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Tax and Expenditure Policies in Comoros:

Distributive Effects Using Micro-Simulations

Al-Mouksit Akim and Jiajia Gu

SIP/2026/016

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2026
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IMF Selected Issues Paper
African Department

Tax and Expenditure Policies in Comoros: Distributive Effects Using Micro-Simulations, Union of the Comoros

Prepared by Al-Mouksit Akim and Jiajia Gu

Authorized for distribution by Ruud Vermeulen
March 2026

ABSTRACT: This paper assesses the distributional impact of tax and expenditure policies in Comoros using a microsimulation framework based on the Commitment to Equity (CEQ) methodology and household survey data. It evaluates key revenue-raising reforms under the IMF Extended Credit Facility and post-WTO accession, including tax base broadening, the removal of tax expenditures, and changes in border taxation. The analysis also examines the incidence of fuel subsidies. Results show that while proposed reforms effectively increase revenues, their impact on inequality is limited. Tax exemptions and fuel subsidies are found to be regressive, disproportionately benefiting higher-income households, highlighting the need for better-targeted redistribution mechanisms.

RECOMMENDED CITATION: : Akim, A.-M and Gu, J. (2026). Tax and Expenditure Policies in Comoros: Distributive Effects Using Micro-Simulations, Union of the Comoros, SIP/2026/016. Washington, D.C.: International Monetary Fund.

JEL Classification Numbers:	H22; H23; H31; I3; O23
Keywords:	Fiscal Policies, taxes, expenditures, Incidence, Micro-Simulation, CEQ, Comoros
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January 27, 2026

Approved By
The African Department

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TAX AND EXPENDITURE POLICIES IN COMOROS: DISTRIBUTIVE EFFECTS USING MICRO-SIMULATIONS[1]

A. Introduction

1. Fiscal policy is the primary tool for governments to redistribute income consistent with socio-economic policy priorities. In Comoros where elevated debt levels coupled with institutional fragility constrain fiscal space and the government has committed to fiscal consolidation under the ECF, it is critical that the fiscal effort is designed to minimize any adverse distributional effects over the short and medium term. This is necessary to secure the socio-political support needed to sustain a significant effort over the program horizon and beyond.

2. Low levels of taxes and social spending in Comoros limit the redistributive impact of fiscal policies. Fiscal policy plays a key role for income redistribution, affecting poverty and inequality through taxation and transfers. Yet, domestic revenue mobilization (DRM) in Comoros is very weak, with tax revenue averaging only 8 percent of GDP over the period 2015-2022, below the averages for Sub-Saharan Africa, Asia or even comparable small islands countries (see Appendix Figure A1). In turn, cash transfers are also poorly targeted and underfunded, further limiting the government's ability to achieve the UN's Sustainable Development Goals on reducing inequality and ending poverty by 2030.

3. Evidence on the incidence of fiscal policies in Comoros is scant. A poverty assessment for Comoros conducted by the World Bank in 2017 finds that both taxation and transfers as a whole reduce inequality, primarily driven by social transfers in education. However, the assessment finds that the tax system in Comoros also leads to fiscal impoverishment meaning that taxes, especially indirect taxes, increase the poverty headcount. Fiscal impoverishment is also observed in other Sub-Saharan countries including Tanzania, Togo or Zambia (Lustig et al., 2023). In the case of Comoros, the fiscal impoverishment is mostly driven by domestic consumption tax and the excise, namely the special custom duties, on rice (World Bank, 2017).

4. This paper aims to assess the incidence of two revenue-raising fiscal policies on income distribution in Comoros. Under the ECF, the Comorian government has committed to tax reform through streamlining exemptions and broadening major tax bases. The new Tax Policy Unit will lead medium-term reforms, including modernization of corporate and personal income taxes as well as indirect taxes. By focusing on these reforms, which are central to the country's long-term development strategy, this paper complements the existing literature on the progressivity of the overall fiscal system (World Bank, 2017). Especially, the paper analyzes the incidence of two revenue-raising options:

[1] Prepared by A.-M. Akim and J. Gu.

- Proper application of the tax code at customs which implies broadening the bases of consumption taxes, excises, and income tax prepayments. This option is motivated by an incorrect parametrization of taxes in the customs software SYDONIA.
- Removal of tax expenditures, particularly consumption tax exemptions.

5. The paper will also assess the distributional effects of removing border taxes post-WTO accession. To mitigate revenue losses following WTO accession, the government will need to consider policy options such as eliminating tax exemptions and strengthening revenue administration to enhance collection and curb tax fraud (Sawadogo and Kett, 2024). The paper will assess the distributional effects of abolishing the collection of income tax advance payments and business license taxes at the customs cordon following the WTO accession.[2]

6. Finally, the paper pays particular attention to the incidence of fuel subsidies on income distribution. It contributes to debates on the incidence of tax expenditures and fuel subsidy benefits, which remain unexplored in the context of Comoros. In 2024, financial losses[3] associated with underpricing petroleum products sold to gas stations amounted to 3.0 billion KMFs.[4] Two petroleum products were significantly underpriced relative to their average cost: kerosene for household consumption (underpriced by 19.9 percent) and diesel supplied to the state-owned electricity company SONELEC (underpriced by 12.2 percent).[5] Fuel subsidies impose substantial costs on the state-owned Comorian hydrocarbons company (SCH), the monopoly retailer of petroleum products, thus constituting a significant fiscal cost (i.e., lower tax collection and dividends from SCH, and lower consumption tax collection on fuel products). These magnitudes underscore the importance of identifying who ultimately benefits from such subsidies and their implications for equity.

B. Methodology

7. We use the Commitment to Equity (CEQ) approach to assess the distributional incidence of fiscal policies in Comoros, leveraging the 2020 household survey. Developed by Lustig et al. (2023), the CEQ method provides a comprehensive framework for analyzing the impact of fiscal policies on inequality and poverty. Using microsimulation techniques, the methodology simulates key income concepts—household income before and after taxes, social security contributions, transfers, subsidies, and in-kind benefits—to evaluate the effects of various fiscal policy instruments. This approach was previously applied to Comoros for earlier periods (Lustig et al., 2019; World Bank, 2017).

[2] Article 15 in the 2024 Initial Budget Law.

