SOUTHMOD

Country report

Uganda

UGAMOD v2.1

2018–2023

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May 2024

Uganda Revenue Authority

DEVELOPING UGANDA TOGETHER

Acknowledgements

The Uganda Bureau of Statistics is also hereby acknowledged for providing the 2016/17 and 2019/20 Uganda National Household Surveys that were used in the model. The contribution of Uganda Revenue Authority staff and management towards the successful building of the model is commended. Nicholas Musoke, Dorothy Nakyambadde, Nalukwago Milly Isingoma, Faith Masekesa, and Christine Byaruhanga are thanked for their contributions to earlier versions of this country report.

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Please cite as

Tina Kaidu, Ronald Waiswa, Joseph Okello Ayo, Susan Kavuma, David McLennan, Michael Noble, and Gemma Wright (2024). *UNU-WIDER SOUTHMOD Country Report: UGAMOD v2.1 2018–2023*, UNU-WIDER SOUTHMOD Country Report Series. Helsinki: UNU-WIDER.

About the project

SOUTHMOD – simulating tax and benefit policies for development

SOUTHMOD is a joint project between the United Nations University World Institute for Development Economics Research (UNU-WIDER), Southern African Social Policy Research Insights (SASPRI), and the International Inequalities Institute at the London School of Economics and Political Science (LSE) in which tax–benefit microsimulation models for selected developing countries are being built. These models enable researchers and policy analysts to calculate, in a comparable manner, the effects of taxes and benefits on household incomes and work incentives for the population of each country.

SOUTHMOD models are currently available for Bolivia (BOLMOD), Colombia (COLMOD), Ecuador (ECUAMOD), Ethiopia (ETMOD), Ghana (GHAMOD), Mozambique (MOZMOD), Peru (PERUMOD), Rwanda (RWAMOD), Mainland Tanzania (TAZMOD), Uganda (UGAMOD), Viet Nam (VNMOD), Zambia (MicroZAMOD), and Zanzibar (ZANMOD). SOUTHMOD models are updated to recent policy systems using national household survey data. This report documents UGAMOD, the SOUTHMOD model developed for Uganda. This work was carried out by Uganda Revenue Authority (URA) and Makerere University in collaboration with the project partners.

The results presented in this report are derived using UGAMOD version 2.1, which is part of the SOUTHMOD bundle (SOUTHMOD_A2.0) and runs on EUROMOD software. The report describes the different tax–benefit policies in place, how the microsimulation model picks up these different provisions, and the database on which the model runs. It concludes with a validation of UGAMOD results against external data sources. For further information on access to UGAMOD and other SOUTHMOD models, see the SOUTHMOD page, SOUTHMOD Modelling Conventions, and SOUTHMOD User Manual (UNU-WIDER 2024a; 2024b).

The UGAMOD model and its documentation in this country report has been prepared within the UNU-WIDER project SOUTHMOD – simulating tax and benefit policies for development (Phase 3), which is part of the Domestic Revenue Mobilization programme Phase II. The programme is financed through specific contributions by the Norwegian Agency for Development Cooperation (Norad).

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Typescript prepared by Siméon Rapin.

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Acronyms

CPI	Consumer price index
EUROMOD	European Union Tax–Benefit Microsimulation Model
ITA	Income Tax Act
LST	Local service tax
MoFPED	Ministry of Finance, Planning and Economic Development
MoGLSD	Ministry of Gender, Labour and Social Development
NSSF	National Social Security Fund
PAYE	Pay-as-you-earn
UBOS	Uganda Bureau of Statistics
UGX	Ugandan shillings
URA	Uganda Revenue Authority
VAT	Value-added tax

1 Basic information

1.1 Country context and basic information for UGAMOD

Uganda is a landlocked country located in East-Central Africa with a population of about 45.8 million as of 2021 (World Bank 2023), and its capital Kampala is the largest city with a population of 1.68 million. Uganda's economic performance was greatly affected by the COVID-19 pandemic slowing down to a growth of 1.5 per cent in 2020, picked up in 2021 with a growth of 6.0 per cent, and the economy is expected to continue recovering with growth projected at 4.6 per cent and 6.2 per cent in in 2022 and 2023, respectively (African Development Bank 2023). The economic recovery was driven by strong expansion in the mining and construction sectors and a rebound of the services sector, particularly public administration and education.

A household is defined as a group of persons who normally live and eat together (UBOS 2017). According to the 2017 Uganda Bureau of Statistics (UBOS) report, there are a total of 7.3 million households in the country. Of these, 1.8 million are headed by women and 5.5 million by men. Households headed by women are generally smaller than those headed by men (see UBOS 2017). The median age at marriage in 2011 was approximately 18 years for women and that for men approximately 22 years. Over the period 1995–2011, women married at an earlier age (17–18 years) than men (22–23 years).

The legal minimum working age in Uganda is 18 years; work below that age is referred to as child labour. Dependent children are defined as those aged less than 18 years.

Children start primary school at 6 years of age. The National Education System has seven years of primary education and six years of secondary education. The Government of Uganda introduced universal primary education in January 1997 and universal secondary education in 2007, making primary and secondary (up to senior four) education free.

The majority of the population have attained primary school-level education. Female literacy is lower (68 per cent) than that for males (77 per cent) (UBOS 2017). More women own a house (64 per cent) or land (59 per cent) individually than men (39 and 43 per cent, respectively); on the other hand, more men own a house (40 per cent) or land (37 per cent) jointly than women.

The Public Service Retirement Benefits Act 1999 defines the voluntary retirement age as 55 years and statutory retirement age as 60 years.

In Uganda, tax policies are divided between central and local government, although central government collects most of the tax revenue. The Ministry of Finance, Planning and Economic Development (MoFPED) through the Uganda Revenue Authority (URA) is the custodian of the design, oversight, administration, and implementation of the tax policies for central government. The fiscal year runs from 1 July to 30 June, and amendments to tax rules and other related financing policies are usually submitted by MoFPED to Parliament at the start of the financial year following the Public Finance Bill. Upon approval by Parliament and signature by the President, the amended Public Finance Bill becomes the law known as the Public Finance Act. At the local government level, the Local Government Finance Act guides local government authorities on sources of revenue and management of funds and resources. The municipal and district councils introduce the taxes using bylaws, and although the rates may differ from one local government to another, the taxes are the same, including property taxes, fees, and levies. Other fees, fines, and charges assessed by ministries, departments, and agencies of the government are collected by the URA.

All tax laws are made and passed through the Acts of Parliament of Uganda. The main tax laws for the purpose of this report include the Income Tax Act (ITA), Value-Added Tax (VAT) Act, Excise Duty Act, and Local Service Tax (LST) Act (see Okuja 2018; LGFC 2008); all are defined by common laws at the national level. Municipalities are empowered under the Local Government Act to collect all taxes for local governments.

The ITA defines a taxpayer as any person who derives an amount subject to tax under the ITA. Ugandan tax residents are subject to income tax on their worldwide income, whereas non-residents are subject to tax on income accrued in or derived from Uganda.

A resident is defined as an individual who:

- Has a permanent home in Uganda;
- Is present in Uganda
    - for a period of, or periods amounting in aggregate to, 183 days or more in any 12-month period that commences or ends during the year of income; or
    - during the year of income and in each of the two preceding years of income for periods averaging more than 122 days in each such year of income;
- is an employee or official of the Government of Uganda posted abroad during the year of income.

Employers are obliged to contribute on a monthly basis to the National Social Security Fund (NSSF) 15 per cent of an employee's monthly salary, wages, and cash allowances, but 5 per cent is deducted from the employee's wage as his/her share of the contribution.

The following social regimes exist in Uganda: Public Service Pension Scheme, NSSF for the formal private sector and non-governmental organizations, and private schemes such as occupational pensions/saving schemes run by particular institutions and companies. Social security was created to cover old age, disability, and survivors. The first social security law was set in 1967, and currently the laws applicable are the Pensions Act, the 1985 NSSF Act, and the 2011 National Retirement Benefit Authority Act. Social security is a constitutional right and a right enshrined in the United Nations Universal Declaration of Human Rights (UDHR 1948). Article 22 of the UDHR provides the right to social security, highlighting the fact that every member of society should be entitled to social security. The same right is reiterated in the International Labour Organization Convention No. 102, which sets the minimum standards of social security benefits for old age, invalidity, sickness, Medicare, unemployment, employment injury, and family and maternal benefits.

