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## **Tax-benefit microsimulation model in Rwanda**

A feasibility study

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**Abstract:** This paper assesses the feasibility of developing a tax and benefit microsimulation model in Rwanda. Tax-benefit microsimulation can be used to explore ways in which national development goals can be achieved in a cost-effective manner, and to assess the distributional effects of more comprehensive social security arrangements. The paper presents an account of Rwanda's tax and benefit policies as well as a possible underpinning dataset—the Integrated Household Living Conditions Survey—for a tax-benefit microsimulation model, concluding that developing such a model for Rwanda would be feasible.

**Keywords:** tax, benefit, revenue, microsimulation

**JEL classification:** E62, H24

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**Note:** On 1 July 2022, the paper was updated to correct an author's name.

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## Abbreviations and acronyms

AfDB	African Development Bank
AFI	Alliance for Financial Inclusion
APL	Adaptable Program Loan
BPR	Banque Populaire du Rwanda
CBHI	Community Based Health Insurance
CIT	corporate income tax
CPI	consumer price index
CRC	United Nations Convention on the Rights of the Child
CV	coefficient of variation
DB	Defined Benefit Scheme
DFID	Department for International Development, United Kingdom
DHS	Demographic and Household Survey
EAC	East African Community
EICV	Integrated Household Living Conditions Survey
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FARG	Genocide Survivors Support and Assistance Fund
HGI	Home-Grown Initiative
ICT	Information and Communications Technology
IFPRI	International Food Policy Research Institute
IGC	International Growth Centre
IIP	Index of Industrial Production
ILO	International Labour Organization
LODA	Local Administrative Entities Development Agency
MIGEPROF	Ministry of Gender and Family Promotion
MINAGRI	Ministry of Agriculture and Animal Resources
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEMA	Ministry in Charge of Emergency Management
MINISANTE	Ministry of Health, also MOH
MISIC	Millennium Savings and Investment Cooperative
MMI	Military Medical Insurance
MOD	Ministry of Defence
MOH	Ministry of Health, also MINISANTE
NCPD	National Council of Persons with Disabilities
NECDP	National Early Childhood Coordination Programme
NISR	National Institute of Statistics of Rwanda

PAYE	pay-as-you-earn
PIT	personal income tax
PPI	Producer Price Index
PPS	Probability Proportional to Size
PSU	Primary Sampling Unit
RAB	Rwanda Agriculture Board
RAMA	Rwandaise d'Assurance Maladie, Rwanda Medical Insurance Scheme
RDF	Rwanda Defence Force
RDRC	The Rwanda Demobilization and Reintegration Commission
RDRP	Rwanda Demobilization and Reintegration Programme
RRA	Rwanda Revenue Authority
RSE	relative standard error
RSSB	Rwanda Social Security Board
RSSP	Rural Sector Support Project
RWF	Rwandan franc
SACCO	Savings and Credit Cooperative Organization
SASPRI	Southern African Social Policy Research Insights
SME	small and medium-sized enterprise
SSA	Social Security Administration, United States
SSFR	Social Security Fund of Rwanda
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNU-WIDER	UN University World Institute for Development Economics Research
USD	United States dollar
VAT	value-added tax
VUP	Vision 2020 Umurenge Programme

## 1 Introduction

### 1.1 Background

This paper focuses first on the details of the Rwandan tax-benefit system (Sections 2 and 3) and possible data sources (Section 4), which are required for developing a static tax-benefit microsimulation model for Rwanda. The paper concludes with an assessment of the feasibility of producing such a model and its future sustainability (Section 5).

In Sections 2 and 3 the tax and benefit systems are described with the aim of providing an overview of the different tax and benefit instruments in the country. Although it will not be possible to simulate all instruments, it provides an important context about the characteristics of the system and the relevance of the different instruments (e.g., in terms of relative spending or revenue or coverage of the population).

### 1.2 Definitions

The official poverty line in Rwanda is RWF159,375 per year, and the extreme poverty line is RWF105,064 per year at 2014 prices (Ministry of Local Government [MINALOC] 2020).

Children are defined as individuals aged 0–17 years inclusive (Abbott and Sapsford 2012: 9).<sup>1</sup>

Departing from the UN definition of youth (15–24 years), youth in Rwanda are defined as individuals aged 16–35 inclusive (MINALOC 2020: v; Abbott and Sapsford 2012: 9).<sup>2</sup>

Social protection programmes and Rwandan labour law define older people as those aged 65 years and older (MINALOC 2020: 27; MINALOC 2021: 5), in line with the mandatory retirement age ('late retirement').

Article 4 in Rwandan Labour Law (No°13/2009) prohibits the employment of children under 16 years of age even as an apprentice. A child aged 16 or 17 years may be employed under special circumstances. The working age definition can then be considered to be 16–64 inclusive. The Rwandan Labour Force Survey (National Institute of Statistics of Rwanda [NISR] 2020: 3) defines the working age population as those 16 years of age and above, while international sources use those aged 15–64.

## 2 The tax system

This section discusses the Rwandan tax system. Section 2.1 lists aggregate information on tax revenues and on the number of taxpayers, 2.2 discusses direct taxes and 2.3 indirect taxes, and section 2.4 covers notable tax amendments, namely those in response to the COVID-19 pandemic.

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<sup>1</sup> Law N°54/2000 of 14/12/2011 Relating to the Rights and the Protection of the Child came into effect in June 2012 and is published in the Official Gazette 25/06/2012. As in the UN Convention on the Rights of the Child (CRC), the new law defines a child as anyone under the age of 18 years (inclusive); the CRC is an international treaty that recognizes the human rights of children, defined as persons a person below the age of 18 years. Note also that Article 171 of Rwandan Civil Code stipulates that a man and a woman under 21 may not enter into marriage (Abbott and Sapsford 2012: Chapter 13).

<sup>2</sup> The definition of 'youth' includes people up to the age of 35 (Abbott and Sapsford 2012: 9).

## 2.1 Tax revenues and taxpayers

Table 1 presents state tax revenues and social security contributions by main category source from 2013/14 to 2020/21 in billions of Rwandan francs (RWF). Table 2 shows the same figures as shares of total revenue. Finally, the number of taxpayers in different tax categories from 2013/14 to 2019/20 are presented in Table 3.

Table 1: Tax revenues and social security contributions by main category, in billions RWF, 2013/14–2020/21

Tax category	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
1.1 Pay-As-You-Earn (PAYE)	185.9	205.4	229.7	257.7	281.7	320.8	353.7	365.8
1.2 Corporation income tax (CIT)	86.6	109.7	116.4	139.2	166.7	171.2	240.9	281.7
1.3 Personal income tax (PIT)	35.6	41.0	42.9	51.3	69.1	103.2	57.9	66.6
2. Tax on Property (motor vehicle registration)	1.1	2.6	3.5	2.7	2.3	2.5	3.8	4.1
3.1 Value-added tax (VAT)	259.1	286.2	323.2	352.0	405.7	458.7	491.5	531.4
3.2 Excise Duty	103.4	114.4	138.1	134.2	147.8	164.9	167.0	194.4
3.3 Road Fund	24.4	25.9	37.3	44.6	47.5	50.7	48.4	50.9
3.4 Mining Royalties	2.4	4.2	3.0	3.3	4.9	4.7	2.8	4.1
3.5 Strategic Reserves Levy	-	-	8.7	10.2	10.2	10.9	10.3	11.5
4.1 Import Duty	52.9	60.8	72.9	76.5	80.9	90.4	98.0	103.3
4.2 Other Customs Revenues	5.0	2.7	2.2	4.1	4.4	6.6	5.2	5.6
4.3 Infrastructure Development Levy	-	-	8.8	10.6	11.4	13.0	13.5	14.4
4.4 African Union Fee	-	-	-	-	1.5	1.7	1.7	1.8
5.1 Rental income tax	-	-	8.4	10.5	11.1	11.8	11.6	11.1
5.2 Land lease (immovable property tax since 2019)	-	-	5.9	8.3	9.8	8.9	13.5	21.2
5.3 Trading Licences	-	-	4.8	5.9	6.5	7.2	7.0	6.9
Total tax revenue	756.4	852.9	1,005.7	1,111.1	1,261.6	1,427.4	1,527.0	1,675.0
6.1 Social security contributions, employees and self-employed	19.9	20.8	22.4	28.0	28.1	31.3	35.4	38.3
6.2 Social security contributions, employers	33.2	34.7	37.3	46.7	46.8	52.1	59.0	63.9
Total revenue	809.5	908.4	1,065.4	1,185.8	1,336.5	1,510.8	1,621.3	1,777.2

Note: estimates refer to fiscal years. '-' indicates that a specific tax was either not in place or not collected by RRA in the given year. This includes categories 3.5, 4.3, 4.4, 5.1, 5.2 and 5.3: Strategic reserves levy (3.5) and infrastructure development levy (4.3) were both introduced in 2015; the African Union Fee (4.4) was enacted in 2017; local government taxes (5.1–5.3) were not part of RRA tax collection activities until 2016 when the RRA assumed this responsibility, and exclude all fees. Note also that immovable property tax was introduced in 2019, replacing the fixed asset and land lease tax (5.2). The tax on property (2) covers motor vehicle registration (both imports and domestic).

Source: Rwanda Revenue Authority (RRA).

Table 2: Tax revenues and social security contributions by main category, as a % of total revenue, 2013/14–2020/21

Tax category	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
1.1 Pay-As-You-Earn (PAYE)	23.0	22.6	21.6	21.7	21.1	21.2	21.8	20.6
1.2 Corporation income tax (CIT)	10.7	12.1	10.9	11.7	12.5	11.3	14.9	15.9
1.3 Personal income tax (PIT)	4.4	4.5	4.0	4.3	5.2	6.8	3.6	3.7
2. Tax on property (motor vehicle registration)	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2
3.1 Value-added tax (VAT)	32.0	31.5	30.3	29.7	30.4	30.4	30.3	29.9
3.2 Excise duty	12.8	12.6	13.0	11.3	11.1	10.9	10.3	10.9
3.3 Road fund	3.0	2.9	3.5	3.8	3.6	3.4	3.0	2.9
3.4 Mining royalties	0.3	0.5	0.3	0.3	0.4	0.3	0.2	0.2
3.5 Strategic reserves levy	-	-	0.8	0.9	0.8	0.7	0.6	0.6
4.1 Import duty	6.5	6.7	6.8	6.5	6.1	6.0	6.0	5.8
4.2 Other customs revenues	0.6	0.3	0.2	0.3	0.3	0.4	0.3	0.3
4.3 Infrastructure development levy	-	-	0.8	0.9	0.9	0.9	0.8	0.8
4.4 African union levy	-	-	-	-	0.1	0.1	0.1	0.1
5.1 Rental income tax	-	-	0.8	0.9	0.8	0.8	0.7	0.6
5.2 Land lease (immovable property tax since 2019)	-	-	0.6	0.7	0.7	0.6	0.8	1.2
5.3 Trading licences	-	-	0.5	0.5	0.5	0.5	0.4	0.4
Total tax revenue	93.4	93.9	94.4	93.7	94.4	94.5	94.2	94.3
6.1 Social security contributions, employees and self-employed	2.5	2.3	2.1	2.4	2.1	2.1	2.2	2.2
6.2 Social security contributions, employers	4.1	3.8	3.5	3.9	3.5	3.4	3.6	3.6
Total revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: see Table 1 notes. All estimates refer to shares of total revenue.

Source: Rwanda Revenue Authority (RRA).

Table 3: Number of taxpayers by main category, 2013/14–2019/20

Tax category	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
<i>Registered taxpayers (who did not necessarily pay any tax)</i>							
1.1. Pay As You Earn (PAYE)	12,886	14,858	15,286	17,067	18,766	20,493	22,005
1.2. Corporation income tax (CIT)	34,540	45,037	34,222	43,560	49,888	63,515	82,474
1.3. Personal income tax (PIT)	61,077	73,952	90,645	161,303	113,279	138,623	139,025
3.1. Value-added tax (VAT)	12,267	16,047	16,213	19,996	24,036	24,247	28,248
3.2. Excise duty (only domestic)	51	55	41	60	72	110	111
<i>Actual taxpayers (including also non-registered taxpayers)</i>							
3.3. Road fund	N/A	N/A	N/A	28	43	45	47
3.5. Strategic reserves levy	-	-	N/A	28	43	45	47
4.1. Import duty	10,177	10,466	11,814	11,805	12,295	12,452	10,361
4.2. Other customs revenues	8,405	7,466	4,994	5,064	5,281	5,231	4,188
4.3. Infrastructure development levy	-	-	8,031	12,424	12,862	13,177	13,569
4.4. African Union fee	-	-	-	-	8,575	13,123	13,485

Note: category numbers match those in Tables 1 and 2 but categories are divided into two groups based on the type of information available: Categories at the top of the table capture taxpayers who were registered to pay 'conventional' taxes in the relevant categories but did not necessarily pay any tax. Categories at the bottom of the table capture all taxpayers who did in fact pay the relevant taxes, including also non-registered taxpayers. The number of taxpayers in categories 3.3 and 3.5 was not available for some years at the time of writing.

Source: Rwanda Revenue Authority (RRA).

## 2.2 Direct taxation

This section lists direct taxes in Rwanda.

### *Taxes on personal income*

Since 2005, the following two laws govern the direct income tax in Rwanda:

- Law N°016/2005 of 18/08/2005 on direct taxes on income
- Law N°016/2018 of 13/04/2018 establishing taxes on income.

The former law was effective from 2005 until 13 April 2018, when the new income tax legislation entered into force.

In the 2018 law, significant updates to individual taxation that were made relate to the definitions of ‘employee’, ‘employer’ and ‘first employer’, the taxation of in-kind benefits, and persons exempted from employment tax. Rwandan resident individuals are taxed on their worldwide income, while non-residents are taxed on their Rwandan-sourced income. The same rates of tax are applicable to both residents and non-residents (PwC 2021).

Taxable personal income comprises of (i) employment income, (ii) business profits, and (iii) investment income. These income sources are taxed at rates shown in Table 4, with separate rates for permanent and casual workers. The same rates apply to annual income and require an annual tax declaration from the taxpayer (due no later than 31<sup>st</sup> March each year) *unless* the relevant employment or investment income is subject to withholding tax.

In most cases, the employer, when paying employment income to an employee, must withhold, declare, and pay the pay-as-you-earn (PAYE) tax to the Rwanda Revenue Authority. The employer must declare the tax within 15 days following the end of each month. For the taxpayers whose annual turnover is equal or less than RWF200 million, PAYE is quarterly and deposited within 15 days after the end of the quarter to which the PAYE is referred.<sup>3</sup> The PAYE tax base is composed of wages, salaries, leave pay, sick pay, medical allowances, pension payment, and allowances such as any cost of living, subsistence, rent, and entertainment or travel allowances (RRA 2021a).

The personal income tax (PIT) rates and brackets on employment income are different for permanent employees and casual employees<sup>4</sup>, as shown in Table 4. When engaging a casual worker

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<sup>3</sup> RRA (2021a) provides further details: “The employer is personally responsible for keeping proper books of account to prove that the tax has been correctly withheld, paid, and accounted for. Under those circumstances where, the employer is not required to withhold and pay the tax, the employee is responsible for registering, declaring, accounting, and paying the tax.