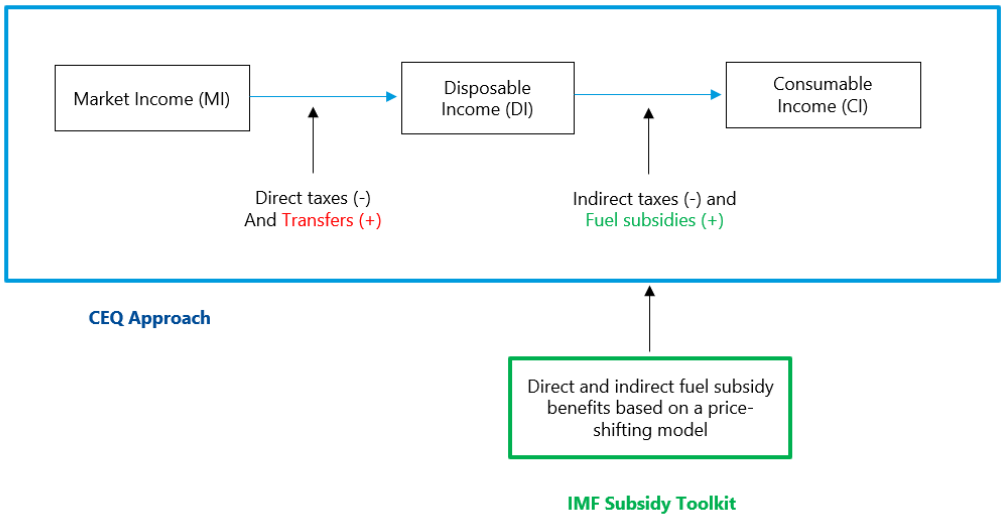
[3] The financial losses considered represent a narrower concept than revenue forgone and are therefore not systematically reflected in the government's fiscal accounts as transfers. The associated subsidy benefits are treated as implicit, given that the SCH is a state-owned enterprise.

[4] Preliminary SCH financial statements for December 2024.

[5] See section B – paragraph 13 for more discussion on the fuel subsidies and the magnitude of the price change.

8. The CEQ different concepts of income used in this paper are presented in figure 1. The first income concept is "Market Income (MI)" or Pre-Fiscal Income, which represents income before the deduction of direct taxes, social contributions and the receipt of direct transfers (typically cash transfers). By subtracting direct taxes and adding direct transfers to MI, "Disposable Income (DI)" is derived, representing the income available to households for consumption and savings. Then, "Consumable Income (CI)" is calculated by subtracting indirect taxes and adding subsidies to DI.

Figure 1. CEQ Income Concepts



Source: Staff elaboration.

9. The distributional impact of the fiscal system (or fiscal incidence) is assessed by comparing the distribution of MI and CI. This overall impact can be decomposed into the components of the fiscal system by analyzing the different income concepts. For example, the comparison between DI and CI reveals the effects of indirect taxes and subsidies. This framework will be leveraged to explore specifically policy options involving changes in taxation envisioned by the Comorian authorities under the contexts of post WTO accession and the ECF program.

10. We discuss below the construction of the three income concepts and taxes.

- **Disposable Income (DI)**

The CEQ approach starts with DI, covering a typical range of income sources across observation levels and recall periods, as in other West African surveys. Although DI could be computed using income data following Akim et al. (2020), we use consumption expenditure as the primary welfare measure due to limitations in income data quality and to align with the literature in the context of Comoros (World Bank, 2017; Lustig et al., 2023). Hence, we assume that total consumption expenditure, including the implied value of self-consumption and imputed rent, equals DI. This assumption likely leads to an underestimation of actual DI by the amount saved, particularly among upper-decile households, who typically save a higher share of their resources. While this approach underestimates the actual level of DI, we expect the progressivity analysis to be mildly affected as the relative position

of households in the income distribution would likely remain unchanged even if savings were accounted for. For instance, a household ranked in the top 10 decile based on income is likely to remain in the top 10 decile using disposable income.

- **Market Income (MI) and direct taxes allocation**

Market income (MI) is computed by adding direct taxes back to DI. Direct taxes include personal income tax (PIT) and single professional tax (SPT), identified in the survey using household employment characteristics. PIT taxpayers are determined from the detailed employment module; a PIT payer is an adult over 15 years old employed in the public sector or in any enterprise (public or private) and receiving a pay slip. Wages reported in the survey are assumed to be net of taxes and are used to compute taxable wages using the equation (1):

$$Taxable\_wage = \frac{(Net\_Wage - borneinf_r \times \tau_r + \sum_{j=1}^{r-1} cumulative_j)}{(1-0.7 \times \tau_r)}, r = 1,..,6 \qquad (1)$$

Where r represents the range in the tax schedule (table 1) and $\sum_{j=1}^{r-1} cumulative_j$ is the cumulative tax of previous ranges.

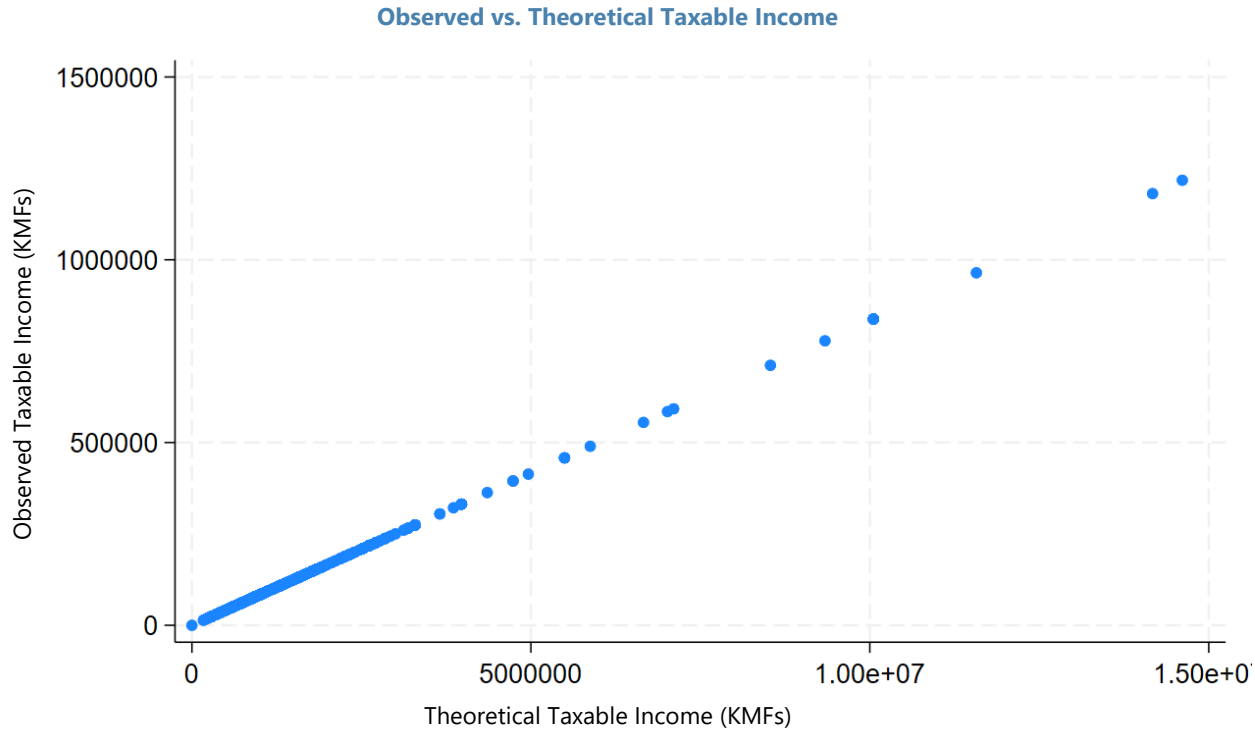
Table 1. Union of the Comoros: Tax Schedule

