographic and economic environments.

It is important to bear in mind that the current actuarial assessment relies on limited data, which is normal at the introduction of a new scheme. It is recommended that scheme-specific data be collected once the scheme is implemented so as to improve accuracy of future assessments of the contribution rate.

Table 4.9. Simulation of cash flow (in millions) for Option 1, 2014-25, assuming 1% contribution rate

Contribution rate: 1.0%	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income	6 370	7 268	8 352	9 629	11 123	12 855	14 712	16 786	19 087	21 623	24 406	27 448
Contribution income	6 343	7 172	8 147	9 266	10 545	11 993	13 497	15 144	16 941	18 889	20 990	23 242
Investment income	27	95	205	363	579	861	1 215	1 642	2 146	2 734	3 416	4 206
Expenditures	5 629	6 054	6 536	7 076	7 703	8 459	9 311	10 373	11 566	12 879	14 276	15 724
Maternity benefit	5 117	5 504	5 942	6 433	7 002	7 690	8 465	9 430	10 515	11 708	12 978	14 295
Administration costs	512	550	594	643	700	769	846	943	1 051	1 171	1 298	1 429
Primary balance	714	1 118	1 611	2 190	2 842	3 534	4 185	4 771	5 374	6 010	6 714	7 518
Reserve	714	1 928	3 744	6 298	9 719	14 114	19 514	25 928	33 449	42 192	52 323	64 047
Reserve ratio	0.13	0.32	0.57	0.89	1.26	1.67	2.10	2.50	2.89	3.28	3.67	4.07
Scheme implementation at the beginning of 2015												
Reserve		1 118	2 874	5 362	8 713	13 033	18 352	24 679	32 105	40 748	50 771	62 379
Reserve ratio		0.18	0.44	0.76	1.13	1.54	1.97	2.38	2.78	3.16	3.56	3.97
Scheme implementation at the beginning of 2016												
Reserve			1 611	4 005	7 254	11 464	16 666	22 866	30 157	38 654	48 519	59 958
Reserve ratio			0.25	0.57	0.94	1.36	1.79	2.20	2.61	3.00	3.40	3.81

Notes: The primary balance is the surplus or deficit at the end of each year considering the total contribution income and the total expenditure. The Reserves at the end of the year is the sum of the reserves at the end of the last year plus the primary balance and investment income

The reserves were estimated based on three different implementation dates, namely at the beginning of the year 2014, 2015, and 2016.

The following table depicts the financial development for Option 9, where 100 per cent of salary is paid directly by employers for the first six weeks and 100 per cent of salary is paid by the social insurance scheme for the latter six weeks. The contribution rate is assumed to be 0.6 per cent of the wages for the social insurance fund.

Table 4.10. Simulation of cash flow (in millions Rwandan francs) for Option 9, 2014-25, assuming 0.6% contribution rate

Contribution rate: 0.6%	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income	3 843	4 426	5 128	5 954	6 920	8 037	9 243	10 592	12 094	13 755	15 586	17 594
Contribution income	3 806	4 303	4 888	5 560	6 327	7 196	8 098	9 086	10 164	11 333	12 594	13 945
Interest income	37	122	240	395	593	841	1 145	1 506	1 929	2 422	2 992	3 649
Expenditure	2 815	3 027	3 268	3 538	3 851	4 230	4 656	5 186	5 783	6 439	7 138	7 862
Maternity benefit	2 559	2 752	2 971	3 216	3 501	3 845	4 232	4 715	5 257	5 854	6 489	7 147
Administration costs	256	275	297	322	350	385	423	471	526	585	649	715
Net result	991	1 276	1 620	2 022	2 475	2 966	3 442	3 900	4 381	4 894	5 456	6 083
Reserve	991	2 390	4 250	6 667	9 735	13 543	18 130	23 536	29 846	37 162	45 610	55 342
Reserve ratio	0.35	0.79	1.30	1.88	2.53	3.20	3.89	4.54	5.16	5.77	6.39	7.04
Scheme implementation at the beginning of 2015												
Reserve		1 276	3 053	5 380	8 352	12 056	16 531	21 817	27 999	35 176	43 475	53 047
Reserve ratio		0.42	0.93	1.52	2.17	2.85	3.55	4.21	4.84	5.46	6.09	6.75
Scheme implementation at the beginning of 2016												

Contribution rate: 0.6%	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Reserve			1 620	3 840	6 696	10 275	14 618	19 760	25 788	32 799	40 920	50 300
Reserve ratio			0.50	1.09	1.74	2.43	3.14	3.81	4.46	5.09	5.73	6.40

Notes: The calculations on the table only concern the income and expenditure of the social insurance scheme and do not take into account the employer liability scheme's expenditure. Thus, only six weeks of maternity benefit is considered as expenditure financed by the social insurance scheme.