An employer who is not the first employer of an employee must withhold PAYE at the marginal top tax rate of 30%. An individual who receives employment income from more than one employer or who receives incidental employment income such as end of year bonus may file an annual declaration if he wants to claim a tax refund. Only amounts in excess of RWF5,000 are refunded.

An employee who works for more than one employer is obliged to inform their employers specifying which one is their first employer. The employer is obliged to ask the employee and confirm that they (the employer) are the first employer.

<sup>4</sup> A **permanent worker** is a ‘worker hired for a fixed-term or an unspecified period that lasts more than six consecutive months with the same employer’; a **casual worker** is a ‘worker hired quite temporarily and during a limited period of time to achieve and accomplish a specific task, which is not directly included in the normal activities of the enterprise’

for less than 30 days during a particular tax year, the employer must withhold 15 per cent of the taxable employment income of the casual worker.

Table 4: Personal income tax rates

<b>Taxable income</b>	<b>Income brackets (RWF, monthly)</b>	<b>Tax rate (%)</b>
Income of permanent employees, investment income and business profits	Up to 30,000	0
	Between 30,001 and 100,000	20
	From 100,001 and above	30
Income of casual employees	Up to 30,000	0
	From 30,001 and above	15

Source: Rwandan legislation, Law N°016/2018 of 13/04/2018.

Additionally, small enterprises who do not carry out their own accounting in compliance with relevant laws must pay a lump sum tax of three per cent on annual turnover. They can however opt to join the formal regime by informing the tax administration.

#### *Contributions to maternity leave*

Another law related to the personal income tax is the Law N°003/2016 of 30 March 2016 on maternity leave benefits. The new law, which became operational from November 2016, requires all employers and employees to contribute 0.3 per cent of the employees' gross remuneration towards a maternity fund. The Rwanda Social Security Board (RSSB) administers this fund. The law on maternity leave benefits provides full pay for new mothers throughout a minimum 12-week maternity leave. Similar to social security contributions, the law covers international and national organizations and employees operating in Rwanda (PwC 2021). See also section 3.4.

#### *Motor vehicle income tax*

An annex to Law N°016/2018 of 13/04/2018 (on establishing income taxes) determines the rates of income tax for vehicles transporting persons and goods. Taxes are levied on people who use vehicles for business purposes. The rates on vehicles transporting persons depend on the number of passengers, falling between RWF96,000–480,000 for vehicles with capacity from 8–40 places. The rates on vehicles transporting goods depends on the type of vehicle or its loading capacity, falling between RWF60,000–2,340,000 for vehicles with loading capacity between 1–30 tons. Table 5 lists a selection of vehicle types that have specific rates depending on motor type:

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(less than 30 days for income tax purposes); a **temporary worker** is a 'worker hired for a short period of time not exceeding six consecutive months to carry out regular activities (Law N°13/2009 of 27 May 2009).

Table 5: Income tax rates for specific vehicle types

Type of vehicle	Tax (RWF, annual)
Car (taxi)	88,200
Motorcycle	72,000
Moped	36,000
Hearse / private ambulance	100,000
Jeep / loader / break-down vehicle	307,200
Bulldozer	780,000

Source: Rwandan legislation, annex to law N°016/2018 of 13/04/2018.

### *Decentralized taxes and fees*

In Rwanda, decentralized taxes are taxes collected by the districts, including the immovable property tax, rental income tax and trading license tax.

Decentralized taxes and fees have been governed since 2011 by the following laws:

- Law N°75/2018 of 07/09/2018 determining the sources of revenue and property of decentralized entities.
- Law N°59/2011 of 31/12/2011 on the sources of revenue and property of decentralized entities and their management.
- Presidential Order N°25/01 of 09/07/2012, determining fees levied for public services and certificates delivered by decentralized entities.

N°75/2018 of 07/09/2018 replaced the previous law and applies to the 2019 tax period and onwards. It introduced two major changes:

- 1) A new tax on buildings including residential housing.
- 2) The highest tax rate on land was increased from RWF80 to RWF300 per square meter.

The council of the decentralized entity is the one that determines the tax rate, within the legislated thresholds, in each location.

### *Immovable property tax*

Immovable property tax is a tax levied on the market value of a building and the surface of a plot of land.

**Registration for immovable property tax.** The owner of any land and/or buildings is required to register for immovable property tax. The owner of any land and/or buildings is deemed to be:

- The registered holder of the immovable property.
- The holder of the property if a title deed has not yet been registered in the name of the owner.
- A person who occupies or deals with an immovable property for at least two years if the identity of the legally recognized owner is not known.
- A proxy who represents an owner who lives outside Rwanda. It is important to note that any misrepresentation by a proxy is considered to be a misrepresentation by the owner.

- A usufructuary; a person who has the right to use and profit from a property owned by another person.

**Taxable value of the immovable property.** If there is no building on a plot of land, the tax is calculated on each square meter of the whole surface of the plot of land. If there is a building on a plot of land, the tax is calculated on each square meter of the whole surface of the plot of land and the market value of the building.

The tax rate applied to buildings generally depends on the land usage and the tax year. Table 6 shows the rates per year on different building types by tax year.

Table 6: Tax rates for buildings

<b>Taxable income</b>	<b>Year</b>	<b>Tax rate per year (%)</b>
Commercial buildings	2019	0.20
	2020	0.30
	2021	0.40
	2022 and onwards	0.50
Residential buildings	2019	0.25
	2020	0.50
	2021	0.75
	2022 and onwards	1.00
Industrial buildings; buildings belonging to small and medium enterprises; and buildings intended for activities other than residential, commercial, and industrial	2019 and onwards	0.10

Note: if a residential building has at least four stories (including basement floors), the ordinary tax of each year will be reduced by 50%.

Source: Rwandan legislation, law N°75/2018 of 07/09/2018.

**Valuation of the land component.** The tax rate on the surface of plot of land is determined by the location of the land and the land use:

- RWF0–300 per square meter per year (set by the district council).
- First 20,000 square meters are exempt if the land is used for agriculture or livestock activities.

**Tax rate on land exceeding the standard plot size.** The tax rate on land exceeding the standard parcel size is 50 per cent higher, when intended for the construction of buildings. The standard size is determined by an order of the minister in charge of housing. However, the additional tax rate on land exceeding the standard plot size only applies to land acquired after 1<sup>st</sup> January 2019.

**Tax rate on undeveloped land.** Undeveloped land attracts a 100 per cent additional tax to the land tax rate determined by the district council. The land is considered as undeveloped if it has not been used for the intended purpose.

**Deadline to declare and pay immovable property tax.** Immovable property tax declaration is required and paid on an annual basis, for each immovable property. The tax period is the calendar year, from 1st January to 31st December. The deadline to declare and pay immovable property tax

by 31st December of the same year. However, in the event of changes in the value of the immovable property by more than 20 per cent within an assessment cycle, the taxpayer must submit a new tax declaration reflecting these value changes and pay it within one month.

Exemptions for immovable property tax include:

- Vulnerable groups (as determined by the district council).
- State, province, decentralized entities, public institutions (unless used for profit-making activities or leasing).
- Foreign diplomatic missions (if the country reciprocates for Rwanda's diplomatic missions only).

The land component is exempted from immovable property tax if:

- The land is reserved for construction of houses in rural areas with no basic infrastructure (as defined by the district council).
- The first 20,000 square meters of land are used for agriculture or livestock of each parcel. Note this means that for each parcel used for agriculture or livestock, the first 20,000 square meters are exempt and only any remaining land is taxable.

The following building components are exempted from immovable property tax:

- One residential building, which the owner intends occupying as his or her residence (for a family). Note that the owner still needs to declare and pay the land component of the immovable property tax of this residential property.
- The commonly owned portions of the building in the case of condominiums. Note that the owners of the condominium are still commonly liable to declare and pay the tax on the plots of land.

#### *Rental income tax*

Rental income in Rwanda is governed by the law N°75/2018 of 07/09/2018 determining the sources of revenue and property of decentralized entities. It is applied to the tax 2019 tax period and onwards. This law replaced the previous law N°59/2011 of 31/12/2011 on the sources of revenue and property of decentralized entities and their management.

Rental income tax is levied on the income generated from rented land and buildings and the tax must be declared and paid on annual basis following a calendar year tax period. From the year 2019 onwards, the deadline for declaring and paying rental income tax is 31<sup>st</sup> January of the following year. Before the new law, the deadline was 31 December of the same year.

Any person or business who is not subject to corporate income tax and who receives income from a rented immovable property located in Rwanda, is required to register for rental income tax. Rental income tax allows for exemptions for expenses, which is intended to encourage landlords to provide high quality and well-maintained properties for their tenants.

There are two different methods of calculating taxable income for rental income tax, depending upon whether the taxpayer has taken out bank loans to fund the construction or purchase of the rented immovable property.

- 1) If the taxpayer has no loan related to the immovable property:
  - a. taxable income = gross rental income \* 50%

- 2) If the taxpayer has loan related to the immovable property:
  - a. the taxpayer can deduct the actual bank interest payments within the tax period
  - b. taxable income = gross rental income \* 50%, interest paid

Rental income tax is a progressive tax, with different tax rates depending on taxpayer's taxable income, as described above. The groupings of taxable rental income are called tax brackets, each with different tax rates as shown in Table 7.

Table 7: Rental income tax

<b>Taxable income (RWF, annual)</b>	<b>Marginal tax rate (%)</b>
Up to 180,000	0
Between 180,001 and 1,000,000	20
From 1,000,001 and above	30

Source: Rwandan legislation, law N°75/2018 of 07/09/2018.

The tax rates for rental income tax are marginal rates meaning that the first RWF180,000 earned by a taxpayer will be taxed at 0 per cent, while the next earned RWF820,000 will be taxed at 20 per cent and any remaining income is taxed at 30 per cent.

#### *Local government fees*

In addition to property tax, rental income tax and trading license tax, the local government (through RRA and its partners) collects fees to ensure that taxpayers occupying public areas, or taxpayers requiring certain services, pay fair and consistent fees wherever they are in the country. These fees are levied on taxpayers who conduct profit-oriented activities and those who require services or authorizations from district offices. Presidential Order N°25/01 of 09/07/2012 (determining fees levied for public services and certificates delivered by decentralized entities) established the full list of local government fees.

The rates of many local government fees vary within certain thresholds, depending upon factors such as vehicle details and location (i.e., urban, trading center, or rural). The exact rate within the thresholds is determined by the district council of each district on an annual basis by the 30<sup>th</sup> June. Certain exemptions from these fees exist for vulnerable people who may request a waiver from all fees from the district council. Table 8 lists different fees collected by decentralized entities, with applicable thresholds.

Table 8: Fees collected by decentralized entities

<b>Fee type</b>	<b>Fee amount (RWF)</b>
Market fees (for traders in designated market areas)	Up to 10,000 per month.
Fees charged on public cemeteries (for entombing a corpse in a public cemetery)	Between 500–5,000 per tomb, depending upon the cemetery
Fees charged on parking (for motor vehicles parking in lots under the authority of the district) <ul style="list-style-type: none"> <li>• Exemptions for vehicles on official duty owned by state, embassy, UN organizations and international organizations having an agreement with the Government of Rwanda, and special vehicles for disabled people.</li> <li>• Collected by Millennium Savings and Investment Cooperative (MISIC).</li> </ul>	Between 100 per hour and 20,000 per month, depending upon the size of the vehicle and duration of the parking
Fees charged on public parking (for transport vehicles, i.e., buses and taxis, entering public bus/taxi parks)	Between 500–10,000 per day, multiple entry, depending upon

	the size of the transport vehicle.
Parking fees on boats (for boats used for profit making activities)	Between 100 per day–5,000 per month, depending upon the carrying capacity of the boat in tons, and whether it has an engine.
Public cleaning fees <ul style="list-style-type: none"> <li>• Payable by each branch of a business or institution, excluding (i) households; (ii) orphanages / vulnerable persons' houses; (iii) government institutions which are not profit oriented; (iv) churches and faith-based organizations not involved in profit-oriented activities; (v) United Nations institutions and embassies; (vi) people carrying out their activities in market places paying market fees.</li> </ul>	Between 500–10,000 per month, depending upon the location and nature of activity.
Fees on civil marriage done not on official business days <ul style="list-style-type: none"> <li>• District council determines the official business days for civil marriage.</li> </ul>	Up to 10,000 per marriage
Fees on services related to the documents of immovable property <ul style="list-style-type: none"> <li>• A range of services including changing official ownership, map requests and building permits.</li> <li>• Vulnerable people may request to be exempted from building permit fees by the district council.</li> </ul>	Between 1,200–60,000, depending upon the service requested. Building permits depend upon the floor area in square meters.
Fees on official certificates and documents to be notified by the public notary (for official certificates, such as civil status or birth or death, or the notification of documents)	Between 500–5,000, depending on the type of certificate or document to be notified.
Fees on authorization to make or burn bricks and tiles (for any person intending to make or burn bricks and tiles must request authorization from the District)	10,000 per year
Fees on advertising billboards and banners (for any person putting up advertising billboards and banners must request authorization from the District) <ul style="list-style-type: none"> <li>• Exemptions include (i) advertising on buildings and vehicles owned by a company; and (ii) billboards or signposts showing the direction of a given activity but no other commercial advertising message.</li> </ul>	10,000–20,000 per square meter for each side of regular billboards per year; 60,000–100,000 per year for billboards using information technology; 5,000–10,000 per day for banners.
Fees on boat number plates (for number plates required to operate a boat)	5,000–15,000 per number plate, depending upon whether the boat has an engine.
Fees on bicycle number plates (for bicycles used for profit making activities)	1,000 per number plate
Fees on communication towers (for erected communication towers)	2,000 per vertical meter per year; 1,000 per vertical meter per year for any underlying building or structure.
Fees on transport of materials from quarries and forests	1,000 per ton, payable on every loading.

Source: Rwandan legislation, Presidential Order N°25/01 of 09/07/2012.

## 2.3 Indirect taxation

This section lists indirect taxes in Rwanda. This includes, namely, the value-added tax and excise duties.

### *Value-added tax (VAT)*

The following laws govern VAT in Rwanda:

- Law N°37/2012 of 9/11/2012 establishing the value-added tax.
- Law N°40/2016 of 15/10/2016 modifying and complementing law N°37/2012 of 9/11/2012 establishing the value-added tax.
- Law N°02/2015 of 25/02/2015 modifying and complementing law N°37/2012 of 09/11/2012 establishing the value-added tax.

Taxpayer must register if their turnover for 12 months is more than RWF20,000,000, or their turnover for three consecutive months is more than RWF5,000,000, including exempt and zero-rated sales.

The VAT rate is 18 per cent. Note that:

- Zero-rated goods and services are mainly exports, diplomats, international organizations, and partner funded activities.
- VAT exempt goods and services are mainly health, education, books/newspapers, transport, financial services, energy supply, unprocessed agricultural products, locally produced milk, industrial machine, mobile phones and sim cards.
- VAT paid on foreign services can be deducted during declaration if the related services are not available in Rwanda.

The list in Table 9 presents VAT-exempt/zero-rated goods and services.