1.2 Social benefits

The social assistance grants were introduced as government and non-governmental organization programmes whose aim was to achieve the overall government objective of enabling poor households to increase incomes and opportunities while improving consumption. Some of these grants are summarized below.

Benefit 1 (*Senior Citizens' Grant*): This is an old-age grant that was initially targeted to benefit older persons of 65 years and above in selected districts (but lowered to 60 years in the case of the more vulnerable Karamoja region). On 1 July 2020, the grant was rolled out nationwide to all persons above the age of 80. However, previous beneficiaries below the age of 80 years are still eligible.

Benefit 2 (*Extremely Vulnerable Households Programme*): This gives food and cash handouts to children under 5 years of age, children aged 5–18 years, and adults (18 years and above) for food-insecure households in Karamoja. This programme is implemented under the World Food Programme's SCOPE beneficiary system and the Government of Uganda's social protection registry coordinated by the Prime Minister's office. It is not a national programme. In 2018/19 the programme reached 215,185 households in Karamoja. This policy is not simulated in UGAMOD.

1.2.1 Not strictly benefits

Not strictly benefit 1 (*Youth Livelihood Programme*): Project eligibility criteria include the following:

- The beneficiaries should fall within the youth age bracket (18–30 years).
- All the members of the Youth Interest Group should be bona fide residents of the location (village) under which the project is being approved.
- All the Youth Interest Groups are transparently selected in a community participatory process based on the selection criteria set by the programme.
- Evidence that members of the Youth Interest Group fully participated in the identification and planning processes for the project and group formulation shall be voluntary. There should be evidence that the enterprise selected has undergone adequate viability and sustainability analyses guided by technical experts, with clear business and repayment plans for the revolving fund.
- There should be evidence that the enterprise selected has undergone the full generation process, including appraisal and approval by the sub-county and district local governments, respectively, based on the programme guidelines.
- The enterprise must have a clear physical address/location. Where the enterprise requires land, the ownership and legal status of the land should be established through a valid land agreement or land title.
- The enterprise should have a reasonable maturity period that permits repayment of the interest-free revolving fund within a time period of 1 year. A service fee of 5 per cent shall be levied on all repayments that exceed 1 year.
- The enterprise should have a good implementation and sustainability plan.
- At least 80 per cent of the budget for the enterprise should go into the core inputs of the enterprise as opposed to essential and non-core inputs and administration expenses.

This policy is not simulated in UGAMOD.

Not strictly benefit 2 (*Disability Support Grant*): Individuals eligible for the disability grant are considered to be those with a physical and/or mental limitation that supposedly interferes with both activities at work and daily tasks. Disabled people are defined as those who express some difficulty in seeing, hearing, walking, concentrating, and self-care. This is a national programme for persons with disability who are in well-organized groups. It started in 2009/10 to support income generating activities that provide employment and improve income status of people with disabilities. In 2009/10, 48 districts benefited with each district getting UGX 30 million to support the programme. In 2010/11 it was scaled up to cover all districts in Uganda. The government allocates UGX 3 bn annually to all the districts. The money is allocated to districts according to number of sub-counties, i.e the district with more sub-counties receives more money than one with few sub-counties (National Council for Disability 2018). This policy is not simulated in UGAMOD.

Not strictly benefit 3 *(The Uganda Women's Entrepreneurship Programme (UWEP)*): This is a five-year programme which started in 2015/16. It is aimed at improving access to financial services for women and equipping them with skills for enterprise growth, value addition and marketing of their products and services. It provides support in the form of soft loans and skills training to groups of women entrepreneurs especially those with disabilities, victims of gender-based violence, women with HIV, and those living in hard-to-reach areas. The programme was initiated in 19 district local governments and Kampala Capital City Authority (KCCA) in the financial year 2015/16. The districts included Moroto, Katakwi, Kaliro, Mayuge, Kamuli, Kalangala, Kayunga, Wakiso, Kibaale, Bundibugyo, Kiruhura, Koboko, Nebbi, Kitgum, Ntungamo, Otuke, Kole, Nakasongola, and Kisoro. In 2016/17, the programme was rolled out to the entire country (MGLSD 2019a). This policy is not simulated in UGAMOD.

Not strictly benefit 4 *(Operation Wealth Creation*[1] *(OWC)):* The Operation Wealth Creation is a government programme launched in 2013 with the aim of transforming the agriculture sector from being dominated by subsistence farmers to a dominance of commercial farmers. The OWC programme is implemented under the National Agricultural Advisory Development Services (NAADS) in the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) with the mandate to provide agricultural inputs. These inputs include seedlings and planting materials for priority crops such as maize, beans, mango, apple, cocoa, cassava, Irish potatoes, banana plantlets, pineapple suckers. Special interest groups for women and youth groups are eligible to receive seedlings for ginger, passion fruit, grapes, depending on the availability of resources. On the other hand, OWC provides livestock farmers with young animals such as dairy heifers, beef cattle, piglets, poultry birds and feeds, fish fingerlings (Tilapia, catfish, mirror carp) and fish feeds, goats, artificial insemination kits, Pasteur seeds for seed multiplication. The programme also supports value-addition activities such as providing maize milling equipment, milk coolers with matching generators, fruit processing equipment (small, medium, and large scale) to viable organized farmer groups. Furthermore, OWC intends to provide agricultural production implements, for example tractors and matching implements, solar water pumping systems on selected demonstration farms to support strategic interventions in the agriculture sector. Lastly, OWC plans to revitalize the role of farmer groups in the implementation of the NAADS and OWC programmes. This policy is not simulated in UGAMOD.

1.3 Social contributions

Social (insurance) contribution 1 (*NSSF*): NSSF Uganda is a national saving scheme mandated by the government through the NSSF Act, Cap 222 (Laws of Uganda) to provide social security services to employees in Uganda. NSSF Uganda is a provident fund and covers employees in the private sector. It is a contributory scheme and is funded by contributions from employees and employers, of 5 and 10 per cent, respectively, of the employee's gross monthly wage. Since 2012, the fund is regulated by the Uganda Retirement Benefits Regulatory Authority while MoFPED is responsible for overseeing policy.

[1] Source for this section: Ministry of Agriculture, Animal Industry and Fisheries (MAAIF 2019).

As per the Act, NSSF administers and pays qualified contributing persons the following benefits as a matter of right:

Age benefit: This is paid to persons who have reached the retirement age of 55 years. Age benefit can also be claimed on attaining the age of 50 years, provided the claimant has retired from employment.

Survivors' benefit: This is paid to the immediate surviving family (spouse and children) of the deceased person. In case the individual did not have a spouse or children, the benefit is paid to parents if they solely depended upon the deceased person.

Exempted employment: This is paid to persons who join exempted employment categories that have their own social protection schemes (e.g. public service, army, police, etc.).

Emigration grant: This is paid to foreign[2] or Ugandan nationals who are leaving the country permanently.

Invalidity benefit: This is paid to persons who can no longer be gainfully employed because of physical or mental incapacitation.

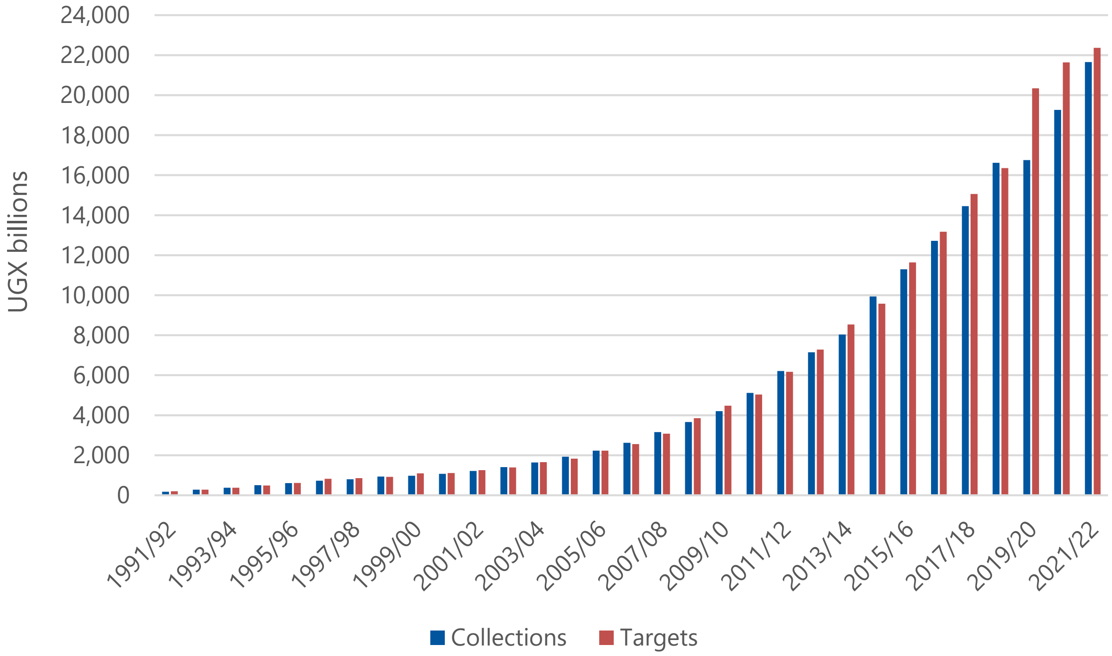
Withdrawal benefit: This is paid to a person if s/he attains the age of 50 years and if s/he has not been employed under a contract of service for a period of 1 year immediately preceding his or her claim.