r	Taxable income ranges (KMFs)	Net income ranges (KMFs)	Taxation rates (%)	Cumulative tax (KMFs)
1	0 – 150 000	0 – 214 285	0	0
2	150 001 – 500 000	214 286 – 696 787	5	17 500
3	500 001 – 1 000 000	696 788 – 1 361 073	10	67 500
4	1 000 001-1 500 000	1 361 074 – 2 000 359	15	142 500
5	1 500 001-2 500 000	2 000 360 – 3 228 931	20	342 500
6	2 500 001-3 500 000	3 228 932 – 4 407 502	25	592 499
7	3 500 001 and plus	4 407 503 and plus	30	

Source: Staff calculations based on the general tax code.

Equation (1) is cross-checked with the Excel tool employed by the tax administration to calculate personal income tax based on reported pre-tax earnings. Specifically, we simulate pre-tax wages for hypothetical individuals, input them into the Excel tool, and obtain both taxable wages and corresponding tax liabilities. Applying Equation (1) to the simulated net wages reproduces the theoretical taxable wages for these individuals. Figure 2 compares the taxable income generated by the Excel tool with that derived from Equation (1) using the simulated net wages. The exact correspondence between the two confirms the validity of our imputation method for deriving taxable income from reported net wages in the survey.

Figure 2. Comparison Between the Observed Taxable Income and the Theoretical Taxable Income



Source: Staff calculations.

SPT is collected from the self-employment module, which asks whether the respondent paid any taxes on their activity. We assume these payments represent SPT, as this tax is designed for small and medium enterprises with turnover below 20 million KMFs, operating informally, corresponding to the firms captured in the household survey.

- **Consumable Income (CI) and Indirect Taxes**

Consumable Income (CI) is computed by subtracting indirect taxes from DI and adding subsidies. The survey reports expenditures (x_k), including taxes, for each good consumed k. Similarly to the taxable income, we work backward to compute the consumption expenditures net of any taxes (m_k), consistent with the tax code in force in 2024. Hence, indirect taxes for each good (T_k) taxable ad-valorem are computed using the equation below:

$$T_k = x_k - m_k$$

where

$$m_k = \frac{x_k}{\left[(1+\tau_{duties}) \times (1+\tau_{excise}) \times \left(1+\tau_{consumption}\right) + \tau_{rau} + \tau_{ai} + \tau_{cci} + \tau_{pt}\right]}$$

Indirect taxes include specific unit taxes on oil products and rice. To compute their corresponding pre-tax expenditures, we derive implicit ad valorem rates from the selling price on each island and the

applicable unit taxes (Table 2). The pre-tax expenditure m_k for these products is calculated as following:

$$m_k = \frac{x_k}{[1 + implicite\ rate\_k]}$$

Table 2. Union of the Comoros: Implicit Tax Rates for Specific Taxes on Oil Products and Rice

	Areas	Ordinary rice (kmf/kg)	Premium rice (kmf/kg)	Gasoline (kmf/liter)	Diesel (kmf/liter)	Kerosene (kmf/liter)
				Petroleum Excise Tax (TIPP[1])		
Specific taxes		25	200	230	115	0
Selling price	National	313.3	1000.8	750	650	500
	Anjouan	312.3	1045.7	n.a.	n.a.	n.a.
	Moheli	301.1	1050.0	n.a.	n.a.	n.a.
	Grande-Comores	315.8	991.7	n.a.	n.a.	n.a.
Implicit tax rates	National	8.7%	25.0%	44.2%	21.5%	0.0%
	Anjouan	8.7%	23.6%	n.a.	n.a.	n.a.
	Moheli	9.1%	23.5%	n.a.	n.a.	n.a.
	Grande-Comores	8.6%	25.3%	n.a.	n.a.	n.a.

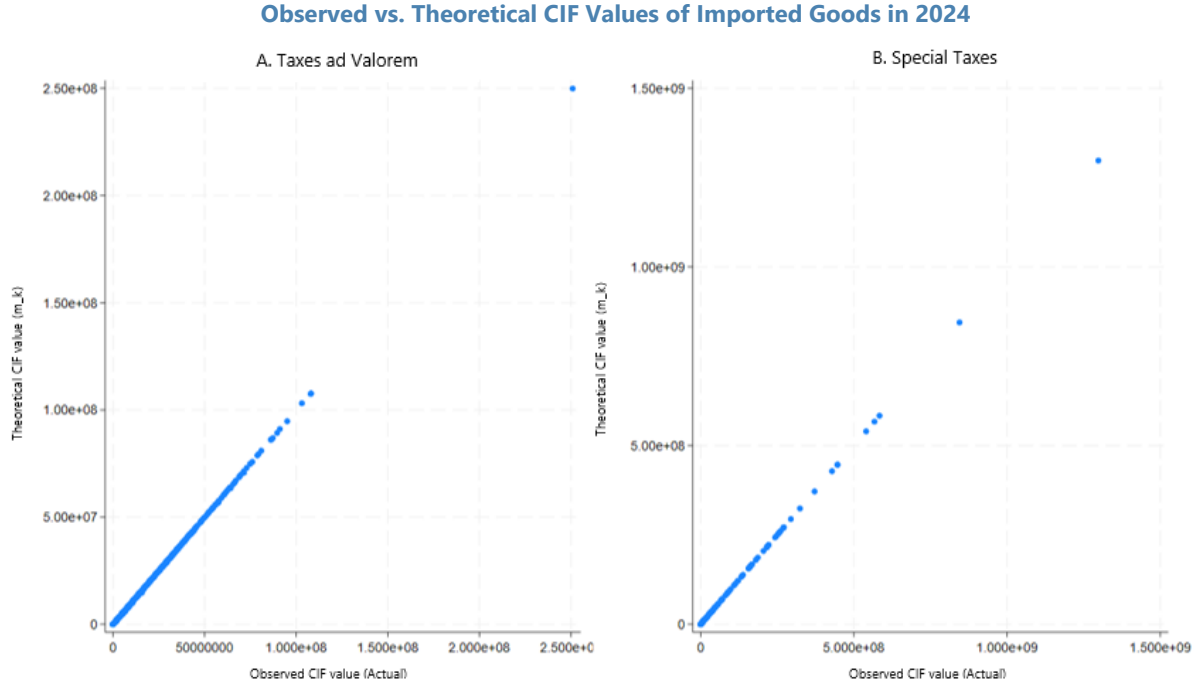
Source: Staff calculations.