Table 9: VAT-exempt or zero-rated items

#	VAT exemptions/zero rated	Rationale / descriptions
1	All agricultural and livestock products, except for those processed. Processed milk, excluding powder milk and milk derived products, is however exempted from this tax	Increase affordability of products from a sensitive sector.
2	Services, agricultural inputs, and other agricultural and livestock materials and equipment appearing on the list established by the minister in charge of agriculture and animal resources and approved by the minister in charge of taxes. The services component was added in 2016.	Increase affordability of products from a sensitive sector.
3	Services of agriculture insurance. Introduced in 2016	Increase affordability of services of agriculture insurance
4	Gaming activities taxable under the law establishing tax on gaming activities	No effective administrative mechanism for determining the value added. Exempting ensures input VAT is not recovered by firms.

<p>5 Water supply services, i.e., services of supplying clean water and ensuring environment treatment for non-profit making purposes with the exception of sewage pump-out services</p>	<p>To encourage the supply of clean, treated water in remote areas.</p>
<p>6 Goods and services for health-related purposes:</p> <p>The supply of health and medical services</p> <p>Equipment designed for the persons with disability</p> <p>The supply of equipment and drugs to hospitals and health centres</p> <p>Supply or importation of goods and drugs appearing on the list established by the minister in charge of health and approved by the minister in charge of taxes</p> <p>NB: Institutions eligible for exemption under item 2b) of this Article must be recognized by Rwandan laws as public institutions, social welfare organizations and any other form of voluntary or charity organizations</p> <p>For natural persons, an authorized medical Doctor ascertains whether the equipment provided under item 2b relates to their disability</p>	<p>Increasing affordability of a sensitive product</p>
<p>7 Educational materials and services, i.e., educational materials, services and equipment appearing on the list established by the minister in charge of education and approved by the minister in charge of taxes</p>	<p>Increasing affordability of a sensitive product. Excludes public sector education.</p>
<p>8 Books, newspapers and magazines</p>	<p>Originally part of the education-related exemption, but was split into its own provision in order to clearly allow all readers to benefit</p>
<p>9 Transport services by licensed persons:</p> <p>Transportation of persons by road in vehicles which have a seating capacity of 14 persons or more</p> <p>Transportation of persons by air</p> <p>Transportation of persons or goods by boat</p> <p>Transport of goods by road</p>	<p>Targeting development of a priority sector and increasing affordability of these services.</p>
<p>10 Lending, lease and sale of land or residential buildings:</p> <p>The sale or lease of land</p> <p>Sale of whole or part of a building for residential use</p> <p>The renting or grant of the right to occupy a house used as a place of residence of one person and his/her family, if the period of accommodation for a continuous term exceeds 90 days</p> <p>Lease of a movable property made by a licensed financial institution</p>	<p>Increasing affordability of a sensitive product, and it should benefit everyone (either by owning or living in a residence).</p>
<p>11 Financial and insurance services:</p> <p>The premium charged on the provision of life and medical insurance services</p> <p>Fees charged on the operation of current accounts</p> <p>Exchange operations carried out by licensed financial institutions (new in 2015)</p> <p>Interest charged by the bank on credit and deposits (new in 2015)</p> <p>Operations of the National Bank of Rwanda (new in 2015)</p>	<p>Intended to increase affordability of a sensitive product. Exemptions are applied by many countries because of difficulties in applying VAT to this sector</p>

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Fees charged by the bank on vouchers and bank instruments (new in 2015)	
Capital market transactions for listed securities and fees or expenses charged to investors by a regulated collective investment scheme (new in 2015) for fees and expenses	
Transfer of shares	
12 Precious metals, i.e., the supply of gold in bullion form to the National Bank of Rwanda	Prevents precious metal suppliers from reclaiming input VAT.
13 Funeral services, i.e., the supply of any goods or services in connection with burial or cremation of a body provided by an Order of the minister	Increase affordability of a sensitive product.
14 Specified energy equipment and fuels, i.e., energy supply equipment appearing on the list established by the minister in charge of energy and approved by the minister in charge of taxes (the list by the minister replaces the old items in the law since 2015)	Harmonize with EAC VAT policies; increase affordability of a sensitive product; target development of electricity generation.
15 Trade union subscriptions	Increase affordability of a sensitive product.
16 Leasing of exempted goods	Increase affordability of a sensitive product
17 Personal effects of Rwandan diplomats returning from foreign postings, Rwandan refugees and returnees entitled to tax relief under customs laws. The period of twelve (12) months required for tax relief for vehicles provided under customs laws shall not apply to Rwandan diplomats returning from foreign postings (new in 2015)	Facilitate citizens returning to Rwanda
18 Goods and services meant for Special Economic Zones imported by a zone user holding this legal status (new in 2015)	Facilitate manufacture for exports
19 Mobile telephones and SIM cards	Improve affordability of modern communication technologies, and support the movement towards a cashless economy.
20 Information, Communications and Technology equipment	Encourage use of modern ICT equipment and technologies.
21 All goods supplied to public institutions in charge of national defence or security (new in 2016)	Improve the cash flow position of public institutions in charge of national defence or security.
22 Machinery and capital goods of industries as well as raw materials used in industries appearing on the list established by the minister in charge of industry and approved by the minister in charge of taxes. (Requirements for an industry to be entitled to exemption are determined by an order of the minister in charge of taxes.) (new in 2016).	Support the development and growth of SMEs
23 International transportation services of goods entering Rwanda and transportation services of goods in transit in Rwanda to other countries, including related services	Target a priority sector, improve the regional competitiveness by harmonizing with EAC treatment, and address administrative
24 Minerals that are sold domestically (new in 2015)	Targeted at businesses involved in preparing minerals for export. Aims to address administrative challenges in refunding input VAT to domestic manufacturers that are using these minerals.

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25	Goods sold in shops that are exempted from tax as provided for by the law governing customs (goods sold in the armed forces shops)	Improve the welfare of members of the Rwanda Defence Forces and the Rwanda National Police and their immediate families, by reducing their cost of living.
26	Goods and services intended for people of a 'Special Category'	Facilitates the supply of public goods and services by organizations working in partnership with the Government for the benefit of Rwanda.
27	Services rendered to a tourist for which VAT has been paid (tour package)	Improve the competitiveness of Rwanda as a destination for foreign tourists.

Source: Rwandan legislation, laws N°37/2012 of 9/11/2012, N°40/2016 of 15/10/2016, and N°02/2015 of 25/02/2015.

### *Excise duty*

The rates of excises duties are levied on different products as shown in Table 10.

Table 10: Rates of excise duties levied on different products

<b>Product</b>	<b>Excise duty</b>
Cigarettes	36% of retail price of a pack (of 20 rods) and RWF30 per pack of cigarettes
Wine, brandies, liquors and whiskey	70%
Telecommunications	8%
Juice from fruits	5%
Soda and lemonade	39%
Mineral water	10%
Beer	60%
Telephone communication	10%
Fuel	RWF183 per liter on premium fuel (excluding benzene) and RWF150 per liter on gas oil
Lubricants	37%
Powdered milk	10%
Vehicles with an engine capacity above 2500cc	15%
Vehicles with an engine capacity of 1500–2500cc	10%
Vehicles with an engine capacity less than 1500cc	5%

Source: Rwanda Revenue Authority.

## **2.4 Tax changes**

### *COVID-related tax amendments in 2020–21*

The tax benefits offered to households during the pandemic in 2020–21 consisted largely of extended tax deadlines and, in some cases, dedicated tax waivers. Extensions of payment deadlines applied to import and public tender exemption applications as well as corporate income tax, rental tax and trading licenses, with related payments based on quarterly income instead of previous year's income. Penalties and interest were waived on late payments in some cases, and pay-as-you-earn contributions were fully waived for struggling sectors. Finally, enforcement measures related to tax arrears were softened, physical audits were suspended, and non-certified financial statements

were accepted as a basis for tax payments (for details, see KPMG 2020a, 2020b; ENSafrica 2020; RRA 2021b).

### 3 The benefit system

This section discusses the social protection benefits in Rwanda. Section 3.1 covers the legal framework and central government actions on social protection, while 3.2 covers the *Ubudebe*<sup>5</sup> classification system. Section 3.3 focuses on non-contributory benefits, 3.4 on contributory benefits, and 3.5 on other social policy measures and initiatives.

#### 3.1 Social protection legal framework and government actions

The first National Social Protection Policy was published in 2005 and was most recently updated in 2020 to reflect the Human Capital Development drive, the National Strategy for Transformation, and Rwanda's Vision 2050 (MINALOC 2020), as well as continuing to operationalize the commitments made within the Constitution (Republic of Rwanda 2015).

Social protection is defined in the National Social Protection Policy as follows:

All public and private income transfers schemes, Social Care Services, livelihood support and insurance schemes that, together, ensure that all extremely poor and vulnerable people have income security, a dignified standard of living and are protected against life-cycle and livelihood risks with a view to achieving sustainable graduation and self-reliance. (MINALOC 2020: ix).

The updated policy's strategic plan covers the period 2019–24 and addresses social security, social care services, short-term social assistance and livelihoods enhancement. The estimated budget for the strategic plan is RWF121 billion per year for 2020–24 (MINALOC 2020: xiii). The Ministry of Local Government co-ordinates and leads on social protection at a national level, in partnership with social protection agencies and other ministries (see MINALOC 2020: 44-46).

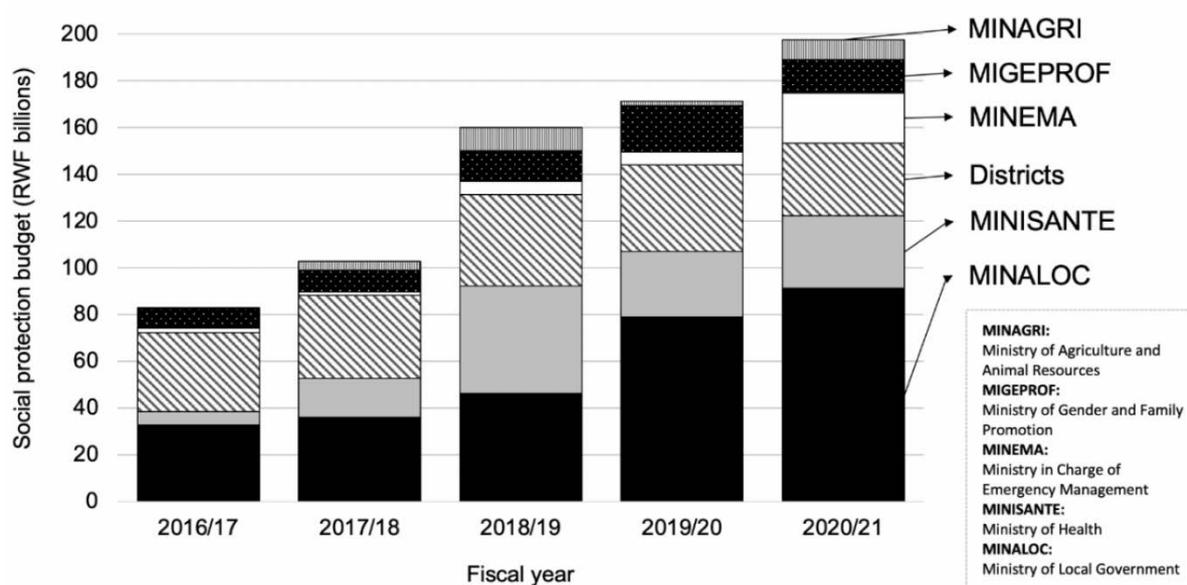
The allocation of social protection budget for non-contributory schemes across government ministries in Rwandan between 2016/17–2020/21 is shown in Figure 1.<sup>6</sup> Specific programmes are discussed in forthcoming subsection, including also contributory social insurance schemes.

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<sup>5</sup> *Ubudebe* is the practice of collective action and mutual support to solve problems within the community.

<sup>6</sup> This includes allocations for Vision 2020 Umurenge Programme (VUP); social assistance support programmes to refugees and returnees and disaster response; health financing; and nutrition support and child protection. The estimates exclude budget allocations that complement the contributory social protection, including pensions and Ejo Heza (see section 3.4).

Figure 1: Social protection budget allocation by ministry, RWF billions, 2016/17–2020/21<sup>7</sup>



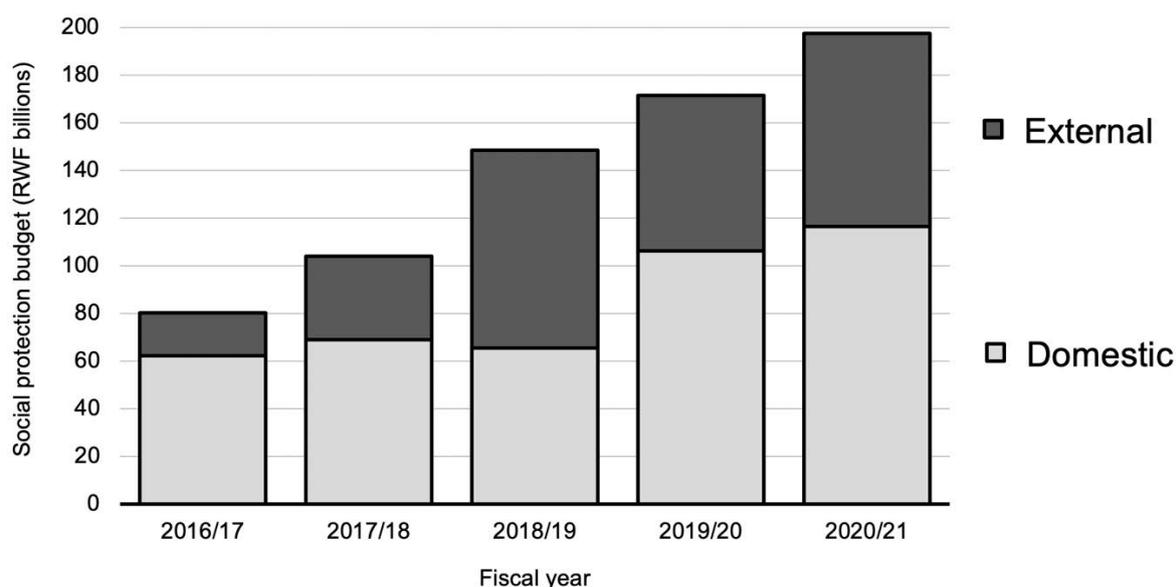
Source: authors' elaboration of UNICEF (2020) data, drawing on state finance laws.

Finally, the Ubudehe classification system, discussed in section 3.2, is used as a proxy for extreme poverty (Lavers 2016). Specifically, Ubudehe is used to determine eligibility for several non-contributory government programmes, some of which are discussed in section 3.3. Its use for targeting provision has highlighted the need to additionally take into account the requirements of particular individuals, households and communities, including concerns about how disability is classified (Kidd and Kabare 2019). The system initially divided households into six wealth categories, which were reduced to four in 2016 and will be increased to five from late-2021 onwards.

Figure 2 shows how the financing of the social protection budget is allocated between domestic resources (tax and fiscal revenues and budget support from the EU and AfDB) and external resources (support from the UK Department for International Development, World Bank, German Development Bank, UNICEF, and FAO) (UNICEF 2020).

<sup>7</sup> In 2020/21, roughly 46% of social protection resources are channelled through MINALOC, which coordinates support to Genocide survivors (FARG), support to people with disabilities (under the National Council of People with Disabilities), National Rehabilitation Services (NRS) and VUP programmes (under Local Administrative Entities Development Agency, LODA) (UNICEF 2020).

Figure 2: The financing of the social protection sector, RWF billions, 2016/17–2020/21



Source: authors' elaboration of UNICEF (2020) data, drawing on state finance laws.