5. Conclusions and recommendations

1. Following an agreement between the ILO and the Government of Rwanda, this report assesses the feasibility of a maternity insurance scheme in Rwanda, especially the design of the scheme and the contribution rate required for a new scheme. Nevertheless, the ILO has also been required to give a neutral opinion on these policy options.
2. The ILO recommends a compulsory social insurance scheme for the entire benefit period of at least 12 weeks, contributed by both male and female workers, employers, and the Government. The scheme should be introduced to replace current direct payments of maternity benefits by employers.
3. The designs of the Government's proposals are not in line with ILO policy in one or more dimensions: the duration of some proposals are below the minimum standard of 12 weeks; the scheme is voluntary; only female employees contribute to the scheme; and some options are a mixture of direct payments and a social insurance mechanism.
4. In principle, the financing method of the new social insurance scheme is a PAYG method. However, the contribution rate should be set to allow for the accumulation of contingency reserves to prepare for unexpected lower income and/or higher expenditures of the scheme.
5. The ILO recommends options for a compulsory social insurance scheme which provides maternity benefits at a replacement rate of 100 per cent of wages for 12 weeks or longer, contributed by both male and female workers, employers, and the Government. The PAYG cost rate of Option 1 with 12 weeks benefit duration is estimated at 0.89 per cent in 2014 and 0.68 per cent in 2025. A contribution rate of 1 per cent is recommended in order to build contingency reserves.
6. The current actuarial assessment relies on limited data. Scheme-specific data with respect to the insured members and future beneficiaries should be collected once the scheme is implemented so as to improve accuracy of future projections.
7. It is recommended that a set of transitional provisions should be introduced with a view to secure the maintenance of rights acquired under the previous system.
8. As the new scheme in Rwanda is expected to pay 100 per cent of gross wages, there is a good reason to ask for taxation/social security contributions to be paid out of maternity benefits, as well as payments of social security contributions from employers during the maternity leave. It is recommended that social security rights should be acquired during the maternity period, including those for pensions and health care. This can be done either by collecting contributions from the maternity benefits or the pension scheme provides credit without collecting contributions from maternity benefits. In case the pension scheme provides contribution credits without collecting contributions from the maternity scheme, the pension scheme will bear the implicit cost for pension payments and hence this will be subject to a financial assessment in the next actuarial valuation.

Annex

Table A1. Population distribution projections per age groups and gender, 2014-25 (thousands)

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
0-4	1 534	1 535	1 534	1 531	1 526	1 516	1 503	1 487	1 477	1 474	1 477	1 486	1 504
5-9	1 531	1 533	1 527	1 516	1 504	1 507	1 510	1 511	1 510	1 505	1 497	1 485	1 471
10-14	1 310	1 364	1 419	1 468	1 507	1 520	1 522	1 517	1 507	1 496	1 499	1 502	1 503
15-19	1 130	1 152	1 179	1 212	1 252	1 301	1 355	1 410	1 459	1 498	1 511	1 513	1 508
20-24	1 038	1 051	1 064	1 079	1 097	1 117	1 140	1 167	1 200	1 240	1 288	1 343	1 397
25-29	947	965	982	997	1 011	1 024	1 037	1 051	1 066	1 084	1 105	1 127	1 154
30-34	799	833	862	888	911	933	952	968	984	998	1 011	1 025	1 038
35-39	547	596	649	700	747	786	820	849	875	899	920	939	956
40-44	426	437	450	469	498	537	585	637	688	734	773	807	836
45-49	346	359	374	390	404	416	427	440	459	487	526	573	624
50-54	340	337	331	327	328	335	347	362	378	392	404	415	427
55-59	257	277	296	312	322	324	322	317	313	314	321	333	348
60-64	186	194	202	212	225	241	259	278	293	302	305	303	298
65+	339	346	357	369	383	397	413	430	451	475	503	534	567
	10 731	10 979	11 226	11 471	11 714	11 954	12 191	12 423	12 659	12 898	13 140	13 385	13 634
Male													
0-4	767	769	771	771	770	765	759	751	746	744	746	751	760
5-9	762	763	760	755	749	752	755	758	759	759	754	749	742
10-14	647	675	703	729	749	756	757	755	750	744	748	751	753
15-19	556	567	580	596	617	641	669	698	723	744	751	752	750
20-24	504	511	519	528	538	548	559	572	589	609	634	662	690
25-29	465	472	478	484	489	496	503	511	520	530	540	552	565