1.4 Taxes

The URA was established by an Act of Parliament in September 1991 as a central body for the assessment, collection, and accounting of government revenue. In fulfilling this obligation, the URA administers and enforces laws relating to such revenue and advises government on tax policy matters. Before the establishment of the URA, central government taxes were collected by the Ministry of Finance. The government hoped to achieve two main objectives when it established the URA (Kangave 2005). First, by removing tax collection obligation from the Ministry of Finance, it was anticipated that the newly established revenue authority would operate with limited political interference. Second, creating the URA as an autonomous statutory body not part of civil service would provide an opportunity to offer better remuneration and thereby attract and retain competent staff. These reforms, along with the introduction of VAT in 1996 and the enactment of a new income tax law in 1997, registered success in terms of revenue collection over time (Figure 1.1).

[2] From the National Social Security Fund (NSSF) Act, foreign nationals in this context refer to non-Ugandans who have been working in Uganda and contributing to the NSSF.

Figure 1.1: Tax revenue performance, 1991/92–2021/22 (UGX billions)



Source: Authors' compilation based on URA annual revenue data.

The URA collects both tax and non-tax revenues. Tax revenues include domestic taxes and international trade taxes. Domestic taxes consist of income tax (corporation tax, individual income tax, pay-as-you-earn (PAYE), presumptive tax, rental income tax), withholding tax, tax on bank interest, casino tax, excise duty, and VAT. International trade taxes include petroleum duty, import duty, excise duty, VAT on imports, withholding taxes on imports, and levies among others. Non-tax revenue includes fees and licences.

During the financial year 2021/22, domestic taxes contributed 61.8 per cent and international trade taxes 38.2 per cent of the gross revenues. The major contributing tax heads were PAYE (26.6 per cent), VAT (24.1 per cent), VAT on imports (14.9 per cent), and petroleum duty (12.2 per cent), as seen in Table 1.1.

Table 1.1: Tax revenue collections for financial year 2021/22

	Collections (UGX billions)	Percentage share
Gross revenues (includes all NTR)	22,098.06	100.00
Domestic taxes	13,663.89	61.83
Taxes on international trade	8,434.17	38.17
Direct domestic taxes	7,375.64	53.98
PAYE	3,634.26	26.60
Corporate tax	1,635.86	11.97
Other corporate tax	613.96	4.49
Presumptive tax	7.46	0.05
Withholding tax	1,177.41	8.62
Rental income tax	156.10	1.14
Casino tax	53.68	0.39
Other	613.96	4.49
Indirect domestic taxes	4,942.60	36.17
Excise duty	1,646.70	12.05
VAT	3,295.90	24.12
Taxes on international trade	8,434.17	38.17
Petroleum duty	2,686.27	12.16
Import duty	1,557.06	7.05
Excise duty	268.69	1.22
VAT on imports	3,291.64	14.90
Withholding taxes	167.78	0.76
Infrastructure levy	114.31	0.52
Hides and skins levy	0.31	0.00
Fees and licenses	314.81	1.42
Total NTR	1,232.37	5.58
Appropriation in Aid (AIA)	579.30	2.62

Note: NTR, non-tax revenue; VAT, value-added tax.

Source: Authors' compilation based on URA revenue data.

Tax 1 (*PAYE*): Employers are required by law to deduct income tax from an employee's taxable salary via PAYE. For PAYE, a withholding tax approach is used.

Tax 2 (*Individual income tax*): This is applicable to individuals earning business income (self-employment) or those with both employment income and business income.

Tax 3 (*Rental income tax*): This is charged separately from income tax for persons earning rental income for a year of income. (Rent is not included under the gross income of an individual.) For individual taxpayers, an allowable deduction is usually calculated (with the exception of 2021), and the tax rate has changed over time (see details below).

Tax 4 (*Presumptive tax—income tax on small businesses*): This is applied to resident persons (individuals and non-individuals) with businesses that have an annual turnover between UGX 10 million and UGX 150 million (see Waiswa et al. 2021). The amount of presumptive tax payable depends on whether the taxpayer keeps records, with those not keeping records being required to pay a fixed amount based on how much turnover they have. The reform introduced five income bands for presumptive tax (see Income Tax Act Amendment of 1 July 2020).

Tax 5 (*VAT—on supply and imports of domestic goods and services*): VAT registration is required when taxable turnover exceeds UGX 150 million per year. The standard rate is 18 per cent (see the VAT Act in Okuja 2018).

Tax 6 (*Excise—domestic and international trade*): Different commodities have different tax rates. It includes a mix of specific rates and ad valorem rates (see Kavuma et al. 2020).

Tax 7 (*LST*): This is levied on the wealth and income of the following categories of people, and the assessment is fair, equitable, and non-regressive: persons in gainful employment, self-employed and practising professionals, self-employed artisans, businessmen, and businesswomen.

2 Simulation of taxes and benefits in UGAMOD

2.1 Scope of simulation

Table 2.1 shows the benefit policies that are simulated in UGAMOD. Table 2.2 lists the main taxes and social contributions and specifies which ones are simulated within UGAMOD for the policy years 2018–22. For details about the policy years 2016–17, see Waiswa et al. (2022).

Table 2.1: Simulation of benefits in UGAMOD

	Variable name	Treatment in UGAMOD						Why not simulated?
		2018	2019	2020	2021	2022	2023	
Pension benefits (Senior Citizens' Grant) (*boa_ug)*	*boa_s*	S	S	S	S	S	S	N/A
Extremely Vulnerable Households Programme	/	E	E	E	E	E	E	Insufficient policy details
Youth Livelihood Programme	/	E	E	E	E	E	E	Insufficient information in dataset
Disability Support Grant	/	E	E	E	E	E	E	Insufficient information in dataset
Uganda Women's Entrepreneurship Programme	/	E	E	E	E	E	E	Insufficient information in dataset
Operation Wealth Creation	/	E	E	E	E	E	E	Requires further investigation

Notes: 'S' policy is simulated although some minor or very specific rules may not be simulated. 'E' policy is not simulated.

Source: Authors' compilation.

Table 2.2: Simulation of taxes and social contributions in UGAMOD

	Variable name	Treatment in UGAMOD					
		2018	2019	2020	2021	2022	2023
Taxes							
Personal income tax *(tin_ug)*	*tin_s*	S	S	S	S	S	S
Presumptive turnover tax *(ttn_ug)*	*ttn_ss*	S	S	S	S	S	S
LST *(tgv_ug)*	*tgv_s*	S	S	S	S	S	S
Rental income tax *(tpr_ug)*	*tpr_s*	S	S	S	S	S	S
VAT *(tva_ug)*	*tva_s*	S	S	S	S	S	S
Excise duty *(tex_ug)*	*tex_s*	S	S	S	S	S	S
Social contributions							
Employee pension contribution *(tscee_ug)*	*tscee_s*	S	S	S	S	S	S
Employer pension contribution *(tscer_ug)*	*tscer_s*	S	S	S	S	S	S

Notes: LST, local service tax. 'S' policy is simulated although some minor or very specific rules may not be simulated.

Source: Authors' compilation.

2.2 Order of simulation and interdependencies

Table 2.3 presents the order of the main elements of the Ugandan system for 2018–22 for simulations.