### 3.2 Ubudehe system

#### *Background*

Ubudehe<sup>8</sup> is a poverty reduction system by the Rwandan government that helps citizens to use local institutions to achieve social objectives which are also set by the community. Originally focused on cultivation, Ubudehe was reintroduced in 2001 with the goal of strengthening democratic processes and good governance through greater community involvement in public decision-making. It is one of Rwanda's best-known 'Home-Grown Initiatives' (HGIs), known for its participatory development approach (MINALOC 2020: 29).

The main function of Ubudehe is to 'assist community members to classify the level and type of poverty that exists in their community and reach a common understanding of this classification'. In addition, it helps communities set and achieve development priorities and goals. Ubudehe is implemented and monitored by the administrative entities at the village level. The Ministry of Local Government and the Local Administrative Entities Development Agency (LODA) are however responsible for overseeing its implementation through working with village leaders.

In the beginning of the financial year, every three years, participating villages come together over a period of four to seven days, for around three hours a day, to complete the Ubudehe process. Ubudehe takes place at both the village ('umudugudu') and household levels through similar processes. The village meetings are chaired by the president of the local Ubudehe committee and the village leader.

Every three years, the related steps include (i) determining the profile of a household in poverty, judged by the participants; (ii) identifying the causes and consequences of poverty; and (iii) classifying household heads into different social categories. The information is used for deciding

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<sup>8</sup> Most of the information in this section is based on Rwandapedia (2021a).

development priorities and identifying households that will benefit from other social security programs and HGI such as Umuganda and Girinka.

Note that, with observed changes in peoples' wellbeing, a household's Ubudehe status may be updated more frequently than in every three years by local authority offices.<sup>9</sup>

### *Categories from 2016 until 2021*

The Ubudehe process involves the categorization of all households into relevant poverty categories. This section discusses the categories since 2016, relevant for the planned tax-benefit microsimulation model for Rwanda.

Table 11: Ubudehe categories from 2016 until December 2021

#	General description	Household criteria	Eligibility for transfers	Share of households, 2015 (%)
1	Very poor and vulnerable citizens who are homeless and can hardly afford basic needs	Without a house or ability to rent a house; often struggles to get food and basic items	Eligible for VUP, Mutuelle de Santé benefits, FARG support	16.0
2	Those who have a dwelling or can rent one but are not gainfully employed and could only afford to eat once or twice a day	Owns a house or able to rent a house; often gets food and works for wages; or with a household member who is an employee in non-permanent job	Eligible for VUP Public Works and FARG support	29.8
3	Those who have a job and farmers who go beyond subsistence farming and provide employment to dozens of people	With a household member who is an employee in the public or private sector; self-employed; has business activities; farmers with surplus for market; or small trader		53.7
4	Those who own large-scale business, individuals working with international organizations and industries as well as public servants	With household member who is a big trader; owns a company providing specialized services; employed in the public or private sector at a high level; has an industry or industries; owns rental house(s) in big cities or other big businesses.		0.5

Source: Rwandapedia (2021a); AFI (2019); Kidd and Kabare (2019).

The six categories in place from the inception of Ubudehe were revised in February 2015, with a new categorization launched by the Minister for Local Government and Social Affairs, against the

<sup>9</sup> It is common that individual households visit local authorities at the village level when their livelihoods have significantly worsened, to ask for their socioeconomic profile to be updated in the Ubudehe system. In most cases, this will result in them being reclassified in a lower category. The process is normally initiated by households seeking government support that is provided to households in an Ubudehe category lower than their current category. Such changes in livelihoods may result from household members losing a job, becoming disabled, orphaned, losing assets due to natural disasters, etc. Routine updates of other types of information in the database is done by the relevant Cell authority who has access to the online portal for the system.

Rwanda is composed of 30 districts that are divided into 416 sectors and 2,148 cells. The cells are mostly involved in community mobilization and data-reporting, and governed by a cell executive committee with ten members. These members are elected by a cell council, composed of adult residents of the cell, and tasked with identifying and discussing problems and priorities of the cell.

backdrop of increased socio-economic development in the country. The categories shown in Table 11 were based on households' socio-economic status, property and household heads employment, and approved for nationwide use in 2016 (Lavers 2016).

The 2015 categorization provoked criticism that households with different welfare levels were classified in the same category, and that households in categories 1 and 2 had similar standards of living. The categories were again revised—and households reclassified—in 2021, with a new scheme expected to be launched in December 2021 at the time of writing (Bishumba 2021). The new system emphasizes the 'graduation principle', seeking to foster upward social mobility. Category names have also been changed from numerical numbers to letters.

While the exact categories are not public at the time of writing, Bishumba (2021) offers the following preliminary descriptions shown in Table 12. The new categorization is expected to be made public along with new ministerial guidelines in late-2021. The categories are similar in sources preceding Bishumba (2021), including MINALOC (2021) and *Rwandapedia* (2021a).

Table 12: Ubudehe categories expected to be launched in December 2021

Category	Description	Income and occupation limits	Land and farming
A	Well-off households	Households with an aggregated income of more than RWF600,000 per month from various sources such as salaries or pension benefits, or other income-generating activities.	More than 10 hectares of land in rural areas; more than 1 hectare plot in urban centres; or carry out livestock farming activities that enables them to obtain RWF600,000 per month
B		Households with an aggregated income between RWF65,000 and RWF600,000 monthly from similar sources as in category (A)	Between 1 and 10 hectares of land in rural areas; between 300 square metres and 1 hectare in cities.
C		Households with an aggregated income of between RWF45,000 and RWF65,000 per month	Between 0.5 and 1 hectare in rural areas; between 100 and 300 square metres in urban areas
D		Households with an aggregated income of less than RWF45,000 a month (casual workers)	Less than half a hectare in rural areas; less than 100 square metres in urban areas
E (special)	Vulnerable households	People out of the labour force as a result of age, major disabilities or incurable diseases	No ownership of assets or other sources of livelihoods

Source: based on Bishumba (2021).

When the new categories are in place, only social protection services for the most vulnerable populations are expected to be provided on the basis of Ubudehe categories. These include Girinka, Vision Umurenge Programme (VUP) public works, and direct support consisting of benefits to the mostly older, vulnerable populations (Bishumba 2021).

### *Ubudehe projects*

In addition to the poverty categorization process, every three to four years steps are taken to analyse major development-related problems facing the given community, and planning relevant activities and resources to address these problems through a collective action plan ('Ubudehe'). Funds for these projects have previously been collected from international organizations, local authorities, Rwandan ministries, and also churches and NGOs. Until 2020, each village received the same amount of funding (RWF600,000 in 2009) (Niringiye and Ayebale 2012). Due to the COVID-19 pandemic, however, this funding scheme was temporarily discontinued in 2020.

Once a community has decided which project(s) they will undertake, further validation must take place at the district level. Funds are ultimately distributed into the village’s Ubudehe bank account that is typically located at Savings and Credit Cooperative Organizations (SACCOs) or at the Banque Populaire du Rwanda (BPR). The village-level Ubudehe committee is responsible for accessing and dispersing the funds.

Each village is generally required to implement one household project and one community project. The community-led measures have included livestock purchases, agricultural activities, and the building of clean water facilities, classrooms, terraces, health centers, and silos for storing produce. Information collected by individual villages, including data on the extent of poverty, is also used to set national development objectives. Table 13 shows the number of Ubudehe projects and related funding between 2001–18.

Table 13: Ubudehe projects, 2001–18

Period	Community projects	Community project funding (RWF thousands)	Household projects	Household project funding (RWF thousands)
2001–02 (Pilot Phase)	679	679,000	1,358	101,850
2005–06 (Phase I)	8,462	4,231,000	8,462	423,100
2007–13 (Phase II)	26,927	10,660,801	30,153	6,944,381
2013–14	5,265	3,164,802	5,265	315,900
2014–15	10,393	3,164,802	9,968	565,481
2015–16	14,058	3,110,810	13,628	746,980
2016–17	11,922	2,957,337	12,830	769,800
2017–18	12,231	2,812,810	12,658	759,660

Source: based on Rwandapedia (2021a).

### 3.3 Non-contributory benefits

Short-term temporary or once-off support in Rwanda is provided in cash or in-kind to people in need of food assistance or emergency relief following disasters, or for vulnerable households (MINALOC 2020).

According to UNICEF (2020), in the 2020/21 fiscal year, Rwanda’s government allocated RWF 198 billion to the social protection sector (in the form of non-contributory spending), which is up from RWF171.7 billion in the 2019/20 fiscal year. Administrative data also indicates that the eligible population covered by core social protection schemes (VUP, RDRC and FARG, discussed below) has continued to expand horizontally to 78.4 per cent in 2019/20 from 58.7 per cent in 2018/19. Table 14 shows related trends in government spending on social protection and social protection coverage.

Table 15 shows how the budget was allocated across different social protection measures between 2018/19 and 2020/21. VUP programmes and social protection measures implemented at the district level account for the majority of the spending. In 2020/21, there was also a large increase in budget allocated to emergency management. According to UNICEF (2020), this can be explained by recent floods and landslides, but the budget law has limited information on whether specific interventions are linked to the COVID-19 pandemic.

Table 14: Social protection budget and coverage, 2016/17–2020/21

<b>Fiscal year</b>	<b>Social protection budget (RWF billions)</b>	<b>Social protection budget (% of national budget)</b>	<b>Social protection budget (as a share of national GDP, %)</b>	<b>Social protection coverage (%)</b>
2016/17	79.4	4.1	1.2	55.9
2017/18	107.9	5.2	1.2	57.2
2018/19	141.1	5.7	2.2	58.7
2019/20	171.7	5.7	1.9	78.4
2020/21	198.0	6.1	2.0 (projected)	N/A

Source: based on UNICEF (2020), drawing on state finance laws and Macroeconomic Framework data, and Social Protection Join Sector Review Reports.

Table 15: Budget allocation to different social protection programmes, RWF billions, 2018/19–2020/21<sup>10</sup>

<b>Fiscal year</b>	<b>VUP programmes</b>	<b>Social protection at the district level</b>	<b>Refugees and emergency assistance</b>	<b>Nutrition and early childhood development</b>	<b>Support to genocide survivors (FARG)</b>	<b>Demobilization and reintegration (RDRP)</b>
2018/19	48.9	39.0	5.9	15.3	14.5	4.6
2019/20	54.1	36.9	5.7	16.0	14.8	4.2
2020/21	64.4	30.9	21.5	20.6	18.2	5.0

Source: based on UNICEF (2020), drawing on state finance laws.

The allocation of district level (decentralized) social protection budget is further divided into different programmes in Table 16. Decentralized entities include districts and the city of Kigali. The budget for support to Genocide survivors decrease by 23 per cent between 2019/20 and 2020/21. The decrease is partly explained by the declining number of programme beneficiaries and the phasing out of interventions such as education support (UNICEF 2020).

State finance laws also provide information on the execution rates of the social protection budget, separately at the district and national level, shown in Table 17. Execution rates for the central government have generally been lower, most notably so in 2019/20, which can be explained partly by the slowdown of public works activities during lockdowns.

<sup>10</sup> These figures include allocations under the National Early Childhood Coordination Programme (NECDP), the Ministry of Health’s Nutrition sub-programme, the Ministry of Agriculture under nutrition-sensitive agriculture programmes, and the Ministry of Gender and Family Promotion’s allocations under child rights protection and promotion.

When including child rights protection initiatives on top of nutrition and early childhood development measures (column 5 in Table 15), the allocation to these child-focused social protection interventions was RWF18.8, RWF17.7 and RWF22.1 billion in 2018/19, 2019/20 and 2020/21, respectively.

Table 16: Districts budget allocation on different social protection programmes, RWF billions, 2019/20–2020/21

<b>Fiscal year</b>	<b>Social protection at the district level, total</b>	<b>Support to genocide survivors (FARG)</b>	<b>Family protection and women empowerment</b>	<b>Vulnerable group support</b>	<b>Support to people with disabilities</b>
2019/20	36.9	15.8	3.0	17.9	0.2
2020/21	30.9	12.1	1.9	16.7	0.2

Source: based on UNICEF (2020), drawing on state finance laws.

Table 17: Budget execution rates at the national and district level, 2016/17–2019/20

<b>Fiscal year</b>	<b>Central government (%)</b>	<b>District level (%)</b>
2016/17	74.3	79.5
2017/18	72.7	86.3
2018/19	91.0	100.3
2019/20	69.4	101.5

Source: based on UNICEF (2020), drawing on state finance laws.

Specific programmes are discussed in greater detail below.

### *The Vision 2020 Umurenge Programme*

The Vision 2020 Umurenge Programme (VUP) was introduced in 2008, drawing much of its inspiration from Ethiopia’s Productive Safety Net Programme and Food Security Programme (Siegel et al. 2011; Lavers 2016). The programme includes (i) a public works programme for very poor households who are able to work,<sup>11</sup> (ii) a microcredit scheme to provide credit and promote financial literacy, and (iii) regular cash transfers to very poor households with no labour capacity. The direct support component includes direct support for landless households with no members qualifying for public works or credit packages, for instance particularly vulnerable elderly persons and households with members with disabilities. The amount of monthly support depends on the number of individuals in the household ranging from RWF7,500 for one person to RWF21,000 for households with five or more members (Gatzinsi et al. 2019).

Households benefiting from public works projects or direct cash transfers can also apply for individual or group loans from the financial services component, which is complemented by training on financial management, saving and credit, and the productive use of the transfer (LODA 2015). All beneficiaries receive information on health, education and cross-cutting issues such as gender equality. While access to direct cash transfers is only restricted by the eligibility criteria, access to the public works programme is sometimes restricted by practical reasons beyond the general eligibility criteria, such as geography and access to transport (Gatzinsi et al. 2019). Table 18 provides general information on the programme, namely the direct support and public works components.

There is also an Expanded Public Works programme, providing a regular monthly income for households in Ubudehe category 1 with only one household member regarded as eligible to work

<sup>11</sup> This was preceded in 2003 by a labour-intensive local development programme referred to as ‘PDL-HIMO’ (Lavers 2016). The public works component is planned using community-based participatory approaches to build community assets and to create off-farm employment infrastructure (Alliance for Financial Inclusion [AFI] 2019).

but who also has care responsibilities. Payment is the equivalent of 10 days' work per month, typically amounting to RWF10,000 per month (Kidd and Kabare 2019).

Table 18: Summary of the Vision 2020 Umurenge Programme (VUP)

	<b>Direct support</b>	<b>Public works</b>
Targeting method	Community-based targeting under the Ubudehe process which determines the eligibility of households and individuals.	
Eligibility	Households are eligible if they are poor and labour-constrained; they must be classified in Ubudehe category 1 (2015–2021)	Households must be extremely poor with able-bodied members above 18 years of age; they must be classified in Ubudehe categories 1 or 2 (2015–2021)
Target groups	Poor families without labour capacity	Poor families with labour capacity
Benefit amounts	From RWF7,500 per month for one person to RWF21,000 for households with five or more members	Up to RWF1,500 per work day
Payment frequency	Monthly	Every two work weeks
Benefit delivery mechanism	Bank transfer to beneficiaries' Umurenge SACCO account or bank account	
Monitoring and evaluation mechanism	Management information system	

Source: adapted from Cirillo and Tebaldi (2016: 122). Targeting methods, eligibility and target groups from MINALOC (2011); benefit amounts from MINALOC (2011) and Berglund (2012); payment frequency and benefit delivery mechanism from Siegel et al. (2011). Details on benefit amounts from Gatzinsi et al. (2019).