[1]Taxe Intérieure sur les Produits Pétroliers.

Analogous to the validation of taxable personal income, figure 3 assesses the consistency of formulas (3) and (4) using comprehensive customs data that record the universe of goods imported into Comoros, their CIF values, and the full set of taxes levied at the border. These taxes comprise import consumption taxes, customs duties, excise taxes, special levies, import license fees (pt), import prepayment taxes (ai), and other administrative charges.[6] Both formulas provide an internal consistency check by replicating the CIF value from tax-inclusive import values.

[6] This includes the Revenu Administrative Unique (RAU); Chambre de Commerce, d'Industrie et d'Agriculture (CCIA); and Redevance de la Coopération Internationale (RCI).

Figure 3. Comparison Between the Observed Cost, Insurance and Freight (CIF) Values of Imported Goods and their Theoretical Values



Notes: CIF stands for Cost, Insurance, and Freight
Source: Staff calculations.

11. We now present the calibration of CEQ model. Table 3 reports CEQ-simulated government revenue of 33.8–38.9 billion KMFs for 2019–2020, disaggregated into direct taxes (personal income and single professional) and indirect taxes (consumption, customs, excise). The micro-simulation model reproduces 59 percent of total revenue in 2021 and 65 percent in 2020, excluding corporate income, capital, and export taxes, as well as non-tax revenues from stamps and registration fees. Micro-simulated aggregates broadly align with official government operations data, although discrepancies persist for special customs duties and domestic consumption taxes. Simulated direct taxes amount to 3.2 billion KMF, consistent with the 3.0 and 3.5 billion KMF reported in 2019 and 2020. Indirect taxes are estimated at 27.9 billion KMF, slightly below the 30.9 billion KMF recorded in 2019/20. Differences in customs duties largely stem from imports that are not directly consumed by households, and which are thus underrepresented in household surveys. For example, oil products are predominantly used as intermediate inputs in electricity, transport, and bakery sectors. Likewise, domestic consumption taxes are underestimated due to survey coverage, which includes expenditures on water, electricity, tobacco, and communications but omits major taxable items such as financial services, construction, and incoming phone calls charges.

Table 3. Union of the Comoros: Category of Tax Revenues Included in the Microsimulation Model				
	Micro – simulation (billion KMFs)	Government statement operations (billion KMFs)		
		2019	2020	2021
Direct taxes (i)	***3.2***	***3.0***	***3.5***	***3.9***
Personal income tax	3.1	2.9	3.5	3.8
Single professional tax	0.1	0.0	0.0	0.1
Indirect taxes (ii)	***27.4***	***30.9***	***32.2***	***35.1***
Custom duties + Excise	12.1	13.8	15.9	16.0
- Custom duties	5.2	-	-	7.4
- Excise	7.0	-	-	8.6
Import license	0.7	0.6	0.4	0.7
Import prepayment tax	0.7	0.5	0.2	0.6
Special custom duties	4.5	8.8	8.7	8.8
- Oil products	1.4	6.8	7.2	6.0
- Rice	2.8	2.1	1.5	2.8
- Vehicle	0.3	-	-	-
Administrative revenue	5.7	2.6	2.9	4.9
Consumption taxes	3.7	5.7	4.9	5.4
- Imports	2.8	2.1	1.0	2.6
- Domestic	0.9	3.6	4.0	2.8
Total (i) + (ii)	**30.6**	**33.8**	**33.0**	**38.9**
Total government revenue[1]		**50.0**	**49.4**	**55.0**

Source: Staff calculations.
[1.] From the Government Financial Operations Statements for 2019, 2020 and 2021.

12. We also analyze the distribution of fuel subsidy benefits using the IMF subsidy toolkit. In Comoros, the importation and distribution of petroleum products are monopolized by the state-owned Comorian Hydrocarbons Company (SCH), with retail prices being set and regulated by ministerial decree. This decree sets the selling price per liter[7] charged by SCH to service stations, as well as the margin that service stations apply when charging the end consumer. There is no clear formula in setting the selling price. Until 2022, the selling price per liter imposed by the government covered the SCH price cost per liter[8] allowing the SCH to generate profits. However, the selling price per liter may be below the cost price per liter resulting in financial losses for the company. Given the sensitivity of this product, the authorities intend to preserve households' purchasing power by maintaining SCH selling prices regardless of changes in the company costs. As a result, SCH incurred significant losses in 2024 on diesel sold to the state-owned electricity company SONELEC (-1.9 billion KMFs) and on kerosene (-1.1 billion KMFs) used for household consumption (table 3). These

[7] The selling price per liter to service station includes CIF price per litter, the TIPP per liter and the SCH operating cost per liter.

[8] The price cost per liter includes CIF price per liter, TIPP per liter and SCH operating cost per liter.

losses[9] reached 14.5 billion KMFs in 2022, equivalent to 2.5 percent of GDP (Ahamada, 2024). While most of these losses stem from diesel sold to SONELEC (63 percent in 2024 and 45 percent in 2022), the latter is also exempt from the excise tax on diesel (115 KMF per liter). The government thus not only covers the losses from underpriced diesel but also incurs additional tax expenditure by granting these exemptions.

Table 4. Union of the Comoros: SCH Fuel Price Structure and Profit in 2024

Fuel	2024 Monthly average cost price (KMF/liter) [I]	Selling price to gas station (KMF/liter) [II]	SCH Margin (Billion KMFs) [III]	% change in price [(II – I)/I]
Kerosene for households	393.4	315	-1.1	-19.9
Diesel - SONELEC	393.1	345	-1.9	-12.2
Gasoline	638.5	725	1.8	13.5
Diesel - Tourism	508.4	630	3.0	23.9
Total				

Source: Staff calculations using preliminary SCH financial statement for December 2024.