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
30-34	389	407	423	436	447	457	464	470	476	482	489	496	504
35-39	253	278	307	335	360	381	400	415	428	440	449	457	463
40-44	195	199	204	213	227	247	273	301	328	353	374	392	408
45-49	158	164	172	179	185	190	194	199	207	221	241	266	294
50-54	153	152	150	148	149	152	158	165	172	179	183	187	192
55-59	114	123	132	139	143	145	144	142	141	142	145	151	158
60-64	81	85	89	93	99	106	114	122	129	133	135	134	132
65+	132	136	141	146	153	159	167	175	184	195	208	221	236
	5 175	5 301	5 427	5 551	5 674	5 796	5 916	6 034	6 153	6 274	6 397	6 521	6 647
Female													
0-4	767	766	763	760	755	750	744	736	731	729	731	735	744
5-9	769	770	766	761	755	755	754	753	751	747	742	737	729
10-14	663	690	716	740	758	764	765	762	757	751	751	751	750
15-19	574	586	599	616	636	659	685	712	736	754	760	761	759
20-24	534	539	545	551	559	569	581	594	611	631	655	681	707
25-29	482	493	504	513	521	528	534	539	546	554	564	576	589
30-34	410	426	440	452	464	476	487	498	508	516	523	529	534
35-39	295	317	342	365	387	405	420	434	447	459	471	482	493
40-44	231	238	246	257	271	290	312	336	360	381	399	415	428
45-49	188	194	202	211	219	226	233	241	251	266	284	306	330
50-54	187	185	182	179	179	183	189	197	205	213	220	227	235
55-59	143	154	165	173	178	180	178	175	172	173	176	182	190
60-64	105	109	114	119	126	135	145	156	164	169	170	169	166
65+	206	210	216	222	230	238	246	256	267	280	296	313	331
	5 555	5 677	5 799	5 920	6 040	6 158	6 275	6 389	6 505	6 623	6 743	6 864	6 987

Table A2. Labour force distribution projections per age groups and gender, 2014-25 (thousands)

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
15-19	945	1 023	1 071	1 082	1 065	1 032	1 004	994	1 006	1 034	1 073	1 112	1 145
20-24	759	746	764	820	907	1 008	1 095	1 151	1 168	1 153	1 121	1 094	1 087
25-29	1 010	1 024	1 023	1 001	963	925	910	933	1 002	1 111	1 236	1 344	1 414
30-34	821	863	901	937	970	997	1 012	1 011	989	952	914	899	923
35-39	596	634	675	718	761	805	846	884	920	954	980	995	994
40-44	426	451	479	510	543	578	617	657	699	743	785	827	864
45-49	354	355	361	372	389	410	435	463	493	525	560	597	636
50-54	311	325	335	339	339	338	339	344	356	372	393	417	444
55-59	234	239	247	259	274	289	302	311	315	316	315	316	321
60-64	175	183	191	196	200	203	208	215	225	237	250	261	268
65+	154	161	169	178	187	198	208	218	228	238	247	258	269
	5 785	6 005	6 215	6 411	6 599	6 783	6 975	7 180	7 400	7 633	7 874	8 120	8 366
Male	2 013	2 014	2 015	2 016	2 017	2 018	2 019	2 020	2 021	2 022	2 023	2 024	2 025
15-19	450	490	515	522	514	498	484	479	485	499	519	538	555
20-24	364	356	365	394	440	493	540	570	580	574	558	545	541
25-29	486	496	496	485	463	442	432	443	479	536	601	659	696
30-34	390	408	425	443	462	478	488	488	477	456	435	426	437
35-39	287	307	326	345	363	381	398	415	434	452	468	478	479
40-44	203	214	227	242	259	278	297	317	335	353	371	388	405
45-49	173	174	176	180	186	195	205	218	233	250	268	287	306
50-54	147	155	161	164	165	165	165	167	172	178	186	196	208
55-59	103	106	111	118	126	135	143	148	151	152	152	153	155
60-64	76	80	83	85	87	89	91	95	101	108	115	122	126
65+	78	81	85	89	93	98	103	107	112	116	121	126	131
	2 758	2 866	2 969	3 066	3 159	3 251	3 346	3 448	3 558	3 674	3 793	3 916	4 038