The rollout of VUP programmes has been slow, purportedly reaching only four per cent of households in Rwanda. It is acknowledged that 'coverage is low compared to needs' (MINALOC 2020: 30) and that there are issues with targeting (Williams et al. 2020). UNDP reported that in 2019 the direct transfer component reached 73,934 household participants, and the public works programme reached 141,000 household participants (UNDP 2021). According to Kidd and Kabere (2019), the average number of days worked per year in VUP public works is 67. Table 19 shows related information on different components of the programme between 2015 and 2019.<sup>12</sup>

Table 19: VUP participants, 2015–19

<b>Year</b>	<b>Households receiving VUP direct support</b>	<b>Workers involved in VUP public works</b>	<b>Individual beneficiaries of VUP loans</b>	<b>Individual VUP loans</b>	<b>Total VUP loans (including also group and cooperative VUP loans)</b>
2015	55,211	112,000	11,100	2,929	3,468
2016	58,192	104,000	42,400	18,984	20,839
2017	68,366	129,000	37,170	16,208	18,355
2018	65,381	135,000	39,791	18,817	19,976
2019	73,934	141,000	24,225	13,415	14,303

Source: based on AFI (2019), drawing on data from the Local Administrative Entities Development Agency (2015–19).

<sup>12</sup> Note that the Financial Services component of VUP can be divided into two components. The old scheme ran 2009–14, and the new scheme began in 2015, with estimates of beneficiaries and related loans in Table 19. Under the old scheme, the interest rate charged on VUP loans was 2% per annum, while under the new scheme the interest rate is 11% per annum (AFI 2019).

In the 2020 Implementation Plan by MINALOC (2020: 51), VUP direct support would reach 107,000 households per year from 2018/19 onwards.

*Girinka (one cow per poor family)*

The Girinka ('one-cow') programme, started in 2006, aims to ensure that each household in poverty has a cow, which in turn helps to reduce child malnutrition and increases the incomes of poor farmers. The scheme is managed by the Rwanda Agriculture Board (RAB) of the Ministry of Agriculture (MINAGRI). Table 20 provides general information on the programme.

As of June 2020, more than 380,000 families had received a cow under the programme, which thereby has benefited over 1.2 million citizens. Girinka has also contributed to an increase in agricultural production in Rwanda (Rwandapedia 2021b). Girinka also includes a training programme, which is run by the Rwanda Agricultural Board (RAB), including a workshop and the provision of supplies to assist farmers in caring for their cow (Cirillo and Tebaldi 2016).

Table 20: Summary of the Girinka Programme

Targeting method	Community-based targeting
Eligibility	Beneficiaries must not already own a cow, must have constructed a cow shed, have at least 0.25–0.75 hectares of land (some of which must be planted with fodder), be considered poor and a person of integrity by the community, and have no other source of income. Beneficiaries who do not have enough land individually may join with others in the community to build a common cow shed. Priority is given to female-headed households.
Target groups	Poor smallholder farmers, nationwide
Benefit amounts	Beneficiary families receive one cow.
Benefit delivery mechanism	The cows distributed are purchased locally, preferably from former Girinka beneficiaries whose originally granted cows have calved down more than once. The delivery process is facilitated by the government via the RAB, an agency of the Ministry of Agriculture (MINAGRI).
Monitoring and evaluation mechanism	Monitoring is conducted by the government via support, including daily follow-ups performed by veterinary officers

Source: adapted from Cirillo and Tebaldi (2016: 119).

*Rwanda Demobilisation and Reintegration Programme (RDRP)*

The Rwanda Demobilization and Reintegration Commission (RDRC) was set up in 1997 for demobilized soldiers. Its Rwanda Demobilisation and Reintegration Programme (RDRP) cash includes transfer elements (Lavers 2016): The Basic Needs Kit (BNK), Recognition of Service Allowance (RSA), and Vulnerable Support Window (VSW) grant. Other components of the programme include vocational training and other forms of education and rehabilitation as well as medical assistance to former combatants with special medical needs. Table 21 provides general information on the programme.

Table 21: Summary of the RDRP Programme

Targeting method	Categorical targeting
Eligibility	<p>Verification of eligibility of members of Rwandese armed groups is based on Rwandese nationality; self-identification of the beneficiary as a former combatant; proven affiliation with a recognized armed group that fought the Rwandan Patriotic Front in Rwanda or the Democratic Republic of Congo; and proof of military ability.</p> <p>The vulnerability criteria are based on the beneficiary's access to housing and productive means, health and employment situation, and household characteristics. Community Development Committees and associations of former combatants are in charge of identifying those former combatants who qualified for the VSW grant. Medical vulnerability is verified through medical screenings in demobilization centres.</p>
Target groups	Demobilized members of armed groups of Rwandan origin and members of the Rwandan Defence Forces
Benefit amounts	<p>According to the 2010 Rwanda Demobilisation and Reintegration Commission (RDRC) Project Implementation Manual:</p> <p>Beneficiaries receive a demobilization card and a Basic Needs Kit (BNK), valued at RWF60,000 per beneficiary. Former combatants from RDF and members of armed groups receive their BNK in cash prior to their departure from demobilization centres.</p> <p>The Recognition of Service Allowance (RSA) is paid in two instalments. The first instalment (RWF50,000) is paid one month after settlement in the community of choice, while the second instalment (staggered by rank with a Private receiving RWF120,000 and a Colonel RWF600,000) is paid two months later.</p> <p>The programme has introduced the Reinsertion Kits for dependents of former army groups combatants (provided mainly in-kind and as transportation) to support their livelihood in the first months after they return. The Reintegration Grant is provided to RDF and armed-group former combatants. The grant amounts to RWF120,000 and is received three months after demobilization (the grant is intended for integration, households costs and income-generating activities).</p> <p>The VSW grant is provided to former combatants in a situation of persisting vulnerability (after having received the previous grants) and on average should not exceed USD 333.</p>
Payment frequency	The RSA was paid in two instalments (the first one month after settlement and the second two months after that) via bank account deposit.
Benefit delivery mechanism	Bank transfers
Monitoring and evaluation mechanism	A management information system

Source: adapted from Cirillo and Tebaldi (2016: 120–21).

In the 2020 Implementation Plan by MINALOC (2020: 51), RDRC direct support would reach 3,500 households per year between 2018/19 and 2023/24. According to Kidd and Kabare (2019), one challenge with RDRC is that, when recipients are provided with housing, they cannot be incategory 1 of Ubudehe (2015–21), which in turn means that their families are disqualified from receiving support to access the Mutuelle de Santé.

### *Genocide Survivors Support and Assistance Fund (FARG)*

Genocide Survivors Support and Assistance Fund (FARG) was established by law in 1998 and has a financial support component (Lavers 2016). It was later reviewed by Law No. 69/2008 of 2008 and Law 81/2013 of 2013. In addition to cash transfer payments, FARG provides educational scholarships; supports mutual health insurance payments, shelter development and rehabilitation; and promotes income-generating projects. Table 22 provides general information on the programme.

Table 22: Summary of the FARG programme

<b>Targeting method</b>	<b>Categorical targeting and community-based targeting</b>
Eligibility	For each service offered, the beneficiary must prove with official documentation that she or he is a genocide survivor
Target groups	Vulnerable genocide survivors, especially orphans, elderly people and adults with disabilities, nationwide
Benefit amounts	RWF18,000; 147 of the most vulnerable beneficiaries receive between RWF30,000 and RWF100,000
Payment frequency	Monthly
Benefit delivery mechanism	N/A
Monitoring and evaluation mechanism	Monitoring Information System

Source: adapted from Cirillo and Tebaldi (2016: 118).

In the 2020 Implementation Plan by MINALOC (2020: 51), FARG direct support reached more than 26,334 households in fiscal year 2018/19, and would reach 27,650 households in 2019/20 and 29,003 households between 2021/22 and 2023/24.

### *COVID-related benefits in 2020–21*

In April 2020, the government of Rwanda developed a social protection response plan to assist vulnerable households affected by COVID-19, amounting to RWF133.6 billion (US\$141.7 million) (UNICEF 2020). This represents around 1.5 per cent of Rwanda's GDP. This budget targets households in the first Ubudehe category, and in some instances also those in categories 2 and 3 who were hit hard by the effects of COVID-19. Support is targeted by triangulating data from different data sources, including the household profiling database, Ubudehe data, enrollment lists in the LODA Monitoring and Evaluation Information System (MEIS) and community consultation. The plan aims to:

1. Extend food distribution as an immediate social protection response mechanism.
2. Horizontally expand cash transfer programmes (VUP direct support, public works and nutrition-sensitive support to the most affected households) and livelihoods enhancement programs (asset transfers, financial services, skills development, agricultural inputs).

According to UNICEF, different VUP programmes, emergency and refugee support and nutrition support continued to expand in 2020/21, although in the finance law of 2020/21, tracking specific budget lines dealing with the COVID-19 response measures is not possible.

The social protection allocations for decentralized entities (namely, districts and the city of Kigali) amounted to RWF30.9 billion in 2020/21, indicating a budget reduction of 16.3 per cent from

2019/20. By summer 2020, in the early stages of the pandemic, 200,000 Rwandans in Kigali had received government support (Tasamba 2020).

### 3.4 Contributory benefits

Lavers (2016) traces social protection in Rwanda back to a pension scheme for formal employees established in 1962. Social security in Rwanda is currently administered by the Rwanda Social Security Board (RSSB), which was established in 2010 through a merger of the Social Security Fund of Rwanda (SSFR)<sup>13</sup> and Rwandaise d'Assurance Maladie (RAMA).<sup>14</sup>

RSSB administers six schemes, listed below and discussed in the following subsections:<sup>15</sup>

1. Pension Scheme
2. Occupational Hazards Scheme
3. Maternity Leave Benefit Scheme
4. Medical Scheme (also known as 'RAMA')
5. Community-Based Health Insurance Scheme (CBHI)
6. EjoHeza, a long-term saving scheme covering both salaried workers and non-salaried population.

In addition to the RAMA Medical Scheme (subsection 4 below) and the CBHI Scheme (subsection 5), the defence ministry administers the Military Medical Insurance (MMI), also covered below (subsection 7).

#### *Pension scheme*

Benefit amounts from the Rwandan pension scheme are shown in Table 23 based on Social Security Administration [SSA] (2019). Eligibility conditions and contribution rates are covered separately below, based on RSSB (2021c; 2021g).

Table 23: Pension benefits in Rwanda, 2015 onwards

Standard old age pension	30% of the insured's average monthly earnings in the last 5 years, plus 2% of the average monthly earnings for each 12-month period of contributions exceeding 180 months (15 years). The minimum monthly earnings used to calculate contributions are the legal monthly minimum wage; there are no maximum earnings.
Standard old age pension if the insured did not contribute for 5 years immediately preceding the date of pension entitlement	As above, but the average monthly earnings are based on the total number of months of contributions in the last five years of employment divided by 60.
Lump-sum pension ('old-age settlement')	A lump sum of 100% of the insured's average monthly earnings in the last 5 years of contributions multiplied by the number of years of contributions is paid.

<sup>13</sup> Before 2010, the SSRF managed the pension and occupational (or 'professional') risk branches, i.e. items 1 and 2 above (ILO 2021) and also insured against disability and death (Republic of Rwanda 2009: 14).

<sup>14</sup> The Rwanda Social Security Board (RSSB) was established by the law N°45/2010 of 14/12/2010 in 2010, revised by the law N°009/2021 of 16/02/2021, to administer social security in the country. RSSB is regulated and supervised by the National Bank of Rwanda in terms of the banking law N°55/2007 of 30/11/2007 whereas its activities are overseen by the Ministry of Finance and Economic Planning.

<sup>15</sup> Rwanda Social Security Board [RSSB] (2021c).

Lump-sum pension if the insured did not contribute for 5 years immediately preceding the date of pension entitlement	As above, but the average monthly earnings are based on the total number of months of contributions in the last five years of employment divided by 60.
Invalidity pension and non-occupational disability benefit	30% of the insured's average monthly earnings in the last 5 years, plus 2 per cent of average monthly earnings for every 12 months of contributions exceeding 180 months (15 years). For each year that a claim is made before age 60, the insured is credited with 6 months of contributions.
Spouse's pension	50% of the old-age or disability pension the deceased received or was entitled to receive.
Spouse's settlement	A lump sum of one month of the old-age pension the deceased would have received with 180 months of contributions is paid for every six months of contributions the deceased had.
Orphan's pension	25% of the old-age or disability pension the deceased received or was entitled to receive, paid to each eligible orphan; 50% for a full orphan.
Orphan's settlement	A lump sum of 50% of the spouse's settlement is paid to each eligible orphan. The maximum combined orphan's settlement is 200% of the spouse's settlement.
Other eligible survivors' pension	25% of the old-age or disability pension the deceased received or was entitled to receive is paid to each eligible parent.
Other eligible survivors' settlement	A lump sum of 50% of the spouse's settlement is paid to the surviving parent(s).

Note: *standard old-age pension benefits* are adjusted periodically by presidential decree, which is based on an actuarial evaluation. If the insured is entitled to two or more pensions (e.g., work injury benefits), each pension is paid in full. The minimum monthly pension is 50% of the legal monthly minimum wage. The old-age pension is payable abroad under reciprocal agreement. The minimum monthly *disability pension* is 50% of the legal monthly minimum wage. The constant-attendance allowance is 40% of the disability pension. Disability benefits and survivors' benefits are adjusted periodically by presidential decree based on an actuarial evaluation. The maximum combined *survivor pension* is 100% of the old-age or disability pension the deceased received or was entitled to receive.

Source: SSA (2019), RSSB (2021c).

**Mandatory old-age pension, invalidity and survivors' pension schemes.** Enrolling for pension benefits is compulsory for all formal sector salaried workers in Rwanda (regardless of nationality) and active political representatives. The social security benefits offered by the branch of pensions are therefore divided into two categories: (i) those given to the insured person when old or invalid; and (ii) those given to his or her eligible survivors. The pension scheme is a mandatory defined benefits (DB) scheme<sup>16</sup> with contribution of 6 per cent of gross salary of each registered employee, paid equally by both employer (3 per cent) and employee (3 per cent).

**Voluntary insurance.** Those not subjected to social security by law—namely the self-employed and those who previously had mandatory coverage—can also join the scheme as an individual on a voluntary basis, with affiliation available up to age 50 (SSA 2019). This requires joining the scheme and paying the required contributions of 6 per cent of fixed salary (base salary, allowances, and other benefits). The minimum monthly earnings used to calculate contributions are 100 per cent of the insured's previous base salary. The salary used as the basis for calculating the contribution shall not be less than the basic salary and may not exceed 130 per cent of the final salary used as the basis for calculating the contributions. This salary cannot increase by more than 30 per cent every three years, and is increased with the voluntary employee's approval. Registration, declaration of salary, and payment of contributions are conducted online at RSSB's website; the

<sup>16</sup> The 'defined benefit pension' scheme (also called a 'final salary' pension) pays a retirement income based on the worker's salary and the number of years worked.

declaration and remittance of pension contributions are made on monthly basis. The initial application for retirement benefits is conducted at an office of social security administration.