Table 2.3: UGAMOD spine: Order of simulation

Policy	2018	2019	2020	2021	2022	2023
uprate_ug	On	On	On	On	On	On
neg_ug	On	On	On	On	On	On
ildef_std_ug	On	On	On	On	On	On
Ildef_non_std_ug	On	On	On	On	On	On
Ildef_stats_ug	On	On	On	On	On	On
Ildef_exp_ug	On	On	On	On	On	On
tudef_ug	On	On	On	On	On	On
constdef_ug	On	On	On	On	On	On
random_ug	N/A	N/A	On	On	On	On
spl_ug	On	On	On	On	On	On
ses_ug	On	On	On	On	On	On
tscee_ug	On	On	On	On	On	On
tscer_ug	On	On	On	On	On	On
tgv_ug	On	On	On	On	On	On
tpr_ug	On	On	On	On	On	On
ttn_ug	On	On	On	On	On	On
tin_ug	On	On	On	On	On	On
boa_ug	On	On	On	On	On	On
tva_ug	On	On	On	On	On	On
tex_ug	On	On	On	On	On	On
xhhadj_ug	On	On	On	On	On	On
output_std_ug	On	On	On	On	On	On
output_std_hh_ug	Off	Off	Off	Off	Off	Off

Source: Authors' compilation based on the UGAMOD model.

2.3 Switches

There are three extensions (switches) in UGAMOD, two of which occur in the presumptive tax policy (ttn_ug). These two switches only apply to the 2020 system onwards and are explained below in the section on this policy. The other extension (VAT2020) is in regard to the VAT policy income list, which deals with the changes to COICOP codes in the new dataset.

2.4 Social benefits

2.4.1 Basic social assistance (Senior Citizens' Grant) (boa_ug)

Definitions

For the purposes of this benefit, a senior citizen is defined as aged 60 and above, but the eligibility conditions vary by age (see below).

Eligibility conditions

The eligibility criteria have changed over time for this benefit. It was initially targeted at older persons of 65 years and above in selected districts. The age threshold was then lowered to 60 years in the case of people living in the more vulnerable Karamoja region. The benefit was extended to an increasing number of districts for those aged 65 and above. From 1 July 2020, the grant was rolled out nationwide to all persons above the age of 80. However, previous beneficiaries below the age of 80 years are still eligible.

Income test

There is no income test.

Benefit amount and duration

The amount payable is 25,000 Ugandan shillings (UGX) (US$8) per month.

UGAMOD notes

The universal benefit for those aged 80 and above is included in UGAMOD's systems for 2020–22. Individuals aged 60 and above in the Karamoja region and aged 65 and above in the other districts that were included in the scheme in 2019 are treated as eligible for the benefit in 2020–22, with appropriate adjustments to the ages in the policy.

2.5 Social insurance

2.5.1 Social insurance contributions (National Social Security Fund, NSSF) (tscee_ug, tscer_ug)

Liability to contributions

NSSF Uganda is a national saving scheme mandated by the government through the NSSF Act, Cap 222 (Laws of Uganda) to provide social security services to employees in Uganda.

Income base used to calculate contributions

The employee's gross monthly wage.

Contribution rates

The employee and employer contribute 5 per cent and 10 per cent of gross earnings per month, respectively.

UGAMOD notes

This is simulated for individuals who work in the formal sector.

2.6 Direct taxes

2.6.1 Personal income tax (tin_ug)

Tax unit

The tax unit is at the level of the individual.

Exemptions

The following incomes are exempted from personal income tax (PIT): employment income of the police and armed forces, pensions, allowances for members of parliament.

Tax allowances

We define tax allowances as any amount subtracted from pre-tax income (including social insurance contributions). Differently from Verbist (2004), there is no distinction between those that are fixed amounts (tax allowances) and those whose level is a function of pre-tax income (deductions). Tax rebates are deductions from tax payable (as distinct from tax allowances that are deductions from pre-tax income).

In Uganda, contributions by employees to NSSF are treated as tax allowances.

Tax base

Personal income tax: Income from employment, agriculture, 'other income'. In addition, self-employment income is included for those whose turnover is less than 10 million per year but who also have other types of taxable income; and the self-employment income of those with turnover greater than 150 million per year (see UGAMOD notes below for presumptive tax). Income tax rates for individuals are shown in Table 2.4.

Tax schedule

Table 2.4: Income tax rates for individuals, 2016–22

Chargeable income	Rate of tax
≤2,820,000 per year (or 235,000 per month)	Nil
>2,820,000≤4,020,000 per year (or 335,000 per month)	10% on amount in excess of 2,820,000 (or 235,000 per month)
>4,020,000≤4,920,000 per year (or 410,000 per month)	120,000 (10,000 per month)+20% on amount in excess of 4,020,000 (or 335,000 per month)
>4,920,000≤120,000,000 per year	300,000 (25,000 per month)+30% on amount in excess of 4,920,000 (or 410,000 per month).
>120,000,000 per year (or 10,000,000 per month)	Where income exceeds 120,000,000 (10,000,000 per month) 40% is charged on the amount in excess of 120,000,000 (10,000,000 per month)

Source: Authors' compilation from the Ugandan ITA.

UGAMOD notes

For employed persons, simulation of personal income tax is restricted to those in the formal sector.

For further details see Income Tax Act (of 1 July 1997, Cap 340 of the Laws of Uganda 2000).

2.6.2 Presumptive tax (ttn_ug)

Tax unit

The tax unit is the individual.

Tax base

The tax base is the individual's turnover.

Exemptions

This tax does not apply to a resident taxpayer who is in the business of providing medical, dental, architectural, engineering, accounting, legal, or other professional services; public entertainment services; public utility services; or construction services.

Tax schedule

Tables 2.5 and 2.6 show the tax schedule for the years 2016–19 inclusive and Table 2.7 shows the tax schedule for 2020–22.

Table 2.5: Small business taxpayers' tax rates for all areas in Uganda, 2019

Gross turnover	Tax
Where the gross turnover of the taxpayer exceeds UGX 50 million but does not exceed UGX 75 million per annum	UGX 937,500 or 1.5% of the gross turnover, whichever is lower
Where the gross turnover of the taxpayer exceeds UGX 75 million but does not exceed UGX 100 million per annum	UGX 1,312,500 or 1.5% of the gross turnover, whichever is lower
Where the gross turnover of the taxpayer exceeds UGX 100 million but does not exceed UGX 125 million per annum	UGX 1,687,500 or 1.5% of the gross turnover, whichever is lower
Where the gross turnover of the taxpayer exceeds UGX 125 million but does not exceed UGX 150 million per annum	UGX 2,062,500 or 1.5% of the gross turnover, whichever is lower

Note: See Table 2.6 for the tax rates for small business taxpayers with turnover of less than UGX 50 million per annum.

Source: Authors' compilation from the Ugandan ITA (see Okuja 2018).

Table 2.6: Tax rates for different trades in Kampala City divisions, municipalities, and towns and trading centres, 2019

Business trade	Where the gross turnover exceeds UGX 35 million but does not exceed UGX 50 million	Where the gross turnover exceeds UGX 20 million but does not exceed UGX 35 million	Where the gross turnover exceeds UGX 10 million but does not exceed UGX 20 million
Kampala City divisions			
General trade	500,000	400,000	250,000
Carpentry/metal workshops	500,000	400,000	250,000
Garages (motor vehicle repair)	550,000	450,000	300,000
Hair and beauty/salons	550,000	400,000	300,000
Restaurants or bars	550,000	450,000	300,000
Drug shops	500,000	350,000	250,000
Others	450,000	300,000	200,000
Municipalities			
General trade	400,000	300,000	150,000
Carpentry/metal workshops	400,000	300,000	150,000
Garages (motor vehicle repair)	450,000	350,000	200,000
Hair and beauty/salons	450,000	350,000	200,000
Restaurants or bars	450,000	350,000	200,000
Drug shops	400,000	300,000	150,000
Others	400,000	350,000	150,000
Towns and trading centres			
General trade	300,000	200,000	100,000
Carpentry/metal workshops	300,000	200,000	100,000
Garages (motor vehicle repair)	350,000	250,000	100,000
Hair and beauty/salons	350,000	250,000	100,000
Restaurants or bars	350,000	250,000	100,000
Drug shops	300,000	200,000	100,000
Others	300,000	250,000	100,000

Source: Authors' compilation from the Ugandan ITA (see Okuja 2018).

Significant changes were made to this policy in 2020. Table 2.7 shows the new tax rates for presumptive tax, and how they differ depending on whether the individual does not keep records or does keep records.