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Female	2 013	2 014	2 015	2 016	2 017	2 018	2 019	2 020	2 021	2 022	2 023	2 024	2 025
15-19	495	533	555	560	551	534	520	514	520	535	554	574	590
20-24	395	390	399	426	467	514	555	581	587	579	563	550	546
25-29	524	529	527	517	500	483	477	489	523	575	635	686	718
30-34	431	455	476	494	509	519	524	523	513	496	479	474	486
35-39	309	327	349	372	398	424	448	469	487	501	512	517	516
40-44	223	237	253	268	284	301	319	340	364	389	415	439	459
45-49	181	181	185	192	202	215	230	245	260	275	292	310	331
50-54	165	170	174	175	174	173	174	177	184	194	207	221	236
55-59	130	133	136	141	148	154	159	163	164	163	162	163	166
60-64	98	104	108	111	113	115	117	120	124	129	135	139	142
65+	76	80	84	89	94	100	106	111	116	122	127	132	138
	3 027	3 139	3 246	3 345	3 440	3 532	3 629	3 732	3 842	3 959	4 081	4 205	4 328

Table A3. Labour force participation rate distribution projections per age groups and gender, 2014-25

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
15-19	69.9	69.6	69.4	69.1	68.8	68.6	68.3	68.0	67.8	67.5	67.2	67.0	66.7
20-24	76.1	76.1	76.0	76.0	76.0	75.9	75.9	75.8	75.8	75.8	75.7	75.7	75.6
25-29	95.1	95.1	95.1	95.0	95.0	95.0	95.0	95.0	95.0	94.9	94.9	94.9	94.9
30-34	96.1	96.1	96.1	96.1	96.1	96.0	96.0	96.0	96.0	96.0	95.9	95.9	95.9
35-39	96.7	96.6	96.6	96.6	96.6	96.5	96.5	96.5	96.4	96.4	96.4	96.4	96.3
40-44	96.7	96.7	96.7	96.7	96.6	96.6	96.6	96.6	96.5	96.5	96.5	96.5	96.4
45-49	96.5	96.4	96.4	96.4	96.3	96.3	96.3	96.2	96.2	96.2	96.1	96.1	96.1
50-54	95.8	95.8	95.8	95.8	95.8	95.7	95.7	95.7	95.7	95.7	95.6	95.6	95.6
55-59	93.9	93.9	93.9	93.8	93.8	93.8	93.8	93.7	93.7	93.7	93.7	93.6	93.6
60-64	89.2	89.0	88.7	88.5	88.2	88.0	87.7	87.5	87.2	87.0	86.7	86.5	86.2
65+	55.0	54.7	54.3	54.0	53.6	53.2	52.9	52.5	52.2	51.8	51.5	51.2	50.8
	85.8	85.7	85.5	85.4	85.2	85.2	85.1	85.0	85.0	85.0	85.0	85.0	85.0
Male													
15-19	67.6	67.4	67.2	67.0	66.7	66.5	66.2	66.0	65.8	65.6	65.3	65.1	64.9
20-24	75.7	75.8	75.8	75.8	75.9	75.9	75.9	76.0	76.0	76.0	76.1	76.1	76.1
25-29	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8
30-34	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8
35-39	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2
40-44	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3
45-49	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9
50-54	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5
55-59	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5
60-64	88.3	88.1	87.9	87.7	87.5	87.3	87.1	86.9	86.7	86.5	86.4	86.2	86.0
65+	61.5	61.2	60.9	60.6	60.2	59.9	59.6	59.2	58.9	58.6	58.3	58.0	57.6
	85.3	85.1	85.0	84.9	84.8	84.8	84.8	84.8	84.9	84.9	85.0	85.0	85.0