**Standard eligibility conditions for old-age pension.** The person enrolled in the scheme must:

- Be at least 60 years of age, or of age provided for by legally recognized specific statutes (while the mandatory retirement age in Rwanda is 65 years, early retirement at 60 years is allowable if the two conditions below are fulfilled).<sup>17</sup>
- Have made at least 15 years of contributions to the pension scheme.
- Have ceased to perform any remuneration activity.

**Pension for those with less than 15 years of pension contributions.** If the member of the pension scheme reaches the retirement age without having contributed for 15 years to the scheme, he or she receives a lump sum retirement allowance (see Table 23; lump-sum pension).

**Pension for those under 60 years of age.** If an insured person becomes ‘prematurely old’ and it is certified so by a commission composed of recognized medical doctors established by the minister in charge of health, upon request by the employer or employee, the person is entitled to early retirement. The 15-year contribution requirement and non-working requirement both apply, and again the insured person receives a lump sum retirement allowance if they contributed to the scheme for less than 15 years (see Table 23; lump-sum pension).

**Invalidity pension and non-occupational disability benefits.** To be eligible for these benefits, the person enrolled in the scheme must:

- Have contributed for at least 3 years (5 years according to SSA 2019).
- Have contributed up to 6 months within a period of 12 months before the date on which his or her disability is certified by a medical doctor (there is no minimum qualifying period for a non-work-related accident).
- Have ceased to perform any remuneration activity.
- Upon their employer’s request, the disability is certified by a recognized medical doctor and confirmed by medical officer for the public entity in charge of pension scheme; according to SSA (2019), pension requires a 50 per cent assessed loss of earning capacity.

If the disability results from a hazard, the member is eligible for disability pension, provided they are a member at the time of hazard. When the insured person is already partially disabled and their disability subsequently develops to the point where they can no longer perform any remunerated activity, he or she is deemed to be disabled.

**Survivors’ pension.** For detailed conditions and benefit amounts, see above and Table 23. Eligible individuals include those with a deceased family member who received or was entitled to an old-age or disability pension, or had at least five years of contributions at the time of death, including:

- Surviving spouse who did not divorce the deceased, and has not remarried.
- Legitimate orphans who are single, non-employed and under 18 years of age or under 25 years of age if still studying. If they suffer from physical or mental disability certified by a recognized medical doctor, which renders them unable to perform a remunerated activity, they shall receive pension benefits until they die.

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<sup>17</sup> RSSB (2021c). The mandatory retirement age was increased from 55 to 65 ‘late retirement’ in the 2009 labour law amendments.

- Deceased's biological or adoptive parent of the deceased.

### *Occupational Hazards Scheme*

The Occupational Hazard Scheme is financed by mandatory members' employers, at the rate of 2 per cent of gross salary; there is no employee contribution (RSSB 2021f; SSA 2019).

To be qualified for benefit, the worker must be assessed with a work injury or occupational disease. Occupational diseases and accidents that occur while commuting to and from work are covered. The payable benefits under the scheme include permanent disability benefits, survivorship benefits, work related injuries or diseases benefits and daily sickness allowances benefits. Table 24 provides additional information on benefit amounts.

In addition, employers are liable for total cost of sickness, covering 100 per cent of the employee's monthly earnings up to three months. The employee must be currently employed and provide a medical certificate. For sick leave lasting at least 15 days, a medical certificate signed by three medical doctors may be required. Employees can also take up to three additional months of unpaid leave (SSA 2019).

Table 24: Occupational hazard benefits in Rwanda, 2003 onwards

Temporary disability benefits	75% of the insured's average daily earnings in the 3 months before the disability began, paid until full recovery, until certification of permanent disability, or for up to 180 days (whichever occurs first). A doctor approved or appointed by the Rwanda Social Security Board (RSSB) periodically assesses the disability.
Permanent disability benefits, full disability	For a total (100%) disability, 85% of the insured's average monthly earnings in the three months before the disability began is paid. 40% of the permanent disability benefit is paid if the insured requires the constant attendance of others to perform daily functions.
Permanent disability benefits, partial disability	For an assessed degree of disability of at least 15% but less than 100%, a per cent of the full permanent disability pension is paid based on the assessed degree of disability. For an assessed degree of disability of less than 15%, a lump sum of three years of the pension is paid, based on the assessed degree of disability. A doctor approved or appointed by the RSSB periodically assesses the disability.
Workers' medical benefits	Benefits include medical, surgical, and dental care; laboratory services; medicine; hospitalization; eyeglasses; appliances; rehabilitation; and transportation.
Spouse's survivor pension	30% of the deceased's average daily earnings in the last three months before the disability began is paid to the widow(er).
Orphan's survivor pension	15% of the deceased's average daily earnings in the last three months before the disability began is paid for each unmarried nonworking orphan younger than age 18 (age 25 if a student, no limit if disabled); 20% for a full orphan (both parents deceased).
Survivor pension for other eligible survivors	10% of the insured's average daily earnings in the last three months before the disability began is paid to each surviving parent (direct or adopted).
Funeral grant	A lump sum of 100 times the legal monthly minimum wage is paid to the person who paid for the funeral.

Note: the maximum combined survivor benefit is 100% of the permanent disability pension the deceased received or was entitled to receive.

Source: SSA (2019); RSSB (2021f).

### *Maternity Leave Benefit Scheme*

Law N°003/2016 of 30 March 2016 on maternity leave benefits, which became operational from November 2016, requires both formal employers and employees to contribute 0.3 per cent of the employees' gross remuneration (a total of 0.6 per cent) towards a maternity fund, administered by

the Rwanda Social Security Board (RSSB). If an employee has more than one employer, contributions are required from each of them. Self-employed persons are excluded from the scheme. To receive benefits, the person must be currently employed with at least one month of contributions, and provide a medical certificate of delivery issued by a recognized health facility (SSA 2019; RSSB 2021d).

Public and private sector employers are required to provide a minimum 12 weeks of paid maternity leave to female employees. They receive payment at 100 per cent of the insured's daily earnings for the whole duration of the leave. The employer initially pays the 12 weeks' wages, and requests RSSB reimbursement for the last 6 weeks of maternity leave at the end of the leave. Up to one additional month of maternity leave is paid in case of delivery complications certified by an authorized medical doctor (SSA 2019; RSSB 2021d). Similar to social security contributions, the law covers international and national organizations and employees operating in Rwanda (PwC 2021).

#### *Medical scheme (also known as 'RAMA')*

It is currently a legal requirement for all Rwandans to be covered by a health insurance (ILO 2021), with the main schemes being *Rwandaise d'Assurance Maladie* (Rwanda Medical Insurance Scheme, RAMA) for public servants, those employed by state-owned enterprises, and accepted private institutions;<sup>18</sup> Community Based Health Insurance (CBHI) Scheme for the informal population; and Military Medical Insurance (MMI), managed by the Ministry of Defence, for military personnel. The national CBHI coverage rate was estimated at 85 per cent in 2008, with other insurance schemes (RAMA, MMI and private insurance) covering an estimated 4 per cent of the population. RAMA is discussed here and CBHI and MMI in subsections below.

The contributions for RAMA are calculated at 7.5 per cent of monthly basic earnings for employees and 7.5 per cent of monthly basic payroll by employers (SSA 2019), i.e., a total of 15 per cent of basic salary per worker. RSSB also covers the medical insurance for pensioners with a 7.5 per cent contribution deducted from their monthly pension (RSSB 2021e).<sup>19</sup>

There is no minimum qualifying period to be eligible for RAMA benefits. RSSB covers 85 per cent of the bill for medical treatment and prescribed drugs. Patients cover the remaining 15 per cent of the cost. The benefits include surgical interventions, hospitalization, chemotherapy, medical imaging, laboratory tests, physiotherapy, dental care, eye treatment, limb prosthesis and orthosis, dialysis, and full medical check-ups (for women aged 35 or older and men aged 40 or older) (SSA 2019; RSSB 2021e).

On 1 May 2017, a new directive by the RSSB mandated it no longer covers 85 per cent of the bill for RAMA insurance card holders that visit private polyclinics or hospitals without a transfer, but will rather cover a per cent calculated on the basis of the standard tariff for private clinics. Medical services at public health facilities and private clinics (also referred to as 'general clinics') will still be covered at the rate of 85 per cent of the total bill (Bizimungu 2017).

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<sup>18</sup> See RSSB (2021e), section 'How can private institutions join?', for details. Any institution or company wishing to adhere to RSSB medical insurance is required to take membership for all its employees.

<sup>19</sup> Based on older sources (Republic of Rwanda 2009: 16; Ministry of Health 2010), contributions were previously calculated at 15% of the basic salary, split equally between the employer and employee.

### *Community-Based Health Insurance Scheme (CBHI)*

The community-based health insurance (CBHI) scheme for rural and informal sectors called ‘Mutuelle de Santé’ was initiated in 1999 (Lavers 2016). From 1<sup>st</sup> July 2015, its management was moved from the Ministry of Health to RSSB. Retired workers are excluded from the schemes with which they were affiliated during their working lives (RAMA, MMI) and are obliged to join the CBHI (Ministry of Health 2010).

Based on 2015 legislation, annual premiums depend on individuals’ economic situation, determined based on Ubudehe categories. Members in the poorest group (Category 1) pay a flat rate of RWF2,000 per year, which may be subsidized by government or other donors. Category 2 members pay RWF3,000 per year, while Category 3 members pay RWF7,000 per year.<sup>20</sup> Self-employed persons can pay a higher premium (at least RWF10,000 a year) for a higher level of access or services (SSA 2019; RSSB 2021a).<sup>21</sup>

Membership is effective when each household member has, personally or through third party, paid the required contribution, with the exception household members insured under another medical insurance scheme and children aged three months or younger. A household member who joins the scheme for the first time benefits from relevant services immediately after paying the fee (for the whole household) before the 30<sup>th</sup> of September. If the fee is paid after this date, a one-month waiting period is applied. The member has to renew the insurance before the end of the insurance year (1 July until 30 June) but continues to receive medical care services for 30 days upon the expiry of the insurance.

A flat co-payment fee of RWF200 per visit, or 10 per cent of the total hospital bill, is collected by the CBHI unit to cover CBHI administration costs. Medical care is refundable by RSSB only provided that the health facility has signed an agreement with RSSB. The Ministry of Health in collaboration with RSSB has agreed which medical procedures and drugs are to be refunded (RSSB 2021a).

The benefits include access to medical services provided by government health centres, district hospitals, and referral hospitals, including vaccinations, general care, surgery, dental care, X-rays and imaging, laboratory services, rehabilitation services, hospitalization, medicine, maternity care, ambulance fees, and prostheses. Benefits for dependents are the same as those for the insured. (SSA 2019).

### *EjoHeza*

EjoHeza is a long-term saving scheme sponsored by the government, covering both salaried workers and non-salaried population. Any Rwandan citizen or foreigner residing in Rwanda has the right to open an Ejo Heza account. Members of the RSSB Pension Scheme or other voluntary schemes can also open such an account to accrue additional old-age savings (RSSB 2021b).

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<sup>20</sup> Previously, according to the Ministry of Health (2010), the membership fee for CBHI was RWF2,000 per person at the time of publication. Before that, contributions were RWF1,000 per household member, with healthcare costs capped at 10% of the treatment received (Republic of Rwanda 2009).

<sup>21</sup> From Kidd and Kabare (2019): ‘Persons with disability can access the Mutuelle de Santé health insurance subsidy in two ways. The first is through the NCPD classification mechanism. However, as many persons with disability were not categorised by NCPD, the only other means of accessing health support is if they are classified as in category 1 of Ubudehe. Given the large numbers of persons with a disability that were not categorised by NCPD and are not in category 1 of Ubudehe, it is possible that many are unable to access the subsidized Mutuelle de Santé benefits.’

Ejo Heza differs from the RSSB Pension Scheme in that it is a voluntary, government-sponsored scheme available to all Rwandan citizens, including informal and self-employed workers, while the pension scheme is compulsory and only available to those with formal employment. Ejo Heza members can also decide how much they want to contribute and are also permitted to make contributions at any time, while RSSB contributions are a pre-defined per cent of salary and are deducted and remitted on a monthly basis. Finally, Ejo Heza members start receiving their monthly pension at 55 years of age while RSSB pensioners receive their pension at 65 or at early retirement of 60 (RSSB 2021b).

As for special incentives (RSSB 2021b):

- Members of Ubudehe categories 1 and 2 (2015–21) who have saved for at least RWF15,000 have the right to a government co-contribution equal to 100 per cent of Ejo Heza savings.
- Members of Ubudehe category 3 (2015–21) who have saved for at least RWF18,000 have the right to a government co-contribution equal to 50 per cent of Ejo Heza savings.
- The government's contribution to these savings cannot however exceed RWF18,000.
- Rwandan citizens who are members of Ubudehe category 4 (2015–2021) who save at least RWF72,000 a year in Ejo Heza are also eligible for the special insurance benefits during the following year. Namely, if a member fulfilling this condition passes in the following year, the member's nominated beneficiary will be paid a one-time compensation of RWF1,000,000, along with a one-time payment of RWF250,000 towards the member's funeral expenses. The government co-contribution benefit will be paid into the Ejo Heza accounts of eligible members on an annual basis for the first 36 months following the date of launch of the scheme.

#### *Military Medical Insurance (MMI)*

Rwanda's Military Medical Insurance (MMI) scheme, launched in 2005 and managed by the Ministry of Defence, provides basic insurance coverage to military personnel and their eligible family members. Beneficiaries include:

- Members of the Rwanda Defence Force (RDF) who are in service, transferred or seconded, and any other employees of RDF, Ministry of Defence (MOD) and its affiliated institutions.
- Employees in service of other security organs.
- Retirees who were affiliated with MMI before retirement.
- Any other institutions that obtain military medical insurance for their personnel.
- Eligible dependents of MMI affiliates.

Based on Republic of Rwanda (2009) and Nyandekwe et al. (2020), MMI contributions are calculated at 22.5 per cent of gross salary (17.5 per cent by government and 5 per cent by the employee). Medical services to the MMI Beneficiaries include the coverage of medical and pharmaceutical services provided by public and private health facilities, including health centers, hospitals, clinics and pharmacies that have signed an agreement with MMI. The beneficiary is however required to cover 15 per cent of the total cost of medical services provided or the prescribed pharmaceutical products (Republic of Rwanda 2017).

### 3.5 Other social policies and initiatives

#### *Umuganda community work programme*

Umuganda can be described as community work. Communities around the country come together on the last Saturday of each month to engage in different types of public work projects. Generally, these works include infrastructure development and environmental protection initiatives, including the building of schools, medical centers and hydroelectric plants, rehabilitating wetlands and creating highly productive agricultural plots.

Participation is required from Rwandans between ages 18–65, and non-Rwandans living in Rwanda are encouraged to take part as well. Nearly 90 per cent of Rwandans participate according to the Ministry of Local Government which is in charge of community work. The average annual value from Umuganda projects to the has been estimated at around US\$21 million.

Participants are not paid a salary, but at the district level, the best activity is awarded a certificate and funding for future projects. The best three projects in each province are also awarded prizes, and the best three projects from across Rwanda are awarded a cash prize (Rwandapedia 2021c).