13. The IMF fuel subsidy toolkit assesses the impact of fuel subsidies on two dimensions: (1) the change in total spending required to maintain the same basket of goods, and (2) the distribution of subsidies across different households. These calculations assume that household consumption patterns remain unchanged in response to subsidies. With this simplifying assumption[10], the direct impact is calculated as:

$$\frac{dY_{dir}}{Y} = b_i \frac{dP_i}{P_i}$$

where b_i is the spending share on product i, and $\frac{dP_i}{P_i}$ refers to the percentage change in the price of product i due to subsidy. The interpretation is that if the price of good i decreases by $\frac{dP_i}{P_i}$, and the good accounts for a share of b_i in total spending, then households need to spend $b_i \frac{dP_i}{P_i}$ less to afford the same basket of goods. If the price of multiple goods changes at the same time, the direct welfare impact would be $\frac{dY_{dir}}{Y} = \sum_i b_i \frac{dP_i}{P_i}$. The indirect impact is calculated as

$$\frac{dY_{ind}}{Y} = \sum_j b_j \frac{dP_j}{P_j}$$

where j indexes the goods whose prices vary as a result of a change in the price of good i, due to the use of good i as an intermediate input in their production. To implement this approach in the toolkit, we also match the consumption categories from household survey to the corresponding industries from the input-output table.

[9] The losses are not systematically reflected on the government fiscal accounts.

[10] This simplifying assumption could potentially distort the results. Household of different income level could have different fuel price elasticity of demand. If lower income households have higher elasticity, then the unequal impacts between richer and poorer households produced by the toolkit are closer to an upper bound.

C. Results

14. The assessment of the fiscal and distribution incidence of policy options under the ECF and post-WTO accession using the CEQ model are as follows:

- Inconsistencies between the tax code and its application at the customs were identified by a recent FAD technical assistance (TA) mission supporting the Tax Policy Unit (TPU) in preparing the tax expenditure report, a structural benchmark (SB) under the ECF program. To address these inconsistencies, the authorities issued a circular note in July instructing customs to correctly apply the tax code. The circular broaden the bases used to compute consumption, excise, and prepayment taxes. Its Implementation in September 2025, after a moratorium period with the private sector, is expected to generate additional revenue of 1.2 billion KMFs equivalent to 0.18 percent of GDP (Table 5). Excise taxes account for the largest share—about 58 percent (0.7 billion KMFs)—followed by consumption taxes on imports (33 percent), while the prepayment tax contributes only 8 percent.
- The total fiscal cost of these tax expenditures—defined as the revenue that would have been collected if these products were subject to a 10 percent consumption tax and excise rate less than 10 percent[11]—is estimated at 1.0 billion KMFs (0.16 percent of GDP) (Table 5). A 45 kmf/liter tax on the kerosene would generate around 0.6 billion KMFs (0.8 percent of GDP).
- The post-WTO accession measures, including the removal of import licenses and prepayment tax as outlined in the 2025 budget law, would lead to a revenue loss of 1.4 billion KMFs (0.24 percent of 2024 GDP), equally spread between import licenses and the prepayment tax (table 5). Sawadogo and Kett (2024) found a comparable amount of 1.7 billion KMFs.
- Based on the household consumption basket, the broadening of the tax base mainly affects alcohol and tobacco products (Table 6). The change in the tax base leads to an increase in unit prices of tobacco products by 14.3 percent and of alcoholic beverages by 15.0 percent. The impact on basic food commodities is smaller, ranging from 1 percent for poultry or beef to 5.8% for root crops. Other basic commodities, such as rice and fuel, are not affected, as they are subject to a single tax, namely the specific customs duty. The products most affected appear to be those subject to high excise and customs duties (Table A1). The impact is limited for products not subject to consumption or customs taxes.

[11] The theoretical consumption tax and excise duties are computed using the broadened tax base, in accordance with the customs circular note of July 2025.

Table 5. Union of the Comoros: Impact of Broadening the Tax Base and the Tax Expenditure on the Government Budget

	Benchmark[1] (billion KMFs)	Impact (billion KMFs)
Direct taxes (i)	***3.2***	***0.0***
Personal income tax	3.1	-
Single professional tax	0.1	-
Indirect taxes (ii)	***27.4***	***1.2***
Custom duties + Excise	12.2	0.7
- Custom duties	5.2	-
- Excise	7.0	0.7
Import license (pt)	0.7	-
Import prepayment tax (ai)	0.7	0.1
Special custom duties	4.5	0.0
- Oil products (Gasoline, diesel)	1.4	-
- Rice	2.8	-
- Vehicle	0.3	-
Administrative revenues (rau, rci, cci)	5.7	0.0
Consumption taxes	3.7	0.4
- Imports	2.8	0.4
- Domestic	0.9	-
Total revenue (i) + (ii)	**30.7**	**1.2**
Fiscal Cost of Tax Expenditures (iii)		***1.6***
- Kerosene for household use (45 KMFs/liter)	-	0.6
- Exemption on 10% consumption tax	-	1.0

Source: Staff calculations.
[1.] Benchmark is the reference situation before the implementation of the circular note.

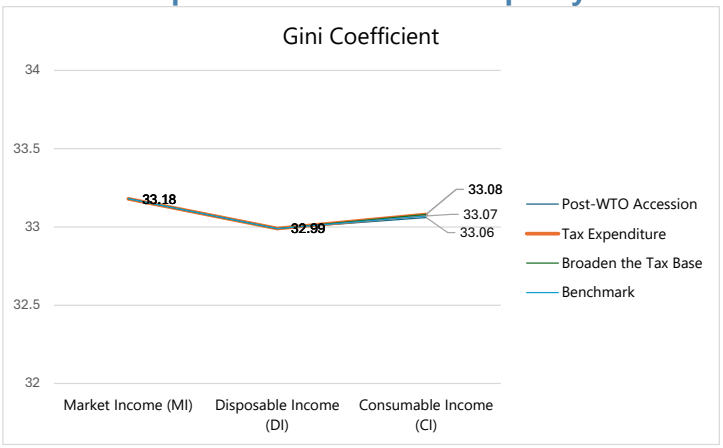
Table 6. Union of the Comoros: Impact of Broadening the Tax Base and the Tax Expenditure on Selected Sensitive Products