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Female													
15-19	72.1	71.8	71.5	71.2	70.9	70.6	70.3	70.0	69.7	69.4	69.1	68.8	68.5
20-24	76.5	76.4	76.3	76.2	76.0	75.9	75.8	75.7	75.6	75.5	75.4	75.3	75.2
25-29	95.4	95.4	95.3	95.3	95.2	95.2	95.2	95.2	95.1	95.1	95.0	95.0	95.0
30-34	96.5	96.4	96.4	96.4	96.3	96.3	96.2	96.2	96.2	96.1	96.1	96.0	96.0
35-39	97.0	97.0	97.0	96.9	96.8	96.8	96.8	96.7	96.6	96.6	96.6	96.5	96.4
40-44	97.2	97.1	97.1	97.0	97.0	96.9	96.9	96.8	96.8	96.7	96.7	96.6	96.6
45-49	97.0	96.9	96.9	96.8	96.7	96.7	96.6	96.5	96.5	96.4	96.4	96.3	96.2
50-54	96.2	96.2	96.1	96.1	96.0	96.0	95.9	95.9	95.9	95.8	95.8	95.7	95.7
55-59	94.2	94.2	94.1	94.1	94.0	94.0	94.0	93.9	93.9	93.8	93.8	93.8	93.7
60-64	90.0	89.7	89.4	89.1	88.8	88.5	88.2	87.9	87.6	87.3	87.0	86.8	86.5
65+	49.7	49.4	49.0	48.7	48.4	48.0	47.7	47.4	47.0	46.7	46.4	46.0	45.7
	86.4	86.2	86.0	85.8	85.6	85.5	85.3	85.2	85.2	85.1	85.1	85.0	85.0

Table A4. Projections of the population actively contributing to the maternity scheme in the private sector per age groups and gender, 2014-25

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
15-19	4 192	4 543	4 761	4 815	4 739	4 593	4 466	4 420	4 474	4 602	4 776	4 952	5 098
20-24	27 288	26 782	27 439	29 515	32 773	36 521	39 782	41 877	42 529	42 019	40 871	39 887	39 632
25-29	46 502	47 254	47 234	46 185	44 320	42 438	41 649	42 698	46 008	51 181	57 138	62 332	65 673
30-34	39 258	41 133	42 908	44 683	46 419	47 873	48 697	48 703	47 619	45 678	43 715	42 901	44 009
35-39	25 910	27 633	29 401	31 188	32 967	34 718	36 407	38 013	39 611	41 176	42 483	43 226	43 240
40-44	19 683	20 791	22 062	23 505	25 107	26 836	28 662	30 530	32 409	34 290	36 125	37 913	39 612
45-49	14 656	14 681	14 890	15 312	15 922	16 716	17 678	18 776	20 025	21 406	22 901	24 474	26 084
50-54	11 582	12 176	12 589	12 801	12 843	12 811	12 849	13 040	13 412	13 951	14 651	15 496	16 475
55-59	6 114	6 285	6 542	6 909	7 363	7 847	8 270	8 570	8 725	8 763	8 754	8 783	8 919
60-64	2 482	2 598	2 697	2 773	2 828	2 881	2 958	3 079	3 250	3 465	3 689	3 885	4 022
	197 666	203 875	210 524	217 685	225 279	233 235	241 418	249 706	258 061	266 529	275 104	283 851	292 765
Male													
15-19	2 525	2 750	2 891	2 928	2 884	2 794	2 716	2 688	2 721	2 801	2 909	3 019	3 110
20-24	17 991	17 605	18 045	19 490	21 776	24 414	26 719	28 214	28 703	28 382	27 610	26 947	26 784
25-29	32 285	32 909	32 936	32 165	30 765	29 331	28 693	29 417	31 807	35 571	39 920	43 724	46 180
30-34	28 498	29 768	31 025	32 361	33 727	34 917	35 618	35 662	34 830	33 310	31 755	31 076	31 879
35-39	18 759	20 047	21 322	22 557	23 740	24 890	26 021	27 145	28 335	29 557	30 616	31 244	31 290
40-44	14 366	15 123	16 029	17 105	18 329	19 660	21 040	22 406	23 722	24 996	26 220	27 437	28 647
45-49	10 781	10 800	10 937	11 204	11 590	12 106	12 759	13 536	14 462	15 513	16 657	17 838	19 007
50-54	8 821	9 321	9 677	9 869	9 923	9 911	9 941	10 074	10 327	10 694	11 182	11 790	12 525
55-59	4 977	5 126	5 353	5 676	6 075	6 504	6 880	7 150	7 294	7 338	7 338	7 362	7 468
60-64	2 103	2 200	2 282	2 346	2 392	2 439	2 508	2 618	2 772	2 968	3 171	3 350	3 477
	141 107	145 650	150 496	155 702	161 201	166 966	172 896	178 909	184 974	191 130	197 378	203 787	210 367