Table 2.7: Presumptive tax rates, 2020–22

Effective 2020/21	Turnover (Million shillings)	Without records: tax payable per year	With records
	0–10	0%	0%
	10–30	80,000	0.4 % of the annual turnover in excess of 10M
	30–50	200,000	80,000+ 0.5% of the annual turnover in excess of 30M
	50–80	400,000	180,000+ 0.6% of the annual turnover in excess of 50M
	80–150	900,000	360,000+ 0.7% of the annual turnover in excess of 80M

Source: Authors' interpretation of the Income Tax Act Amendment of 1 July 2020.

UGAMOD notes

UGAMOD's systems for 2020–22 contain two switches for presumptive tax. The first switch ('pt_wr' or 'Presumptive Tax with records') enables the assumption to be applied that no-one keeps records ('off'), which is the default, or that everyone keeps records ('on').

The simulated results for both scenarios greatly exceed the reported presumptive tax revenue, and so a further switch was incorporated into the model for the scenario where everyone keeps records, to adjust the simulated tax downwards to match actual reported presumptive tax revenue for 2020. This second switch is called 'pt_wr_adj' or 'Presumptive Tax with records downwards adjustment'; the default for the switch is that it is 'off' (i.e. the simulated tax is not downwards adjusted). The correct use of this second switch requires the first switch 'pt_wr' to be set 'on' as well as the second switch 'pt_wr_adj' to be set 'on'.

The user should note that presumptive tax is over-simulated for all years, but the downwards adjustment is only applied in the 2020 system onwards.

The user should also note that, although the 2020 presumptive tax rules were introduced in 2020 (and are included in the 2020 system of UGAMOD v2.0), in practice these revised rules were not implemented until a year later (see Waiswa et al. 2021 for more details).

Three mutually exclusive scenarios are modelled in UGAMOD with respect to presumptive tax:

1. If turnover is above 150m per year, then that individual will not pay presumptive tax. Instead, they will pay income tax on their profit, according to the PIT schedule.
2. If turnover is between 10m per year and less than 150m per year (irrespective of the size of their profit), they will pay presumptive tax on that turnover, according to the presumptive tax schedule.
3. If turnover is less than 10m per year, then the individual is not subject to presumptive tax. That turnover can be wholly disregarded within UGAMOD.

For the individuals in scenario (3), some will have a turnover less than 10m per year, yet will still have a profit after deductions (e.g. 7m per year). There are two possible outcomes for such individuals in terms of how they are then treated in the PIT policy:

a. If the person has no other sources of income, then the 7m profit is ignored. The 7m profit **is not** incorporated into the PIT calculation.
b. If the person has one or more other sources of income (for example, the person has a job and runs the business at weekends), then the 7m profit **is** included within PIT in addition to their income from their employment (yem).

For further details, see Income Tax Act (of 1 July 1997, Cap 340 of the Laws of Uganda 2000) and Waiswa et al. (2021).

2.6.3 Local service tax (tgv_ug)

Tax unit

The tax unit is the individual.

Tax base

Local service tax is applied to employment earnings for those in the formal sector, and to self-employed earnings for self-employed professionals and artisans, and to the turnover of business men and women including commercial farmers (LGFC 2008).

Exemptions

The salaries of the following categories of people are exempted from LST: members of the police force, prison services, Uganda Peoples' Defence Force, unemployed persons, peasants (people living in poverty and unable to earn a minimum income to access basic necessities of life), and individuals on diplomatic missions accredited to Uganda.

Tax schedule

The tax schedule for local service tax is shown in Table 2.8.

Table 2.8: Tax schedule for local service tax, 2016–22

Occupation and taxable income	Range of taxable income UGX (monthly)	Annual tax payment UGX
People in formal employment excluding the defense force and police. Salaries and wages (*yem*).	100,001-200,000	5,000
	200,001-300,000	10,000
	300,001-400,000	20,000
	400,001-500,000	30,000
	500,001-600,000	40,000
	600,001-700,000	60,000
	700,001-800,000	70,000
	800,001-900,000	80,000
	900,001-1,000,000	90,000
	1,000,000 and above	100,000
Self-employed professionals Earnings from self-employment (*yse)*	599,001-999,999	50,000
	1,000,000 and above	100,000
Self-employed artisans Earnings from self-employment (*yse)*	100,001-200,000	50,000
	200,001-300,000	10,000
	300,000 and above	20,000
Business people Turnover (*ytn)*	500,001-1,000,000	5,000
	1,000,001-2,000,000	10,000
	2,000,001-3,000,000	20,000
	3,000,001-4,000,000	30,000
	4,000,001-5,000,000	40,000
	5,000,001-6,000,000	50,000
	6,000,001-7,000,000	60,000
	7,000,001-8,000,000	70,000
	8,000,001-9,000,000	80,000
	9,000,001-10,000,000	90,000
	10,000,000 and above	100,000

Source: Authors' interpretation of LGFC (2008).

UGAMOD notes

None.

2.6.4 Rental income tax (tpr_ug)

Tax unit

The tax unit is the individual.

Tax base

Rental tax is payable on income from property (*ypr)* and land *(yprld).* Up to and including 2020, the tax base for rental income was 80 per cent of the excess above the threshold of UGX 2,820,000 per year (Okuja 2018). In 2021, the threshold was abolished, and the tax base was one quarter of the total rental income. In 2022, the threshold of UGX 2,820,000 was reintroduced, and the tax base was the whole excess above the threshold.

Tax schedule

Up to and including 2020, the rental income tax was calculated at 20 per cent of the tax base. In 2021, the rental income tax was calculated at the rate of 30 per cent of the tax base. In 2022, the rental income tax was calculated at 12 per cent of the tax base.

UGAMOD notes

None.

2.7 Indirect taxes

2.7.1 VAT (tva_ug)

Tax unit

The tax unit is the household. VAT is simulated based on household purchases of goods and services.

Exemptions

VAT-exempted items include certain food items (e.g., rice, fruit, and vegetables), types of medicines and healthcare provision, postal services, day care facilities and types of insurance (The Value Added Tax (Amendment) Act 2015, of 1 July).

Tax base

VAT is applied to transactions of certain goods and services (Value Added Tax Act (of 1 July 1996, Cap 349 of the Laws of Uganda 2000)

Tax schedule

The standard rate of VAT is 18 per cent (The Value Added Tax (Rate of Tax) Order 2006, of 1 July 2005).

UGAMOD notes

Up to and including the 2019 system, a total of 185 purchasable items are listed in the income list 'il_exp_vat01' in the policy tva_ug, with zero-rated or VAT-exempt items shown as 'n/a'. From the 2020 system onwards, there are 248 purchasable items in the 'il_exp_vat01' income list.

2.7.2 Excise duty (tex_ug)

Tax unit

The tax unit is the household. Excise duty is simulated based on household purchases of certain goods and services.

Tax base

Excise duty is payable on selected items and is administered under the Excise Act of 2014.

Tax schedule

The rates of duty are listed in the Second Schedule of the Excise Duty Act (Amended) of 2014. See also the appendix of Kavuma et al. (2020).

UGAMOD notes

Up to and including the 2019 system, excise duty was simulated for 15 items in UGAMOD (sugar, mineral water, soft drinks, fruit juices, other juices, domestic beer, gin (*waragi*), cigarettes, vehicle fuel (petrol and diesel), engine gear and different oil/petroleum jelly, kerosene/paraffin, mobile phone airtime, and mobile payments). Furniture was dropped as an excise duty item as there is no excise duty on domestically produced furniture, and it was not possible to differentiate domestic from foreign produced furniture items from the survey.

With the introduction of the new underpinning dataset (derived from the Uganda National Household Survey 2020), from system 2020 onwards it was not possible to simulate excise for petroleum jelly because this item was not included as an expenditure category in the new survey. Various assumptions needed to be made in order to simulate certain excise duty items due to changes in the questions asked in the new survey dataset. However, these changes were relatively minor and therefore are unlikely to result in substantial differences in the results.

During the preparation of the underpinning dataset, expenditure items which are subject to excise were stripped of excise taxes. As VAT is charged in addition to excise in Uganda, this was also stripped off during the data preparation stage. This enabled the expenditure items to be brought into the model net of excise and VAT.

Given that VAT is payable on the cost of these items *after* excise duty, a decision was made to simulate excise and VAT for these items in the same UGAMOD policy.

3 Data

3.1 General description

The UGAMOD model used data from the 2016/17 and 2019/20 Uganda National Household Survey (UNHS), which are, respectively, the sixth and seventh national household cross-section surveys conducted by UBOS. The description of the data provided here focuses on the 2019/20 UNHS as this is the most recent dataset underpinning UGAMOD. For details of the 2016/17 UNHS, please see an earlier UGAMOD country report, such as the report that relates to version 1.8 of UGAMOD (Waiswa et al. 2022).