Code	Labels	Unit	Weight	CIF value	Tax revenue	Impact	
			(Million KMF)	(Million KMFs)	(Million KMFs)	On the revenue (Million KMFs)	On the unit price at customs (%)
	Food						
0206	Animal offal (beef, goat, etc.)	KG	0.7	481.9	98.8	5.6	1.0
0207	Poultry meat and offal	KG	12.1	6442.8	1320.8	74.4	1.0
04029910	Dairy products (milk, cream, etc.)	KG	0.2	103.9	21.3	1.2	1.0
07	Vegetables, roots	KG	0.9	231.0	54.4	16.5	5.8
1101	Wheat or meslin flour	KG	14.6	4494.5	134.8	0.0	0.0
151620	Vegetable oil	KG	3.8	2111.3	659.6	46.8	1.7
1604	Canned sardines	KG	0.9	765.6	304.5	30.1	2.8
1701	Sugar	KG	12.6	3497.9	698.0	38.3	0.9
220210	Water, non-alcoholic beverages	L	8.8	2093.8	849.6	86.3	2.9
250100	Salt	KG	1.3	109.9	21.8	2.7	2.1
	Non-Food						
220300 + 220830	Alcohol	L	0.6	136.1	632.5	115.0	15.0
24	Tobacco	KG	0.1	30.1	121.9	24.5	14.3
252329 + 252390	Ordinary or colored cement	KG	181.0	7449.7	1811.8	36.2	0.4
271113	Butane	KG	14.9	293.4	39.8	11.9	0.4
30	Pharmaceutical products	KG	0.6	1651.7	201.1	1.5	0.3

Source: Staff calculation using customs data for 2024.

15. The three policy options have insignificant effect on the population income distribution, as the Gini coefficient for each option equals the benchmark (Figure 4). Disposable income under broadening the tax base, accounting for tax expenditures, or removing import licenses or prepayment tax remains the same as the benchmark (Gini coefficient of 33.1). Hence, these policies do not alter the distributional effect of the overall tax system. Overall, the redistributive impact of the tax system is negligible, with a 0.1-point decrease in the Gini coefficient—from 33.2 for MI to 33.1 for CI. Direct taxes display some moderate progressivity, as the DI Gini coefficient (of 33.0) is lower than the MI Gini coefficient (of 33.18), whereas indirect taxes seem mildly regressive, with the CI Gini coefficient (of 33.08) slightly higher than the DI Gini coefficient (of 32.99).

Figure 4. Impact of Broadening the Tax Base and the Tax Expenditure on Income Inequality



Source: Staff calculations.

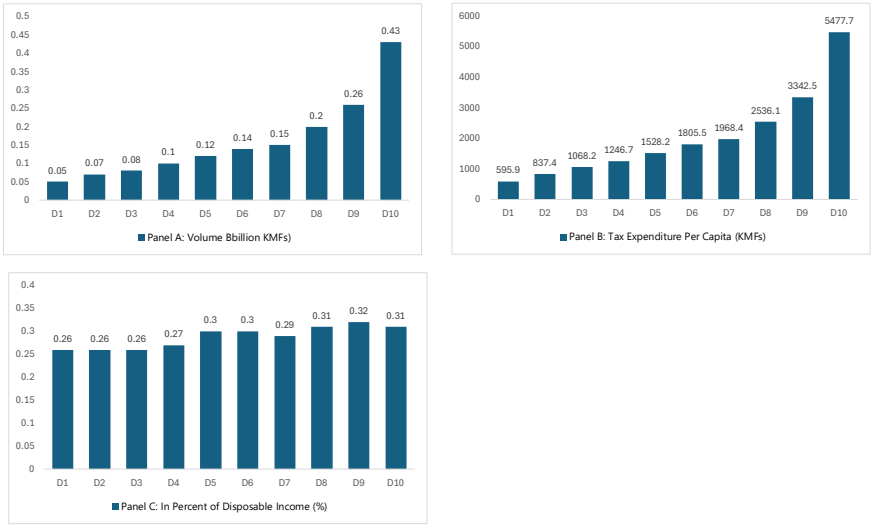
16. Revenue from broadening the tax base (1.2 billion KMFs) rises with income, with the top 10% of the income distribution contributing 0.34 billion KMFs, while the bottom 10% contribute 0.04 billion KMFs (Figure 5, Panel a). This corresponds to a per capita tax increase of 4,384 KMFs for the top 10% and 563 KMFs for the bottom 10% (Figure 5, Panel b). Excise taxes contribute the most to revenue, accounting for 55–58% depending on the decile, followed by consumption and prepayment taxes (Figure A2). Despite higher absolute taxes for higher income groups, the burden relative to disposable income (Figure 5, Panel c) and the percentage change (Figure 5, Panel d) remains broadly uniform across deciles, explaining why the Gini coefficient remains unchanged compared to the benchmark.

Figure 5. Impact of Broadening the Tax Base by Disposable Income Decile

Source: Staff calculations

17. Higher-income groups benefit disproportionately more from consumption tax exemptions, with tax expenditures increasing with income (Figure 6, Panel a). The top 10 percent of the income distribution is exempted, benefiting from 0.43 billion KMFs in consumption tax, while the bottom 10 percent benefit from only 0.05 billion KMFs. Per capita, the top 10 percent receive 5,477 KMFs in tax expenditures, compared with 596 KMFs for the bottom 10 percent (Figure 6, Panel b). Moreover, these tax expenditures exhibit regressivity. When measured as a share of disposable income, the top deciles benefit proportionally more than the bottom two (31 percent for the top 10 and 0.26 percent for the bottom 10) (Figure 6, Panel c)

Figure 6. Incidence of the Tax Expenditures



Source: Staff calculations

18. The application of the IMF fuel subsidy toolkit draws on a household expenditure survey of 5,624 households. Table 7 shows the distribution of households by rural/urban location and by the gender of the household head. It also reports the average of total household expenditure and per capita expenditure. Per capital expenditure at household level is calculated as the total household expenditure divided by number of survey respondents in that household. The findings show that urban households spend more than rural households, and male-headed households spend more than female-headed households. When focusing on per capita expenditure, urban households still outspend rural households, but the gap between female- and male-headed households is less pronounced. Due to data limitations, we are

Table 7. Union of the Comoros: Household Expenditure

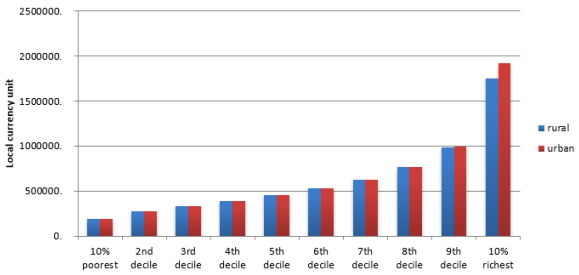
Number of observations		
	Rural	Urban
Female headed	1426	715
Male headed	2270	1213
Average total household expenditure		
	Rural	Urban
Female headed	2473065	2750881
Male headed	2742845	3253449
Average per capita household expenditure		
	Rural	Urban
Female headed	591123.4	766858.8
Male headed	552228.3	785726.8

Source: Household consumption survey and staff calculations.