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Female													
15-19	1 667	1 793	1 870	1 887	1 855	1 799	1 750	1 732	1 752	1 801	1 867	1 933	1 988
20-24	9 297	9 177	9 394	10 024	10 996	12 107	13 063	13 663	13 826	13 637	13 261	12 941	12 849
25-29	14 217	14 345	14 299	14 019	13 555	13 107	12 955	13 281	14 201	15 609	17 219	18 608	19 493
30-34	10 760	11 364	11 883	12 322	12 692	12 956	13 079	13 041	12 789	12 367	11 961	11 826	12 130
35-39	7 150	7 586	8 080	8 631	9 227	9 827	10 386	10 868	11 276	11 619	11 867	11 983	11 950
40-44	5 317	5 668	6 033	6 400	6 778	7 176	7 623	8 124	8 688	9 294	9 905	10 476	10 965
45-49	3 874	3 881	3 954	4 108	4 332	4 611	4 919	5 240	5 563	5 893	6 244	6 636	7 077
50-54	2 760	2 854	2 913	2 931	2 920	2 899	2 908	2 967	3 086	3 256	3 469	3 706	3 950
55-59	1 137	1 159	1 189	1 233	1 287	1 343	1 390	1 420	1 430	1 425	1 416	1 421	1 451
60-64	378	398	415	427	436	442	450	461	477	497	518	535	545
	56 559	58 225	60 028	61 983	64 078	66 268	68 522	70 797	73 087	75 399	77 726	80 064	82 398

Table A5. Projection of the population actively contributing to the maternity scheme in the public sector per age groups and gender, 2014-25

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
15-19	375	407	427	432	425	412	400	396	401	412	428	444	457
20-24	12 272	12 038	12 334	13 278	14 761	16 468	17 955	18 911	19 212	18 985	18 466	18 022	17 908
25-29	37 436	38 028	38 007	37 168	35 680	34 182	33 558	34 403	37 056	41 198	45 966	50 122	52 794
30-34	36 604	38 386	40 054	41 691	43 268	44 574	45 302	45 293	44 299	42 532	40 752	40 027	41 060
35-39	26 802	28 579	30 409	32 266	34 120	35 948	37 708	39 375	41 023	42 630	43 966	44 723	44 732
40-44	17 915	18 925	20 082	21 396	22 852	24 424	26 086	27 785	29 497	31 211	32 884	34 513	36 061
45-49	9 618	9 635	9 774	10 054	10 460	10 987	11 622	12 346	13 165	14 068	15 046	16 076	17 134
50-54	4 877	5 119	5 287	5 371	5 385	5 369	5 385	5 468	5 630	5 863	6 166	6 527	6 942
55-59	2 798	2 873	2 984	3 143	3 339	3 548	3 730	3 857	3 921	3 934	3 927	3 941	4 004
60-64	1 288	1 349	1 401	1 441	1 469	1 496	1 535	1 594	1 679	1 785	1 896	1 992	2 059
	149 986	155 339	160 759	166 237	171 760	177 407	183 280	189 429	195 883	202 618	209 498	216 388	223 151
Male	2 013	2 014	2 015	2 016	2 017	2 018	2 019	2 020	2 021	2 022	2 023	2 024	2 025
15-19	248	270	284	288	283	274	267	264	267	275	286	297	305
20-24	8 883	8 692	8 910	9 623	10 752	12 054	13 193	13 930	14 172	14 013	13 632	13 305	13 224
25-29	24 712	25 190	25 210	24 621	23 548	22 451	21 963	22 517	24 346	27 227	30 556	33 468	35 348
30-34	23 588	24 640	25 680	26 786	27 916	28 902	29 482	29 518	28 829	27 572	26 284	25 722	26 387
35-39	18 688	19 970	21 240	22 471	23 649	24 795	25 922	27 042	28 227	29 445	30 499	31 124	31 170
40-44	12 988	13 672	14 491	15 464	16 570	17 773	19 021	20 256	21 446	22 597	23 704	24 804	25 898
45-49	6 835	6 847	6 934	7 103	7 348	7 675	8 089	8 582	9 169	9 835	10 560	11 309	12 050
50-54	3 367	3 558	3 693	3 767	3 787	3 783	3 794	3 845	3 941	4 082	4 268	4 500	4 780
55-59	1 932	1 990	2 078	2 203	2 358	2 525	2 671	2 775	2 831	2 848	2 848	2 858	2 899
60-64	957	1 001	1 039	1 068	1 089	1 110	1 141	1 192	1 262	1 351	1 443	1 525	1 583
	102 197	105 830	109 558	113 392	117 302	121 342	125 542	129 920	134 491	139 245	144 081	148 911	153 645