Table 3.1: UGAMOD database

Characteristic	Description
Name	Uganda National Household Survey
Provider	Uganda National Bureau of Statistics
Year of collection	2019/20
Period of collection	June 2019 to November 2020
Income reference period	Annual/monthly/weekly
Sample size	64,731 individuals and 13,732 households
Response rate	90% (of 15,786 households selected through sampling)

Source: 2019/20 UNHS (UBOS 2021).

The 2019/20 UNHS (referred to from here onwards as simply the 'UNHS') is an integrated household survey with data collected using four modules: socio-economic, labour force, community, and informal sector (household enterprises) and small-scale establishments. The data used to generate the UGAMOD database were obtained from three modules: the socio-economic, labour force, and informal sector modules, that together include data on the demographic and socio-economic characteristics of households, such as educational attainment, health status, household income, expenditure and assets, and labour market characteristics. Data were collected over the period of June 2019 to November 2020. Although the data collection period would normally have been 12 months (so would normally have been completed by June 2020), the COVID-19 pandemic meant there were times during 2020 when the fieldwork had to be paused, hence the extension of the end date to November 2020. A total of 13,732 households were enumerated during this period. Table 3.1 describes the database.

3.2 Data adjustment

3.2.1 General data adjustments

The UNHS data are stored in separate files for each of the sections of the questionnaire. Consequently, the data compilation process involved the merging of 17 separate files on the various dimensions of household and individual demographic and socio-economic characteristics using both the household identifier (hhid) and the person identifier (pid) to create an individual-level database. The database excluded a total of 3,424 individuals who were not permanent members of the household because of being guests (2,411), having left the household more than 6 months ago (548), having left permanently (277), or having died (188). The resulting dataset contained 64,731 individuals in 13,732 households.

3.3 Imputations and assumptions

In order to generate relevant variables for the UGAMOD model, where applicable, we imputed a small number of implausible values in existing variables using plausible assumptions. For instance, there were two cases with implausibly low ages (*dag*) based on other reported characteristics, so for these two cases the ages were imputed to a more plausible value.

The *idpartner* variable was created from the variable capturing the relationship of the household member to the household head. Specifically, we used the response of spouse to generate the *idpartner* variable. The *idfather* and *idmother* variables were constructed from responses to three questions: Is the biological father (mother) of (name) alive? Is he (she) living in this household? And what is the ID/name of the father (mother)? There were 162 cases with no father other than dead or absent from the household and only 89 cases with no mother other than dead or absent from the household. The missing values for *idfather* and *idmother* were identified and replaced using the gender variable and variable capturing the relationship of the household member to the household head. The *idfather* and *idmother* were used to generate the *idparent* variable.

In order to compute the LST and presumptive tax, it was necessary to create a number of flags, such as the municipality flag (*drgn3*), town council flag (*drgn4*), and trades flag (*tcl*). The variables *drgn3* and *drgn4* were generated using information on location variables on districts, municipalities, and town councils. The *tcl* variable was constructed using the occupation variable (*loc*) data and responses to the following question: What kind of work do you usually do in the main job/activity that you had last week or from which you were absent? The aim was to identify different trades that are provided for in the presumptive tax policy.

The income of an employee (*yem*) who reported being paid at a set rate (i.e. per specific time period) was computed on the basis of earnings from the main job using reported earnings for the specified period of time, including hourly, daily, weekly, every 2 weeks, twice monthly, monthly, annually, and other (specify). Given that majority (54 per cent) of the workers reported monthly income, the rest of the earnings were converted into monthly earnings as a measure of standardizing the earnings. To convert hourly earnings into monthly earnings, the reported earnings were multiplied with the reported weekly hours worked and by 4. The daily earnings were converted by multiplying the earnings with 20 days (it was assumed the employee works 5 days a week). The weekly earnings were multiplied by 52/12 weeks. The bi-monthly earnings were multiplied by 2, while annual earnings were divided by 12. Individuals who reported being paid only through commission were not asked about set rates of pay, but rather were asked directly about how much they were paid in the last month. The computed *yem* variable therefore includes people paid at a set rate, and those paid by commission. The national distribution of *yem* values included a few outliers at the top of the income distribution and so values were capped at the 99th percentile of the income distribution. The computed *yem* is gross income.

Income from self-employment (yse) was constructed from a combination of two separate sections of the UNHS questionnaire. Section 11 of the questionnaire captured information on the total amount of income earned by the household from 'non-household' business enterprises. Rather than simply allocate any such household income to the household head, we instead adopted an approach to allocate the income to specific persons within the household based on a number of criteria and assumptions. First, if one or more persons within the household was coded as having a current economic status of 'self-employed/business owner', then the household-level income was assigned to these persons, with an equal split if more than one person in the household was recorded as 'self-employed/business owner'. However, in cases where no persons within the household had a current economic status of 'self-employed/business owner', then the income was split between any persons that reported being involved in self-employment/business activities. For instance, this could include persons whose main economic status was an employee, but who also undertook some self-employment work as a secondary activity. Again, if more than one person in the household met this criterion, then the income was split equally amongst any such persons. Finally, in cases where neither of the two approaches noted above could be applied (i.e. no one in the household had a current economic status of 'self-employed/business owner' and no one in the household reported being engaged in self-employment/business activities), then the income was simply assigned to the household head.

The self-employment/business-owning activities captured in Section 13 of the questionnaire related to informal sector 'household-based' enterprises. These data were recorded separately for each business, along with variables to identify which household members were engaged in each of the separate businesses. Information was captured on the value of sales and cost of expenses incurred by each separate business. The data were used to create net profit for each business, and this profit was then split equally amongst the household members listed as being actively engaged in the activities of that business.

The final calculation of *yem* entailed summing the self-employment/business income assigned to persons from the Section 11 data and the self-employment/business income assigned to persons from the Section 13 data. The resulting data were capped at the 99th percentile of the distribution.

As well as deriving values for incomes from self-employment/business ownership, it was also necessary to derive figures for business turnover (*ytn*), as this is needed for the simulation of presumptive tax in UGAMOD. Business turnover (ytn) was derived by summing the self-employment/business income assigned to persons from the Section 11 data (used as the best proxy for Section 11 turnover) and the self-employment/business turnover assigned to persons from the Section 13 data. The resulting data were capped at the 99th percentile of the distribution.

Income from agriculture (*yag*) was also constructed from a combination of information recorded in Sections 11 and 13 of the survey. In the same way as described for self-employment/business income above, the Section 11 information on agricultural income was apportioned to household members, firstly based on their economic status if listed as a 'farmer', then, based on whether they were involved in agricultural activities, and then if necessary simply allocated to the head of household. Section 13 information on agricultural profit was assigned to the household members listed as being actively involved in the business enterprises that generated that profit. The final variable for agricultural income (*yag*) was derived by summing the Section 11 and Section 13 components and capping at the 99th percentile.

Other types of income were reported on a household level for a period of 12 months, such as income from agricultural activities (*yag*), building rent (*ypr*), land lease (*yprld*), private transfers (*ypt*), interest earned (*yiyit*), dividends (*yiydv*), and other sources (*yot*). These were converted to monthly earnings by dividing the income with 12 months in reference to the household variable (*dhh*) to attribute the income to the household head and data were capped at 99 per cent to remove outliers at the top of the income distribution.

The current methodology for modelling VAT and excise duties was introduced into SOUTHMOD models in 2017. This involves removing VAT and excise duty (where applicable) from expenditure items at the point of preparation of the data so that expenditure is brought into the model ex-VAT and excise. This simplifies the modelling of indirect taxes on the model. The VAT and excise duty removed are carried into the model as the variables for imputed VAT (*tvaiv)* and imputed excise duty (*texiv)*.

For the correct functioning of estimates of consumption poverty using the Statistics Presenter application within the model, variables for imputed direct taxes (*tis* and *ttn*) were created as well as a number of other variables (see DRD[3] for details of the other variables). Imputed direct taxes are required because direct tax information is not collected by the survey instrument. Because of the complexity of direct taxes in Uganda, an innovative method was employed for the imputation process. First, the input dataset was completed without direct tax imputation. Second, the model (which was also complete) was run in order to generate modelled taxes and employee social security contributions for 2016. Third, these modelled taxes (personal income tax, presumptive tax, rental income tax, LST, and employee social insurance contributions) were brought back into the input dataset to create the imputed variables *tis* and *ttn*. This methodology is more straightforward than trying to simulate the imputed taxes using STATA code.