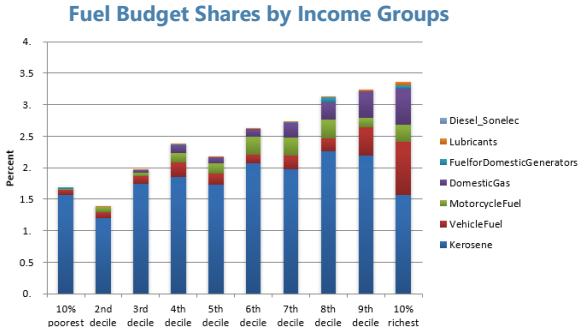
unable to conduct individual-level analysis to compare the consumption across different income levels, or between women and men.[12]

Figure 7. Household Expenditure and Fuel Budget Shares

Households in the top decile spend about 10 times the amount spent by households in the bottom decile.



Kerosene represents the largest budget share among fuel products.

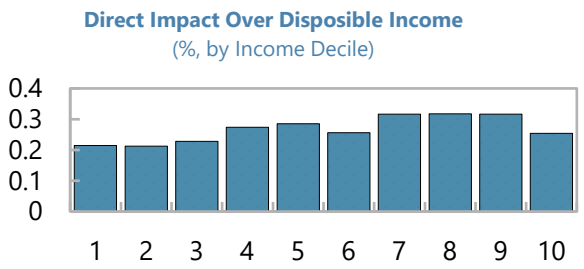


Source: Staff calculations.

19. Richer households consume more fuel products than poorer ones. The left panel of Figure 7 shows average per capita expenditure by income quintile and by rural/urban status. The right panel presents the share of total spending across six categories of fuel products: kerosene (pétrole lampant), vehicle fuel (carburant pour véhicule), motorcycle fuel (carburant pour motocyclette), domestic gas (gaz domestique), fuel for domestic generators (carburant pour groupe electrogène à usage domestique), lubricants (lubrifiants). Among all income categories, kerosene accounts for the largest budget share among fuel products. In addition, richer households devote a larger share of their spending on vehicle fuel and gas for household use.

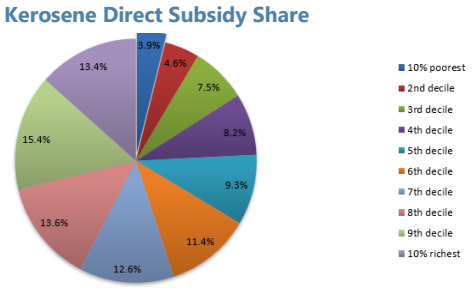
Figure 8. Kerosene Direct Subsidy

On average, kerosene subsidy as a share of disposable income is higher among higher-income households.



Source: Staff calculations based on household expenditure survey and IMF Fuel Subsidy Toolkit.

However, when we examine the allocation of total subsidy, richer households receive a larger share.



Source: Staff calculations based on IMF Fuel Subsidy Toolkit.

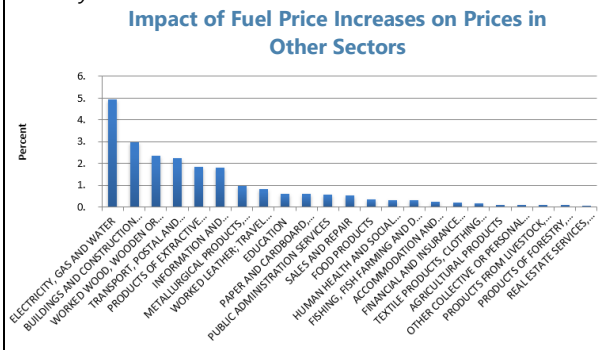
20. Diesel subsidies indirectly affect households and benefit the richer ones. Since only diesel sold to SONELEC is subsidized, the impact of this subsidy on households is only through the

[12] Household-level analysis potentially mask differences among individual members, as resources are unlikely to be equally distributed. In the survey, women's reported average wage income is 58 % of men's income.

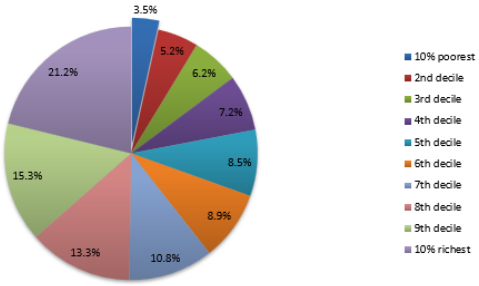
indirect channels. We use the fuel subsidy toolkit to simulate a scenario where only diesel used as an intermediate input is subsidized by 12.2 percent. The left panel of Figure 9 plots the impact of this subsidy on the prices of other sectors in the economy. As shown, the electric, gas and water is the most affected, since it uses diesel as an intermediate input more than other sectors. The right panel of Figure 9 calculates the distribution of the indirect subsidy considering all price changes through the consumption categories reported in household expenditure survey. Like the direct impact of kerosene subsidy, richer households benefit more than poorer ones, because they have a bigger consumption budget.

Figure 9. Impact of Diesel Subsidy

Electricity, gas and water is the sector most affected by diesel subsidy



The indirect from diesel subsidy benefits households in the top decile most



Source: Staff calculations.

D. Conclusion

21. The fiscal reforms proposed by the Comorian government are effective in raising revenue but have limited impact on reducing inequality.

- **Broadening the tax base and reducing tax expenditures.** The expansion of the tax base and the removal of selected tax expenditures are estimated to increase government revenues by approximately 2.8 billion KMF (about 0.35 percent of 2024 GDP). However, these reforms have only a modest effect on income inequality. The Gini coefficient, a standard measure of inequality, remains largely unchanged across reform scenarios, indicating that the overall distributional impact is limited.
- **Impacts on essential vs. non-essential goods.** Broadening the tax base has a minimal effect on the prices of essential goods (such as food staples and cement), with unit price increases ranging from 1 to 5 percent. In contrast, non-essential goods like alcohol and tobacco experience much higher price increases (15 percent and 14.3 percent, respectively). This suggests that the reforms strengthen the Pigouvian properties of the tax system, making their impact on consumption more progressive, as they spare necessities while targeting items with negative externalities.
- **Contribution to reforms by income group.** The reforms affect households uniformly across the income distribution when measured as a share of disposable income, indicating that they do not disproportionately burden poorer households. In absolute terms, however, households

contribute more in absolute terms under a broadened tax base. For example, the top 10 percent of households pay 0.35 billion KMF, compared to just 0.04 billion KMF for the bottom 10 percent.

22. Current tax exemptions are regressive and fuel subsidies benefit more the top income, favoring the rich over the poor.