Both	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Female													
15-19	127	137	143	144	142	137	133	132	134	137	142	147	152
20-24	3 389	3 345	3 424	3 654	4 009	4 414	4 762	4 981	5 040	4 971	4 834	4,717	4 684
25-29	12 724	12 839	12 797	12 547	12 132	11 731	11 595	11 886	12 710	13 970	15 411	16,654	17 446
30-34	13 016	13 746	14 374	14 905	15 352	15 672	15 820	15 775	15 470	14 960	14 468	14,305	14 673
35-39	8 114	8 609	9 169	9 795	10 471	11 152	11 786	12 333	12 796	13 186	13 467	13,598	13 562
40-44	4 928	5 253	5 591	5 932	6 282	6 651	7 065	7 530	8 052	8 614	9 180	9,709	10 163
45-49	2 783	2 788	2 840	2 951	3 112	3 312	3 534	3 764	3 996	4 233	4 485	4,767	5 084
50-54	1 510	1 562	1 594	1 604	1 597	1 586	1 591	1 623	1 688	1 782	1 898	2,027	2 161
55-59	866	883	906	939	981	1 023	1 059	1 082	1 090	1 086	1 079	1,083	1 106
60-64	331	348	362	373	381	386	393	403	417	434	452	467	476
	47 789	49 509	51 201	52 845	54 458	56 065	57 739	59 509	61 393	63 373	65 417	67 476	69 506

Table A6. Projections of salaries per age and sex and salary mass

Both sexes	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
15-19	13 156	14 318	15 668	17 184	18 868	20 712	22 502	24 379	26 341	28 382	30 496	32 676
20-24	57 603	62 509	67 901	73 766	80 287	87 583	94 820	102 635	110 997	119 839	128 997	138 283
25-29	118 376	128 845	141 441	156 046	172 434	189 766	205 257	219 775	233 832	248 342	264 081	281 311
30-34	176 910	191 037	207 771	226 788	248 231	272 120	295 760	321 371	349 030	378 108	407 041	434 289
35-39	219 554	236 700	256 599	278 871	303 678	331 051	357 736	386 078	415 993	447 484	480 530	515 080
40-44	242 486	261 783	284 495	310 158	338 713	369 765	399 359	429 945	461 560	494 346	528 548	564 337
45-49	250 929	272 401	296 671	323 309	352 491	384 284	414 909	447 223	481 119	516 330	552 461	589 206
50-54	248 028	269 930	295 397	324 007	355 804	390 595	424 300	459 583	496 385	534 646	574 305	615 280
55-59	250 399	272 502	298 242	327 191	359 395	394 652	428 853	464 702	502 131	541 044	581 300	622 758
60-64	262 360	285 427	312 277	342 470	376 084	412 936	448 777	486 420	525 799	566 774	609 190	652 900
Total	173 034	188 243	205 735	225 194	246 702	270 217	292 994	316 926	341 952	368 034	395 126	423 165
Male												
15-19	13 923	15 148	16 574	18 176	19 958	21 910	23 803	25 788	27 862	30 018	32 252	34 555
20-24	54 838	59 664	65 279	71 590	78 609	86 295	93 752	101 572	109 739	118 234	127 032	136 103
25-29	113 324	123 296	134 900	147 943	162 447	178 330	193 740	209 899	226 777	244 332	262 512	281 258
30-34	173 129	188 364	206 091	226 017	248 175	272 441	295 983	320 670	346 455	373 274	401 049	429 687
35-39	220 402	239 797	262 365	287 731	315 940	346 832	376 802	408 230	441 056	475 197	510 556	547 015
40-44	248 530	270 401	295 849	324 453	356 261	391 096	424 891	460 330	497 345	535 844	575 716	616 827
45-49	257 166	279 797	306 128	335 726	368 640	404 685	439 653	476 325	514 625	554 462	595 719	638 259
50-54	253 477	275 783	301 737	330 911	363 352	398 881	433 348	469 493	507 244	546 509	587 175	629 104
55-59	255 024	277 467	303 579	332 930	365 570	401 315	435 992	472 358	510 340	549 845	590 758	632 944
60-64	268 685	292 330	319 841	350 765	385 153	422 813	459 348	497 662	537 678	579 299	622 404	666 850
Total	174 732	191 058	209 798	230 648	253 711	278 965	303 573	329 488	356 641	384 989	414 466	445 003