There are two main poverty lines in the UNHS data: the basic needs poverty line and the food poverty line. The former is the most widely used and so is used in UGAMOD. The basic needs poverty line is reported in the data in the variable *spline*. There are eight values for the basic needs poverty line, ranging from UGX 40,558.76 to UGX 46,233.65 based on the four regions in which each household could be located, and a further disaggregation between urban and rural location within each region It was possible to incorporate the eight values for the basic needs poverty line in the model. With regard to household monthly consumption (*xhh*) in the model, the basic needs poverty line uses the variable *cpexp30* (monthly household expenditures in constant prices after adjusting for regional prices).

3.3.1 Time period

The survey data were collected between June 2019 and November 2020, although the COVID-19 pandemic restrictions necessitated a pause in survey fieldwork for certain periods within 2020, hence the extension of the fieldwork process to November 2020. Income data were gathered in relation to the previous week or month or year before the first date of interview.

3.3.2 Gross incomes

Gross incomes are reported in the 2019/20 UNHS.

3.3.3 Disaggregation of harmonized variables

It was not necessary to disaggregate composite variables for the UGAMOD dataset.

3.4 Updating

To account for any time inconsistencies between the input dataset and the policy year, uprating factors are used. Each monetary variable (i.e. each income component) is updated to account for changes in the non-simulated variables that have taken place between the year of the data and the year of the simulated tax–benefit system. Uprating factors are generally based on changes in the average value of an income component between the year of the data and the policy year.

The list of uprating factors as well as the sources used to derive them can be found in Table 3.3.

[3] **Data Requirement Document is an Excel file that shows how all variables in the model were constructed from the original dataset. This is available on request from the authors.**

Given that the financial year in Uganda runs from 1 July to 30 June, a decision was made to uprate the model to a time point of 1 July in each year and the uprating indices have been adjusted accordingly.

Table 3.3: Raw Indices for deriving UGAMOD uprating factors

	Constant name	2015	2016	2017	2018	2019	2020	2021	2022	2023
Overall CPI (Base 2016/17=100)	$f_CPI_Overall	90.0	94.7	100.1	103.2	105.8	110.7	113.1	122.0	126.8
Food CPI (Base 2016/17=100)	$f_CPI_Food	90.3	94.5	105.6	102.5	103.9	105.8	106.4	123.3	132.1
Non Food CPI (Base 2016/17=100)	$f_CPI_Non_Food	89.6	95.0	97.7	103.2	106.3	112.4	115.4	121.6	123.2
Alcohol CPI (Base 2016/17=100)	$f_CPI_Alcohol	94.3	99.7	100.1	103.1	104.5	105.8	107.2	114.3	118.6
Tobacco CPI (Base 2016/17=100)	$f_CPI_Tobacco	94.3	99.7	100.1	103.1	104.5	105.8	107.2	114.3	118.6
Fuel (Base 2016/17=100)	$f_CPI_Fuel	88.5	91.1	98.2	113.9	111.7	118.8	117.7	137.9	135.7

Note: CPI, consumer price index.

Source: Authors' compilation based on UBOS annual statistical abstracts (UBOS 2020; UBOS n.d.).

3.5 Consumption levels

Consumption levels are based on the original reported consumption levels in the input data (xhh). These levels are uprated from the base year to the policy year and adjusted by absolute changes in disposable income from the base year to the policy year.

The change in disposable income takes into account changes in market incomes (e.g. COVID-related decreases in earnings) as well as changes in benefits and contributions. The underlying assumption is that changes in disposable incomes lead to the same changes in consumption levels. In recognition of the fact that there may be some consumption of own-account produced food, in cases where the base year disposable income is higher than the disposable income in the policy year, a proportion of the original consumption is assumed to be unaffected. This proportion is assumed to be 25 per cent of the original consumption following Tschirley et al. (2015).

4 Validation

4.1 Aggregate validation

UGAMOD results have been validated against external benchmarks where feasible. The main discrepancies between UGAMOD results and external benchmarks are discussed in the following sub-sections. Factors that may explain the observed differences are also discussed.

4.1.1 Validation of outputted (simulated) taxes

Table A1 in the Annex compares the UGAMOD-simulated taxpayers with figures from the URA. With respect to personal income tax, the 2022 system simulates 1.64 million payers. The UGAMOD-simulated number of PIT payers is 60 per cent of the number of taxpayers from administrative sources in the fiscal year 2022/23, derived by selecting registered taxpayers with employment as source of income, plus registered individual income taxpayers (excluding employees & rental taxpayers). Using a different comparator, the number of simulated PIT payers is 90 per cent of the number of employees declared by employers in PAYE returns plus non-employee individuals that paid income tax. The discrepancy could be partly attributed to non-compliance levels of individual taxpayers generally (Kangave et al. 2018; Moore and Prichard 2017). Furthermore, Table A2 shows that with respect to the simulated amount of PIT, UGAMOD simulates 52 per cent of reported PIT revenue for 2022.

This implies that high income earners are under-represented in the survey, which is a common issue in surveys internationally due to high-income earners' tendency to refuse to participate in surveys.

UGAMOD simulates 723,694 presumptive taxpayers for 2022, which is 10.4 times larger than the URA reported number of individual presumptive taxpayers for that year (69,269) (Table A1). The simulated revenue from presumptive tax also exceeds reported receipt: in 2022, UGAMOD simulates 10.8 times more revenue from this tax than was received by URA (see Table A2). It is likely that there are significant issues with non-compliance. As mentioned earlier, the rules for this tax were changed significantly (and greatly simplified) in 2020. The simulated revenue from this tax for 2020 is therefore lower than for previous years, although the simulation still far exceeds reported revenue. Results are presented for the assumption that individual payers of this tax do not keep records. In practice, some individuals will keep records and some not (see Waiswa et al. 2021).[4]

UGAMOD over-simulates rental income tax when compared with the external validation data in all policy years except for 2022, where it simulates 87 per cent of reported revenue and only around 30 per cent of more simulated payers than reported. Note that in 2021, the rules changed for this tax, resulting in many more simulated payers of this tax.

4.1.2 Validation of outputted (simulated) social security contributions

Tables A1 and A2 in the Annex compare the UGAMOD estimates of the social security contributors and contributions respectively, with the figures reported by the NSSF.

Most of the contributors to the NSSF are those in formal employment. Also, there are a number of organizations that do not comply: for example, compliance grew by a meagre 1 percentage point, from 80 per cent in 2017 to 81 per cent in 2018. In the financial year 2016/17, the compliance level was 78 per cent.

As seen in Table A1, UGAMOD simulates around 115 per cent of the number of contributors compared with active members for 2022/3 as per NSSF (2023: 30). The revenue simulated from contributions is from 70 to 80 per cent of reported contributions for 2020–22 (Table A2).

4.1.3 Validation of outputted (simulated) Senior Citizens' Grant expenditures and number of beneficiaries

UGAMOD estimates have been compared with those reported by the Ministry of Gender, Labour and Social Development (MGLSD 2019b). For the year 2022, UGAMOD simulates around two times the number of eligible beneficiaries than are recorded by MGLSD (Table A1), and also two times the cost (Table A2) (latest data available).

[4] In fact, the 2020 rules were not implemented in practice until the following year (see Waiswa et al. 2021), but they are included in the 2020 system to reflect the date of the rule change.

4.2 Income distribution

4.2.1 Income inequality

Analysis of the UGAMOD output data for 2020 yields a Gini coefficient of 0.412, which is almost the same as that reported by UBOS (2021), as seen in Table A3 in the Annex.

4.2.2 Poverty rates

The UGAMOD estimated poverty rate for 2020 was 20.23 per cent, which is very close to the 20.3 per cent reported by UBOS (2021), as seen in Table A4 in the Annex.