#### *Unemployment insurance and severance pay*

There is no provision for unemployment insurance benefit under Rwandan labour laws as of mid-2021. The 2018 labour law however requires that employers provide severance pay in case of dismissal due to economic or technological reasons to employees with at least 12 months of service, as follows:

- One month of the employee's average salary is paid for at least one but less than 5 years of service
- Two months for at least 5 but less than 10 years
- Three months for at least 10 but less than 15 years
- Four months for at least 15 but less than 20 years
- Five months for at least 20 but less than 25 years
- Six months for at least 25 years of service.

#### *The rural sector support project (RSSP)*

The rural sector support project (RSSP), in place between 2001 and 30 October 2018, offered support to smallholder farmers in selected areas in Rwanda. The project sought to strengthen the food system and advance sustainable farming practices. RSSP was funded by the World Bank through a three-phase Adaptable Program Loan (APL) implemented over 17 years.

The first phase (RSSP1) was effective from 2001–08; the second phase (RSSP2) from 2008 to 2012, and the third phase (RSSP3) from 20 June 2012 until 30 October 2018. The first phase focused on supporting the adoption of sustainable agricultural intensification technologies in developed marshlands and surrounding hillsides, and the second phase broadened the related support. RSSP3 extended and built upon the growth-stimulating activities of the first two phases, emphasizing diversification of economic activities to increase and stabilize rural incomes. The stated objectives for the third stage were to (i) 'increase the agricultural productivity of organized farmers in the marshlands and hillsides of sub-watersheds targeted for development in an

environmentally sustainable manner’; and (ii) ‘strengthen the participation of women and men beneficiaries in market-based value chains’ (SPIU-World Bank 2021).

In RSSP3, project beneficiaries included female and male farmers in the selected marshlands and adjacent hillsides as well as community members who received project support in small groups. The total number of the project beneficiaries was 101,774 of whom 42.1 per cent were women.<sup>22</sup>

Throughout the three phases, the project was reported to have led to increased food production and thereby higher household incomes and lower poverty. For more information on the type of activities supported and estimated benefits, see SPIU-World Bank (2021). Information on benefits received by households under RSSP3 is available from the EICV5 survey data (see Section 4).

## 4 Data sources

The most suitable underpinning dataset for a Rwandan tax-benefit microsimulation model is the national household survey—*Integrated Household Living Conditions Survey* or *Enquête Intégrale sur les Conditions de Vie des ménages* (EICV) in French. This is the only national dataset that contains detailed information on demographic and household characteristics, expenditures and incomes, required for a national tax-benefit microsimulation model. The fifth EICV survey (EICV5) from 2016/17 has been identified as the preferred underpinning dataset for the model, because the most recent wave, EICV6 from 2020/21, was not fully implemented due to the COVID-19 pandemic. Since 2010, The NISR has conducted EICV surveys every three years, meaning that the next survey will most likely be conducted in 2023/24.<sup>23</sup>

In addition to discussing the EICV datasets (4.1), this section covers additional data sources to be used for uprating income and expenditure data in the model (4.2).

### 4.1 Integrated Household Living Conditions Surveys

#### *Integrated Household Living Conditions Surveys 1–6*

Tax-benefit microsimulation requires detailed information on household characteristics, incomes, and consumption expenditures. Such data from Rwanda are available from the *Integrated Household Living Conditions Survey* of Rwanda, commonly known as *Enquête Intégrale sur les Conditions de Vie des ménages* (EICV) in French. The survey is regularly implemented by the National Institute of Statistics of Rwanda (NISR) with technical and financial support from the World Bank, UKAid (now DFIF), AfDB, UNICEF, and EU.

At the time of writing, five official waves of the EICV are available from 2000, 2005/06, 2010/11, 2013/14, and 2016/17. EICV5 from 2016/17 has been identified as the preferred dataset to underpin the Rwandan model because the most recent survey, EICV6, was interfered by the

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<sup>22</sup> RSSP3 was implemented in the following districts: Bugesera; Nyagatare, Ngoma, Gatsibo, Rwamagana, and Kayanza in the Eastern Province; Muhanga, Kamonyi, Nyanza, Gisagara, Huye, Nyaruguru, and Ruhango in the Southern Province, Burera and Rulindo, in the Northern Province, Rusizi, Nyabihu, Ngororero, and Nyamasheke in the Western Province, and Gasabo, Kicukiro and Nyarugenge in the city of Kigali.

<sup>23</sup> Rwanda has applied for international financial support for years 2023 and 2024 for the purpose of conducting the survey (Clearinghouse for Financing Development Data 2021).

COVID-19 pandemic; only 40 per cent of the planned sample was interviewed prior to the onset of the pandemic. Table 25 provides a summary of past EICV surveys.

Table 25: Data summary, Integrated Household Living Conditions Survey of Rwanda (EICV)

Information type	Information
Waves	2000, 2005, 2011, 2013/2014, 2016/2017, 2019/20 (interrupted by the pandemic)
Latest available	2016/17 (constitutes 14,580 households and 64,314 individuals)
Type	Cross-section, apart from the EICV4 (2013/14) for which 2,108 households from the previous wave were re-interviewed
Access to data	The EICV data is free of charge and can be downloaded from NISR website ( <a href="https://www.statistics.gov.rw">https://www.statistics.gov.rw</a> )
Expenditure data	- Available and disaggregated into a list of items
Income data	- Individual wage income and individual self-employed income - Household business income, including farm and non-farm business income - Household investment income is available, or can be derived from the rent, lease, interest or profit-sharing of non-business household assets (assets that not used in business activities) - Other household incomes (pension and retirement funds, scholarships, insurance, winnings/lottery)
Information about social protection	- Cash transfers and subsidies received under VUP and Ubudehe Programmes - One cow per poor family policy (Girinka) - Rural sector support project (RSSP)

Source: authors' summary of Integrated Household Living Conditions Surveys 1–6 (EICV 1–6).

### *2016/17 wave of the EICV*

The 2016/17 Household Living Conditions Survey (EICV5) has three main components: A cross-sectional sample of households, Vision Umurenge Programme (VUP) Panel Survey,<sup>24</sup> and EICV5 Panel Survey. EICV5 was conducted in course of 12 months from October 2016 to October 2017. The sample is comprised of 64,314 individuals in 14,580 households.

### *Sampling procedure<sup>25</sup>*

The sampling frame for the EICV5 is based on the NISR master sampling frame. This master sample was based on the 2012 Rwanda Census frame. The primary sampling units (PSUs) for the master sample are individual villages, with the number of households tabulated from the 2012 national census data. The villages were selected from the master sample, stratified by district.<sup>26</sup> Within each district the sample villages were selected systematically with probability proportional to size (PPS), where the measure of size was based on the number of households in each village from the 2012 national census. Within each district the villages in the master sampling frame were not explicitly stratified by urban and rural areas. However, the frame of villages within each district

<sup>24</sup> The data contains 1,745 households who have ever benefited from the VUP programme. This is roughly 12 percent of the entire country sample of households who benefited from programme.

<sup>25</sup> The text in subsections 'Sampling procedure', 'Weighting', and 'Variables' is obtained directly from the survey documentation (NISR 2018).

<sup>26</sup> Rwanda is composed of 30 districts, located in five provinces, including Kigali city.

was ordered by urban and rural codes, and the systematic selection of the sample villages (with PPS) provides an implicit stratification of the Master Sample by urban and rural areas within each district, with a proportional allocation of the sample villages to each stratum. Further, a nationally representative sample of clusters was assigned for the EICV5 data collection in one out of ten cycles, so that the sample is geographically representative over time. This process ensures that the final distribution of the sample clusters to cycles and sub-cycles is geographically representative within each district.

The urban areas generally have a higher intraclass correlation for socioeconomic characteristics between households within a cluster compared to rural areas. There is also a different interviewing schedule for the sample households in Kigali Province, so that only nine households are interviewed in each cluster. The number of sample clusters allocated to each district is a multiple of ten, allowing the sample to be evenly distributed to the ten cycles.

In EICV5, the sample was increased for districts in the Kigali Province because the estimates of the poverty rate for those districts had higher coefficients of variation (CVs) or relative standard errors (RSEs) compared to the other districts. The margins of error were also higher for the districts of Kigali city due to the relatively higher design effects (especially for Gasabo district). The sample of PSUs for each district in Kigali city is 60, leading to a total increase of 30 sample clusters and 270 sample households. For districts in the remaining four provinces, the sample included 40 clusters and 480 households in each cycle. Note that the sample PSUs in each district were allocated to urban and rural strata in proportion to the number of households in the 2012 Census frame.

Overall, EICV5 includes 1,260 sample villages (clusters) and 14,580 sample households. In the urban strata there are 245 sample villages and 2,526 sample households, while in the rural strata there are 1,015 sample villages and 12,054 sample households.

### *Weighting*

The data collected in EICV5 was designed to represent the household-based population in each of the 30 districts of Rwanda. As discussed, a stratified multi-stage sample was selected for the EICV5 cross-sectional survey, based on the NISR Master Sample selected from the 2012 national census frame. In EICV5, weights were calculated based on the probabilities of selection from each sampling stage. This procedure produces data that are weighted to represent the total household-based population of Rwanda.

Usually, it is important to adjust the weights to account for the non-interview households in each sample village. However, as all non-interview households were replaced during the EICV5 cross-sectional survey data collection in each sample village, the final number of completed households remained exactly as planned (nine) for each sample village in Kigali city, and 12 for each sample village in the remaining provinces. For this reason there was no need to adjust the EICV5 cross-sectional survey weights for non-response.

### *Variables*

Similar to previous EICVs, EICV5 contains variables that describe the living conditions of Rwandan individuals and households. The list below covers the main variables collected across these surveys:

- (i) **Basic demographic data:** age, gender and marital status of individuals; information on relationships to the head of household; details of parents of children.

- (ii) **Migration:** internal and international migration; reasons for migration.
- (iii) **Health:** disability and health problems; health insurance; consultations.
- (iv) **Education:** general education; literacy, learning and training; educational expenses.
- (v) **Housing:** background and status of housing occupancy; expenses, services and installations; physical characteristics of the dwelling; access and satisfaction towards basic services.
- (vi) **Employment:** usual activity; employment status; salaried workers; business activities; underemployment and unemployment; domestic and ancillary work.
- (vii) **Agriculture:** livestock, land and agricultural equipment; details of holding parcels or blocs; agricultural policy changes; crop harvests and use on a large-scale, small-scale crops; other income from agriculture; cost and expenditure on agricultural activities; transformation of agricultural products.
- (viii) **Household expenditure and subsistence farming:** expenditure on non-food items; food expenditure; subsistence farming; consumption of own production.
- (ix) **Transfers of incomes, other revenues and expenditures:** transfers made by household (transfer-out); transfers received by the household (transfer-in); VUP, Ubudehe and RSSP schemes; income support programmes and other revenues; other expenditure.
- (x) **Credit, durables and savings:** credit; durable household goods; deposit and savings.

*Previous rounds of the data*

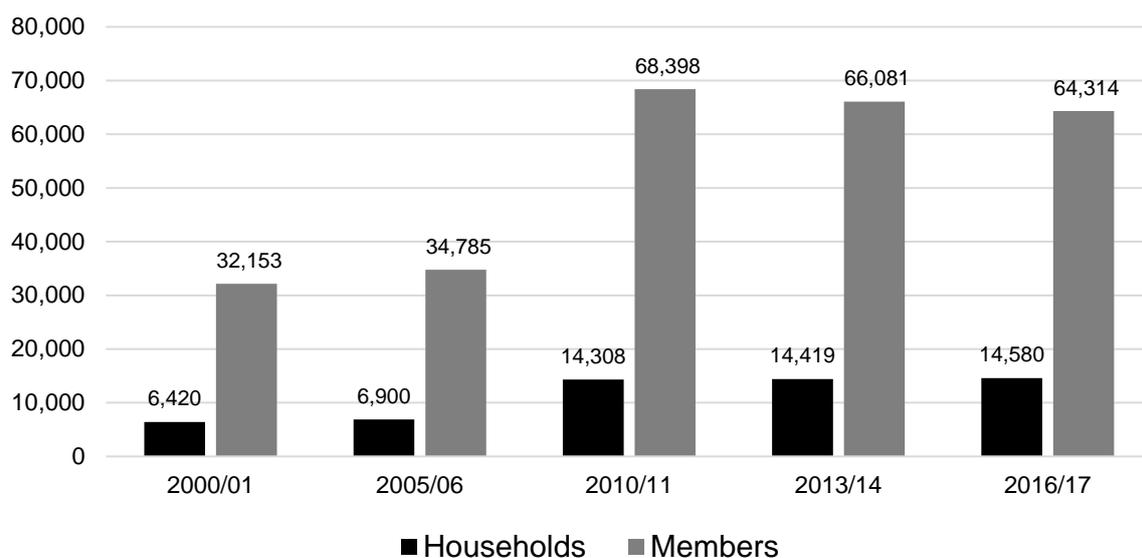
In collaboration with other stakeholders (including the World Bank, European Union, United Kingdom, United Nations, Rwanda), the National Institute of Statistics of Rwanda (NISR) has conducted the National Living Conditions Household Survey (EICVs) since 2000, so far producing five complete rounds of such surveys. The nationally representative survey data has been used for gathering information on welfare changes in the country and for respective socio-economic policymaking.

Figure 3 shows the number of households and household members across the five EICVs. It illustrates that the number of sampled households and individuals was increased significantly in EICVs 3–5, each including more than 14,000 households and more than 64,000 household members.<sup>27</sup>

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<sup>27</sup> EICV6 (2019/20) was interrupted by the COVID-19 pandemic and cancelled half way, partly because the country was preparing for the 2022 National Census. EICV6 includes data only on the 40% of households that were interviewed prior to the pandemic and is therefore not sufficient for a national tax-benefit microsimulation model.

Figure 3: Number of households and household members across the five EICVs



Source: authors' compilation using NISR household dataset surveys (October 2021).

#### *Previous analysis of the data*

Like other previous EICVs, the EICV5 (2016/17) has been used in various academic studies and research projects (Diao et al. 2021; Khundi-Mkomba 2021; Maniriho et al. 2020: 21-41; Muremyi et al. 2019; Nsabimana et al. 2021, 2022). For instance, Maniriho et al. (2020) use EICV5 to evaluate rural household savings and their implications on welfare in Rwanda. Diao et al. (2021) assess the impacts of COVID-19 on household incomes and poverty based on a microsimulation approach, again using EICV5 as the main data source. Nsabimana et al. (2022) use EICV5 to explore how income and other household attributes explain variations in energy use across Rwandan households.

#### *Weaknesses of the data*

The EICV datasets from the five waves contain household information that characterise both individual households and the district location of these households. However, some individual-level data is missing from the surveys which would broaden the opportunities for empirical research. These include anthropometric measures, especially height and weight, which would allow empirical analysis of food consumption and nutrition patterns across households. As an example, such anthropometric measures of children under the age of five would allow for analysing the degree of stunting and malnutrition in the country. Other useful but currently missing information in the surveys includes household geocoordinates for spatial analysis. Note that most existing studies using the EICV rely on the Demographic and Household Survey (DHS) dataset.

In the previous EICVs, especially up to the 2010/11 wave, market prices (both food and non-food items) were missing. This limited research efforts focusing for instance on household demand and elasticities. More recent waves have made improvements on this front.