Both sexes	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Female												
15-19	11 957	13 009	14,233	15,609	17 140	18 816	20 441	22 146	23 927	25 779	27 698	29 676
20-24	63 411	68 492	73,480	78,482	83 991	90 466	97 233	105 052	113 864	123 499	13 477	143 259
25-29	129 175	140 752	155,422	173,181	193 256	213 360	229 023	240 380	248 809	257 003	26 515	281 429
30-34	185 103	196 810	211,419	228,482	248 355	271 395	295 257	322 951	354 766	388 724	420 067	444 292
35-39	217 460	229 055	242,509	257,554	274 638	294 081	313 209	334 027	356 378	380 627	407 325	436 896
40-44	226 548	239 153	254,510	271,958	291 209	311 582	329 776	347 957	366 456	385 795	406 467	428 822
45-49	234 426	252 949	272,142	291,724	312 172	333 966	354 130	375 284	397 247	419 600	441 882	463 923
50-54	232 136	252 565	276,334	303,051	332 761	365 298	396 863	429 965	464 538	500 498	537 740	576 139
55-59	234 280	254 897	278,885	305,849	335 834	368 671	400 528	433 936	468 828	505 120	542 705	581 459
60-64	235 234	255 935	280,021	307,095	337 202	370 173	402 159	435 703	470 737	507 177	544 915	583 827
Total	169 070	181 662	196,213	212,380	230 184	249 540	267 919	287 085	306 981	327 590	348 892	370 833
Annual Salary Mass (Billions)	746	839	948	1,073	1 216	1 377	1 544	1 726	1 925	2 140	2 372	2 620
Male	527	596	677	771	878	999	1 125	1 263	1 414	1 577	1 754	1 944
Female	219	242	270	302	338	378	419	463	511	563	618	676

Source: RSSB data and own calculations.
Notes: Monthly salaries.

Table A7. Economic variables and salary growth

Year	Employment (thousands)	GDP, constant prices (RWF billions)	GDP growth	Productivity per capita	Productivity growth	Inflation	Salary growth
2012	4 152.7	2 733.7		658 287.1			
2013	4 317.9	2 870.4	5.0%	664 763.6	0.98%	4.22%	5.25%
2014	4 482.3	3 085.6	7.5%	688 407.9	3.56%	4.07%	7.78%
2015	4 639.1	3 317.1	7.5%	715 025.0	3.87%	4.75%	8.80%
2016	4 785.9	3 565.8	7.5%	745 062.7	4.20%	5.00%	9.41%
2017	4 925.9	3 833.3	7.5%	778 189.0	4.45%	5.00%	9.67%
2018	5 063.7	4 120.8	7.5%	813 791.4	4.58%	5.00%	9.80%
2019	5 206.5	4 429.8	7.5%	850 822.3	4.55%	5.00%	9.78%

Table A8. Projected number of new births from population covered by the maternity scheme, 2014-25

Number of new births from covered female workers	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
15-19	177	195	206	209	207	204	203	206	211	219	227	233
20-24	2 193	2 305	2 514	2 803	3 123	3 395	3 562	3 604	3 555	3 457	3 374	3 350
25-29	4 953	4 955	4 871	4 718	4 567	4 516	4 631	4 952	5 443	6 004	6 489	6 797
30-34	2 892	2 894	2 884	2 873	2 856	2 830	2 795	2 741	2 650	2 563	2 534	2 600
35-39	1 263	1 208	1 165	1 136	1 122	1 123	1 142	1 185	1 221	1 247	1 259	1 255
40-44	369	326	285	250	224	208	206	220	236	251	266	278
45-49	48	35	25	16	9	3	1	1	1	1	1	1
Total	11 896	11 918	11 949	12 005	12 107	12 280	12 540	12 908	13 317	13 742	14 149	14 514

Notes: Own calculations from the projected fertility rates and insured female members