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Annex

Table A1: Tax and benefit instruments simulated in UGAMOD: Number of recipients (of the benefits) and payers (of the tax and social insurance contributions)

	2018	2019	2020	2021	2022	2023
UGAMOD (A)						
Senior Citizens' Grant	394,919	394,919	693,453	671,340	645,373	645,373
Social insurance contributors	901,801	901,801	843,683	843,683	843,683	843,683
LST	2,406,292	2,428,215	1,655,552	1,702,104	1,728,007	1,748,347
Rental income tax	179,149	179,149	172,934	617,152	201,024	209,187
PT[e]	946,858	970,964	677,447[e]	690,561	723,694	746,769
PIT	1,551,370	1,576,052	1,577,873	1,590,282	1,643,126	1,710,101
VAT	8,486,685	8,486,685	8,894,402	8,894,402	8,894,402	8,894,402
Excise duty	7,619,153	7,619,153	7,809,186	7,809,186	7,809,186	7,809,186
External statistics (B)						
Senior Citizens' Grant [c]	172,111	297,934	309,606	329,631	-	-
Social insurance contributors	-	2,100,000[b]	-	651,788[d]	733,558[d]	-
LST	-	-	-	-	-	-
Rental income tax[f]	15,993	25,487	45,086	54,234	154,386	-
PT	27,312	19,193	25,802	35,313	69,269	-
PIT						
W+X	1,259,924	1,288,786	1,473,902	1,545,382	1,797,432	-
Y+Z	1,704,585	1,818,472	2,174,427	2,432,459	2,762,083	-
W	1,200,124	1,225,766	1,394,328	1,446,391	1,667,617	-
X	59,800	63,020	79,574	98,991	129,815	-
Y	853,656	916,517	1,019,810	1,248,841	1,516,244	-
Z	850,929	901,955	1,154,617	1,183,618	1,245,839	-
VAT	-	-	-	-	-	-
Excise duty	-	-	-	-	-	-
Ratio (A/B)						
Senior Citizens' Grant	2.29	1.33	2.24	2.04	-	-
Social insurance contributors	-	-	-	1.29	1.15	-
LST	-	-	-	-	-	-
Rental income tax	11.2	7.0	3.8	11.4	1.3	-
PT	34.7	50.6	26.3	19.6	10.4	-
PIT [a]	0.9	0.9	0.7	0.7	0.6	-
VAT	-	-	-	-	-	-
Excise duty	-	-	-	-	-	-

Notes: PT, presumptive tax; PIT, personal income tax; VAT, value-added tax; LST, local service tax; N/A, not applicable; '-' not available. W, Number of employees declared by employers in PAYE returns; X, Number of individuals that actually paid income tax (excl. employees); Y, Number of registered taxpayers with employment as source of income; Z, Number of registered individual income taxpayers (excl. employees & rental taxpayers). [a]Simulated PIT value divided by (Y+Z). [b]NSSF (2020: 330) for 2020, referring to registered members; no ratio shown. [c]MGLSD (2022: 16) shows estimates for 2018–21. [d]NSSF (2023: 30); referring to active members. [e]This figure is obtained with the switch 'Presumptive Tax with records' OFF and the 'Presumptive Tax with records downward adjustment' switch also turned OFF. [f] Individual taxpayers only.

Source: Panel A: UGAMOD version 2.1. Panel B: URA data warehouse (eHub) accessed on 24 November 2020 for 2018–20, 2 February 2023 for 2021 and 2022, and 15 May 2024 for all years up to 2022 for rental income tax, PT, and PIT, unless otherwise specified in notes.

Table A2: Tax and benefit instruments simulated in UGAMOD: Annual amounts, UGX Billion

	2018	2019	2020	2021	2022	2023
UGAMOD (A)						
Senior Citizens' Grant	118.5	118.5	208.0	201.4	193.6	193.6
Social insurance contributions	1,088.5	1,116.3	1,093.6	1,116.9	1,205.1	1,251.8
LST	60.7	61.7	50.5	53.0	55.3	57.1
Rental income tax	164.3	171.1	197.1	171.1	186.9	196.9
PT	302.1	303.6	142.4	146.6	155.8	163.4
PIT	2,032.3	2,135.6	2,018.1	2,079.6	2,343.6	2,483.6
VAT	3,015.6	3,070.8	2,716.4	2,773.9	2,997.0	3,071.4
Excise duty	1,008.8	1,013.8	736.7	773.3	792.6	799.4
External statistics (B)						
Senior Citizens' Grant [e]	50.79	65.19	84.82	103.14	-	-
Social insurance contributions [f]	1,208	1,272	1,367	1,486	1,717	-
LST	18.5[a]	18.7[i]	22.6[i]	21.9[i]	-	-
Rental income tax [d]	115.2	103.7	117.2	156.1	215.1	-
PT [c]	7.2	5.2	6.6	7.5	14.4	-
PIT (Y+Z) [b]	2,871	3,091	3,225	3,697	4,532	-
Y	2,811	3,040	3,109	3,634	4,454	-
Z	59	51.0	116.0	63.0	78.0	-
VAT [g]	2554.5	2608.6	2,992.9	2,608.6	2,992.9	-
Excise duty [h]	1,317.0	1,266.1	1,479.9	1,226.1	1,479.9	-
Ratio (A/B)						
Senior Citizens' Grant	2.33	1.82	2.45	1.95	-	-
Social insurance contributions	0.90	0.88	0.80	0.75	0.70	-
LST	3.28	3.30	2.23	2.42	-	-
Rental income tax	1.43	1.65	1.68	1.10	0.87	-
PT	41.96	58.38	21.58	19.55	10.82	-
PIT	0.71	0.69	0.63	0.56	0.52	-
VAT	1.18	1.18	0.91	1.06	1.00	-
Excise duty	0.77	0.80	0.50	0.63	0.54	-

Notes: PT, presumptive tax; PIT, personal income tax; VAT, value-added tax; LST, local service tax; N/A, not applicable; '-' not available. Y: Employment tax (PAYE); Z: Individual income tax. [a]UBOS (2020: 279). [b] PIT actual collections were extracted from eHub database because it is not presented separately in the published revenue tables. [c] Presumptive tax actual collections were based on the published annual revenue tables. [d] Rental collections were extracted from eHub because in the annual report, aggregated rental tax collected is reported, which includes that collected by individuals and companies. [e]MGLSD (2022: 16) 1. [f]NSSF (2023). [g] VAT actual collections are based on published revenue tables. [h] Excise duty actual collections are based on published revenue tables. [i] UBOS (n.d.). Provisional figure for 2020 published in 2020/21 statistical abstract (UBOS 2020).

Source: Panel A: UGAMOD version 2.1. Panel B: URA data warehouse (eHub) accessed on 24 November 2020 for 2018–20, and 2 February 2023 for 2021 and 2022, and 15 May 2024 for all years up to 2022 for rental income tax, PT, and PIT, unless otherwise specified in notes.

Table A3: Income inequality

Gini coefficient	2018	2019	2020	2021	2022	2023
UGAMOD (A)						
Income-based	0.655	0.655	0.694	0.695	0.695	0.695
Consumption-based	0.397	0.397	0.412	0.413	0.413	0.413
External statistics (B)						
Income-based	N/A	N/A	N/A	N/A	N/A	N/A
Consumption-based	N/A	N/A	0.413	N/A	N/A	N/A
Per cent captured (A/B)						
Income-based	N/A	N/A	N/A	N/A	N/A	N/A
Consumption-based	N/A	N/A	1.00	N/A	N/A	N/A

Notes: In all cases the downwards adjustment switch in the presumptive tax policy is turned OFF.

Source: Panel A: Simulated output from UGAMOD v2.1. Panel B: UBOS (2021).

Table A4: Poverty rates

Poverty head-count	2018	2019	2020	2021	2022	2023
UGAMOD (A)						
Income-based	52.79	52.94	54.06	54.08	54.12	54.17
Consumption-based	21.63	21.66	20.23	20.33	20.43	20.49
External statistics (B)						
Income-based	N/A	N/A	N/A	N/A	N/A	N/A
Consumption-based	N/A	N/A	20.3	N/A	N/A	N/A
Per cent captured (A/B)						
Income-based	N/A	N/A	N/A	N/A	N/A	N/A
Consumption-based	N/A	N/A	1.00	N/A	N/A	N/A

Notes: The eight basic needs poverty lines (comprising an urban and a rural poverty line for each of the four regions (Central, East, North, and West) were applied in UGAMOD version 2.1. The poverty lines for 2016 (UBOS 2018) were uprated using the overall CPI to 2017, 2018, and 2019. The new poverty lines for 2020 (UBOS 2021) were uprated using the overall CPI to 2021 and 2022. Both sets of figures (panels A and B) use an adult equivalent method of equivalization, as per the guidance from UBOS. [a]This is the poverty rate with the switch for 'presumptive tax with records' turned OFF, and the downwards adjustment switch in the presumptive tax policy for 2020 is also turned OFF.

Source: Panel A: Simulated output from UGAMOD version 2.1; Panel B: UBOS (2021: 110).