Finally, the EICVs, while incorporating a large sample of households, are missing a panel dimension that would enable linking households and individuals across the survey waves. Panel data would be very critical, especially in a country like Rwanda, with numerous national programmes and interventions that would benefit from rigorous assessments. For now, researchers have needed to rely only on repeated cross-sectional data in attempts to estimate the

causal effect of various interventions (for example, the land consolidation programme and one-cow-per-poor-family programmes). While EICV3 and EICV4 had around 2,108 households that were followed across the two surveys, this information is not very useful for research due to the limited number of formal interventions that happened between the two waves.

## **4.2 Sources of data for uprating**

Datasets of the type required for tax-benefit simulations are rarely produced on an annual basis, and in any case, there is usually a time-lag between data collection and release. In order to be able to model current tax and benefit rules (or any year between the year of data collection and the current year) it is usually necessary to uprate the income and expenditure data collected in surveys. The consumer price index (CPI) or similar is used for this purpose.

Monthly CPI data for Rwanda is available by the National Institute of Statistics of Rwanda (NISR) (2021) with a publication lag of roughly one month, from calendar year 2009 onwards, with base period February 2014. The data contain several consumer price indices for Rwanda that are available separately for urban and rural regions. The annualized values for these indices are available in Appendix A.

In addition, in developing and using the microsimulation model, it may sometimes be necessary to account for demographic changes since the date the survey data were collected. Population projections up until 2020 are available from World Bank Development Indicators (World Bank n.d.) by gender in 5-year age brackets at the time of writing.<sup>28</sup> The estimates for 2014–20 are shown in Appendix B.

## **5 Assessment of tax-benefit microsimulation feasibility**

The nationally representative Rwanda Household Living Conditions Survey 2016/17 (EICV5) has been identified as the best available dataset to underpin a tax-benefit microsimulation model in Rwanda (see Section 4).

Several taxes and social protection measures can be modelled. Comparing EICV5 data with eligibility rules and other information on the policies identified, Table 26 summarizes the feasibility of simulating each tax (Section 2) and benefit (Section 3) in Rwanda.

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<sup>28</sup> World Bank staff estimates using the World Bank's total population and age/sex distributions of the United Nations Population Division's World Population Prospects: 2019 Revision.

Table 26: Tentative assessment of feasibility of simulation of different policies in Rwanda

<b>Main policy</b>	<b>Can be simulated?</b>	<b>Notes</b>
Taxes on personal income	Yes	Levied on employment income, business profits, and investment income. Requires distinguishing between casual and permanent employees, available in the data.
Motor vehicle income tax	No	Usage for work not found in the questionnaire
Immovable property tax	Possibly	No relevant data available
Rental income tax	Yes	Property rent is captured. For land, rent of agricultural land is captured.
Value-added tax	Yes	
Excise duty	Yes	For selected items
Pension Scheme	Yes	Contributions can be modelled
Occupational Hazards Scheme	Yes	Contributions can be modelled
Maternity Leave Benefit Scheme	Yes	Contributions can be modelled
Rwanda Medical Insurance Scheme (RAMA)	Yes	Contributions can be modelled
Community Based Health Insurance (CBHI)	Yes	Contributions can be modelled
Military Medical Insurance (MMI)	Yes	Contributions can be modelled
Severance pay	No	
The Vision 2020 Umurenge Programme (VUP)	Yes	Using Ubudehe categories. Receipt, amount, and type of programme are captured
Girinka (one cow per poor family)	Included in data	Questionnaire asks about number of cattle and receipt of a cow from this scheme
Rwanda Demobilisation and Reintegration Programme (RDRP)	Included in data	Questionnaire asks about receipt and amount
Genocide Survivors Support and Assistance Fund (FARG)	Included in data	Questionnaire asks about receipt and amount
The rural sector support project (RSSP)	Included in data	Questionnaire asks about receipt and amount
Local government fees	No	
Ubudehe projects	No	
Umuganda community work programme	No	
EjoHeza	No	
COVID-related policies in 2020–2021	Possibly	The feasibility of modelling specific COVID-related tax and benefit policies will be re-evaluated during the model building

Source: authors' summary of the data.

As for taxes, it will be possible to simulate personal income taxes, rental income taxes, and possibly immovable property taxes. Similarly, it is most likely possible to simulate personal contributions to all contributory benefit schemes listed in the table. Considering non-contributory social protection policies, benefits from different schemes under the Vision 2020 Umurenge Programme can be simulated using, for example, information on Ubudehe categories; the reported Ubudehe category of each household interviewed in 2016/17 is available in EICV5. As for Girinka, RDRP, and FARG, it will not be possible to simulate these programmes directly in the model as the variables required to determine eligibility are not asked about in EICV5. As mentioned in Table

26, however, benefit receipt in these programmes is captured directly in the survey. This means that, rather than simulating the related benefits based on eligibility criteria, which would be the preferred option, it will be possible to assign the benefits to those who report receipt.

At the time of writing, policy systems can be modelled for years 2016–21. In order for the EICV5 2016/17 to relate to timepoints after 2016, income and expenditure data will need to be updated using the relevant CPIs, available in Appendix A.

The long-term future of a tax-benefit microsimulation model in Rwanda depends upon the following conditions being fulfilled:

- Commitment to develop the model with in-country partners.
- A first draft of the model in English which demonstrably enables social security options to be explored by government and academia.
- A transparent user guide in English.
- An organization which issues user licences for the model, and liaises with users.
- Regular training events for new users.
- An organization to coordinate updates of the policies, reweight the survey weights, inflate the income data etc. each year, and add new datasets as they become available.
- Users having licenses for STATA or another software package with which to analyse the output data if interested in producing results going beyond the basic, ‘day-after’ results provided within the EUROMOD software that the model would run on.

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## Appendix A: Consumer price indices

Annualized consumer price indices for Rwanda are listed in Table A1.

Table A1: Consumer price indices, Rwanda, 2014–21

Index	2014	2015	2016	2017	2018	2019	2020	2021
<i>All regions, Rwanda</i>								
CPI, Rwanda	100	102.5	109.9	119.0	118.6	122.6	134.7	134.1
Food and Non-Alcoholic Beverages	100	103.7	116.9	131.6	121.8	126.4	145.8	139.8
Bread and Cereals	100	102.2	106.2	124.8	118.0	128.3	140.6	135.6
Meat	100	104.4	110.7	112.1	115.7	131.7	152.6	162.7
Milk, Cheese and Eggs	100	101.8	104.3	110.8	116.2	121.5	125.5	131.9
Vegetables	100	106.5	125.9	138.5	123.6	127.6	155.3	137.0
Non-Alcoholic Beverages	100	101.8	107.2	115.8	119.1	122.9	126.3	129.0
Alcoholic Beverages and Tobacco	100	107.6	112.2	118.4	120.0	126.8	150.4	157.6
Clothing and Footwear	100	101.2	102.8	109.7	112.8	119.8	126.6	132.3
Housing, Water, Electricity, Gas, Other Fuels	100	102.2	104.1	105.8	117.4	120.5	124.7	128.7
Furnishing, Household Equipment and Maintenance	100	101.7	103.5	106.0	108.4	112.1	115.8	122.9
Health	100	100.8	100.5	105.4	105.4	105.8	106.2	106.7
Transport	100	99.0	103.7	107.0	115.6	119.0	132.7	124.0
Communication	100	99.8	102.0	102.9	102.2	102.2	102.2	102.2
Recreation and Culture	100	103.3	105.5	109.3	111.2	116.7	120.6	126.0
Education	100	102.7	104.8	129.5	133.3	136.0	139.5	148.4
Restaurants and Hotels	100	101.5	103.8	108.0	108.9	109.9	111.5	116.0
Miscellaneous Goods and Services	100	101.2	103.9	105.5	107.2	109.6	113.7	115.4
<i>Urban</i>								
CPI, Urban	100	102.5	108.4	113.6	115.2	118.0	127.1	128.1
Urban, Food and Non-Alcoholic Beverages	100	103.9	115.1	126.0	122.6	125.7	140.7	139.3
Urban, Bread and Cereals	100	104.1	106.3	115.3	115.8	120.1	129.7	126.9
Urban, Meat	100	104.5	108.5	110.0	113.2	128.4	149.2	156.3
Urban, Milk, Cheese and Eggs	100	102.9	106.1	113.3	117.3	120.2	121.8	125.1
Urban, Vegetables	100	106.6	128.1	139.4	132.4	133.4	161.1	143.9
Urban, Non-Alcoholic Beverages	100	101.4	106.9	117.6	120.7	125.9	129.1	131.8
Urban, Alcoholic Beverages and Tobacco	100	105.9	111.3	120.0	124.9	135.7	160.6	171.4
Urban, Clothing and Footwear	100	102.3	104.0	110.2	113.7	120.4	125.2	128.9
Urban, Housing, Water, Electricity, Gas, Other Fuels	100	104.0	106.5	108.5	112.2	113.0	118.4	120.4
Urban, Furnishing and Household Maintenance	100	101.7	104.9	108.0	110.6	114.3	116.7	122.2
Urban, Health	100	99.9	100.1	106.7	107.0	107.2	107.4	107.6
Urban, Transport	100	99.2	106.3	111.0	119.7	123.9	138.7	132.6
Urban, Communication	100	100.2	104.8	107.0	105.7	105.7	105.7	105.7
Urban, Recreation and Culture	100	104.9	108.3	111.3	113.5	114.3	119.0	125.1
Urban, Education	100	100.4	102.2	101.4	103.3	104.8	109.5	121.6
Urban, Restaurants and Hotels	100	102.6	105.5	104.5	103.9	105.1	106.2	108.3
Urban, Miscellaneous Goods and Services	100	101.8	104.1	107.2	109.7	110.9	113.8	114.8
<i>Rural</i>								
CPI, Rural	100	102.6	110.7	121.8	120.0	124.8	139.1	137.3
Rural, Food and Non-Alcoholic Beverages	100	103.7	117.5	133.0	120.6	125.7	147.0	138.9
Rural, Bread and Cereals	100	101.4	106.2	128.4	117.4	131.0	144.6	138.4
Rural, Meat	100	104.3	112.1	113.5	117.5	134.2	155.2	168.0
Rural, Milk, Cheese and Eggs	100	102.5	104.5	110.2	117.0	125.1	131.8	141.7
Rural, Vegetables	100	106.5	125.5	138.3	121.4	126.1	153.9	135.3
Rural, Non-Alcoholic Beverages	100	102.0	107.4	114.1	117.6	120.1	123.5	126.3
Rural, Alcoholic Beverages and Tobacco	100	108.3	112.5	117.8	118.0	122.9	146.0	151.7
Rural, Clothing and Footwear	100	100.7	102.2	109.4	112.3	119.5	127.8	134.9
Rural, Housing, Water, Electricity, Gas, Other Fuels	100	100.9	102.5	104.7	124.0	129.3	132.4	138.4
Rural, Furnishing, HH Equipment and Maintenance	100	101.6	102.4	104.7	106.9	110.6	115.5	124.0
Rural, Health	100	101.7	100.9	104.2	103.8	104.4	105.0	105.8
Rural, Transport	100	98.7	99.3	100.1	108.8	110.4	121.7	107.1
Rural, Communication	100	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Rural, Recreation and Culture	100	101.3	101.8	106.7	108.0	120.6	123.4	127.7
Rural, Education	100	105.4	108.0	164.2	170.6	175.2	176.4	178.9
Rural, Restaurants and Hotels	100	100.5	102.3	111.3	114.2	114.9	117.2	125.3
Rural, Miscellaneous Goods and Services	100	100.7	103.8	104.0	104.7	108.7	114.3	116.8

Note: the figures are the average of monthly CPIs over each calendar year, with the average over 2014 as the baseline, fixed to 100.

Source: authors' elaboration of NISR (2021).

Other consumer price indices produced by NISR, only available for urban areas, include:

- Local Goods Index, including:
  - food and non-alcoholic beverages
  - housing, water, electricity, gas and other fuels
  - transport
- Imported Goods Index, including:
  - food and non-alcoholic beverages
  - furnishing, household equipment
  - transport
- Fresh Products index
- Energy Index
- General Index excluding fresh products and energy

Producer price indexes (PPI) and indices of industrial production (IIP) are also available.

## Appendix B: Population by age and gender

Population estimates from World Bank (n.d.) are listed in Table B1 by age and gender.

Table B1: Population by age and gender, Rwanda, in thousands, 2014–20

Category, age group	2014	2015	2016	2017	2018	2019	2020
<i>Total population</i>	110 836	113 691	116 688	119 810	123 020	126 269	129 522
<i>Female, total</i>	56 428	57 864	59 374	60 949	62 569	64 209	65 848
0–4	8 288	8 412	8 506	8 695	8 942	9 177	9 352
5–9	7 631	7 804	7 962	8 082	8 169	8 247	8 348
10–14	6 678	6 851	7 036	7 228	7 423	7 611	7 773
15–19	5 899	6 040	6 187	6 329	6 473	6 631	6 807
20–24	5 282	5 325	5 423	5 542	5 678	5 823	5 971
25–29	4 990	5 016	5 060	5 093	5 126	5 175	5 249
30–34	4 317	4 514	4 669	4 773	4 838	4 888	4 937
35–39	3 053	3 234	3 457	3 717	3 990	4 237	4 436
40–44	2 366	2 499	2 625	2 735	2 845	2 984	3 167
45–49	1 839	1 847	1 905	2 014	2 156	2 302	2 437
50–54	1 904	1 942	1 937	1 887	1 819	1 778	1 789
55–59	1 372	1 440	1 525	1 632	1 742	1 824	1 862
60–64	1 073	1 127	1 172	1 207	1 241	1 289	1 358
65–69	721	760	804	858	918	975	1 028
70–74	490	526	552	571	590	616	653
75–79	249	252	271	305	343	379	408
80–	277	275	283	281	276	273	275
<i>Male, total</i>	54 408	55 826	57 314	58 861	60 451	62 061	63 674
0–4	8 352	8 490	8 607	8 811	9 068	9 312	9 499
5–9	7 607	7 787	7 957	8 092	8 196	8 293	8 412
10–14	6 635	6 804	6 987	7 180	7 380	7 573	7 745
15–19	5 822	5 983	6 134	6 273	6 409	6 560	6 733
20–24	5 125	5 147	5 237	5 370	5 534	5 704	5 865
25–29	4 876	4 962	5 020	5 019	4 990	4 983	5 026
30–34	3 814	4 003	4 201	4 403	4 592	4 745	4 848
35–39	2 854	3 011	3 181	3 354	3 531	3 714	3 903
40–44	2 149	2 251	2 366	2 489	2 622	2 767	2 924
45–49	1 870	1 839	1 848	1 895	1 974	2 070	2 173
50–54	1 951	2 000	1 995	1 935	1 849	1 780	1 755
55–59	1 264	1 351	1 459	1 593	1 729	1 831	1 878
60–64	893	955	1 007	1 048	1 090	1 150	1 235
65–69	512	550	595	652	714	775	831
70–74	327	348	363	375	388	409	442
75–79	169	167	176	193	213	231	246
80–	187	179	182	179	171	164	158

Note: female and male population counts are based on the de facto definition of population, which counts all residents regardless of legal status or citizenship. Estimates are shown in thousands.

Source: based on World Bank (n.d.); World Bank staff estimates using the World Bank's total population and age/sex distributions of the United Nations Population Division's World Population Prospects: 2019 Revision (United Nations 2019).