- **Tax Exemptions.** Exemption from consumption taxes disproportionately benefit higher-income population. The top half of the income distribution receives a greater share of tax expenditure benefits in percentage of income than the bottom half. The richest 10 percent receive 0.31 percent of the disposable income in benefits, while the poorest 10 percent receive only 0.26 percent. On a per capita basis, the richest receive nearly ten times more than the poorest.
- **Fuel Subsidies.** Both direct and indirect benefits from fuel subsidies accrue mainly to top income households. The richest deciles spend more on petroleum products and thus capture a larger share of the subsidy. The indirect effects—lower prices for goods and services due to subsidized fuel—also favor the better-off, as they consume more of the affected goods.

E. Policy Recommendations

- **Targeting Tax Exemptions.** Eliminate consumption tax exemptions for non-essential goods, as these primarily benefit affluent households. Redirecting these resources could improve equity and fiscal efficiency.
- **Reforming Fuel Subsidies.** Phase out fuel subsidies while mitigating adverse distributional effect through direct transfers. International experience (e.g., Moss et al., 2015; Mokhtari and Ghoddusi, 2025) suggests that targeted transfers are more effective in supporting vulnerable groups without distorting market prices or disproportionately benefiting the wealthy.

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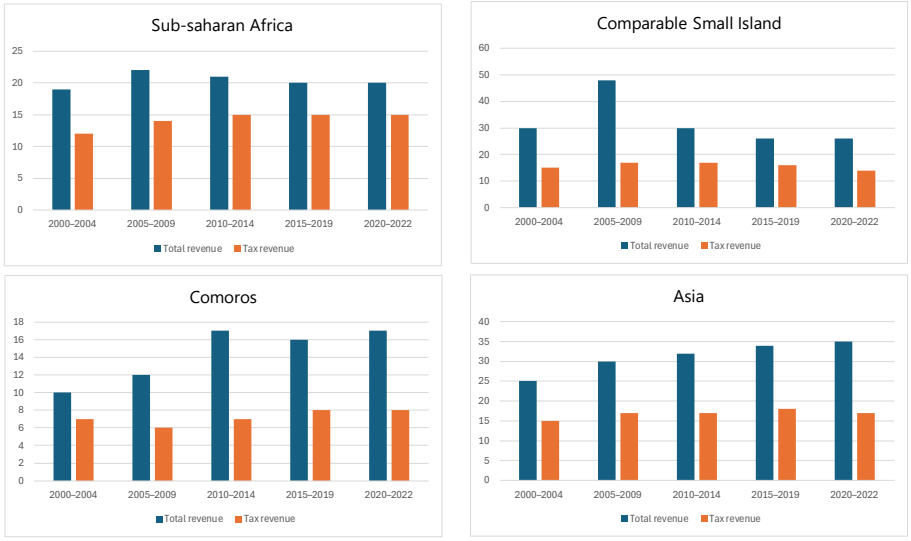
Appendix I. Tax and Expenditures Policies in Comoros

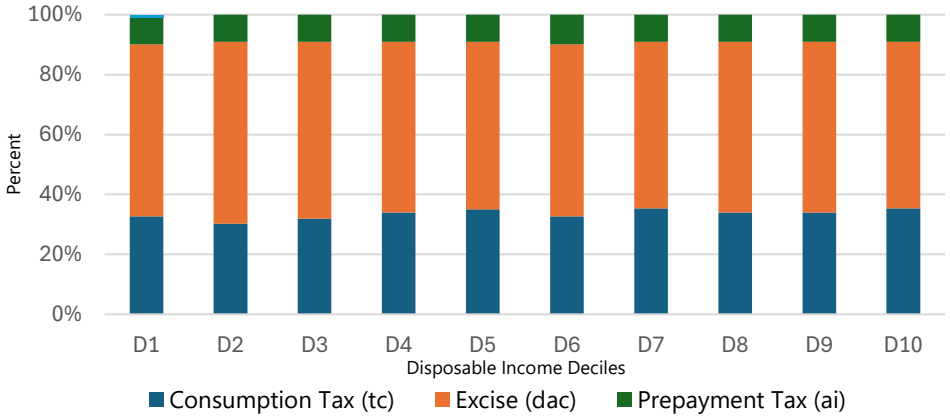
Figure 1. Revenue in Percent of GDP

Revenue as a Percentage of GDP, 5-year Average



Source: Staff calculations using UNU-WIDER Government Revenue Dataset (GDR)
Note: Small islands include Cabo Verde, Sao Tome and Principe.

Figure 2. Contribution of Each Tax to the Impact of Broadening the Tax Base



Source: A Staff calculations using UNU-WIDER Government Revenue Dataset (GDR)
Note: Small islands include Cabo Verde, Sao Tome and Principe.

Table 1. Union of the Comoros: Average Tax Rates for Selected Sensitive Products

Code SH	Labels	Average tax rate (%)							
		Custom duties	Consumption tax	RCI	FMG	AI	CCI	PT	Excise
	Food								
0206	Animal offal (beef, goat, etc.)	0.0	0.0	2.5	5.0	1.0	1.0	1.0	10.0
0207	Poultry meat and offal	0.0	0.0	2.5	5.0	1.0	1.0	1.0	10.0
04029910	Dairy products (milk, cream, etc.)	0.0	0.0	2.5	5.0	1.0	1.0	1.0	10.0
07	Vegetables, roots, tubers	5.0	0.0	0.3	5.0	1.0	1.0	1.0	15.0
1101	Wheat or meslin flour	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
151620	Vegetable oil	5.0	10.0	2.5	5.0	1.0	1.0	1.0	5.0
1604	Canned sardines	11.3	10.0	1.5	5.0	1.0	1.0	1.0	10.4
1701	Sugar	0.0	0.0	2.2	5.0	1.0	1.0	1.0	10.0
220210	Water, non-alcoholic beverages	5.0	10.0	0.8	5.0	1.0	1.0	1.0	15.0
250100	Salt								
	Non-food	20.0	10.0	2.3	5.0	1.0	1.0	1.0	352.0
220300+220830	Alcohol	20.0	9.4	0.3	5.0	1.0	1.0	1.0	302.0
24	Tobacco	4.1	0.0	1.4	4.6	0.9	0.9	0.8	11.7
252329 + 252390	Ordinary or colored cement	0.0	5.0	1.9	0.0	0.0	0.0	1.0	15.0
271113	Butane	0.0	0.0	1.3	5.0	1.0	1.0	1.0	5.0
30	Pharmaceutical products	0.0	0.0	2.0	5.0	0.0	0.0	0.0	5.0

Source: Staff calculation using customs data for 2024.