EXECUTIVE BOARD MEETING

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December 22, 2022

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INTERNATIONAL MONETARY FUND

REPUBLIC OF KOSOVO

SELECTED ISSUES

December 20, 2022

Approved By
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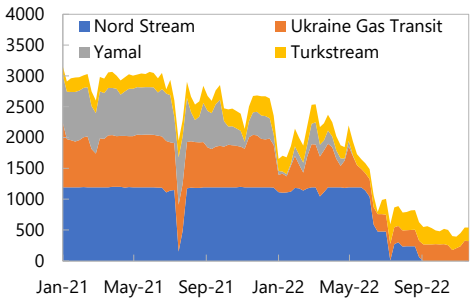
KOSOVO'S ELECTRICITY SECTOR: CHALLENGES AND OPPORTUNITIES[1]

A. Context: Higher Energy Prices Shock Kosovo's Current Account

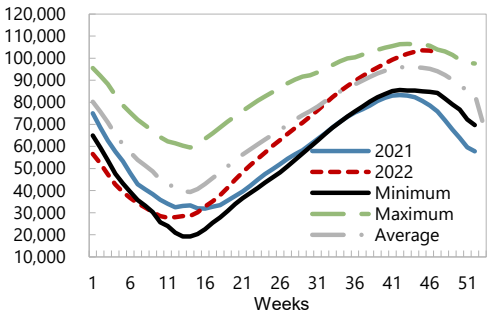
1. Energy prices, including of electricity, have increased sharply across Europe, and become more volatile since the start of the war in Ukraine. Russia's energy exports to Europe have decreased quite significantly; for natural gas, Russia's exports through October 2022 were 85 percent below their level in 2021. Sharply higher natural gas-based electricity generation costs (which frequently constitute the marginal supply technology) led to record high European electricity prices last August as the region scrambled to fill natural gas storage facilities ahead of the winter. Substitution in electricity generation also drove coal prices higher across all energy content varieties. Above-average temperatures in the fall, imports of gas from non-Russian suppliers, and filling of natural gas storage facilities in Europe have led to lower natural gas and electricity prices in October and November 2022, but as the temperature begins to cool, energy prices are likely to increase once more during the winter season.

European Union: Russian Natural Gas Imports
(By Route, million cubic meters/week)



Sources: Bruegel and IMF staff calculations.

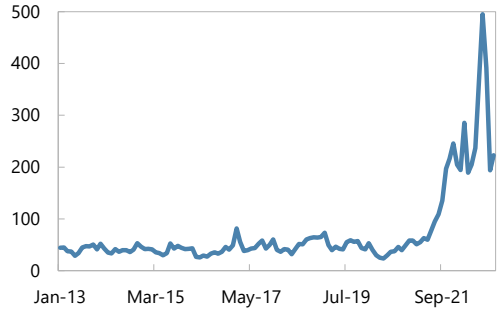
European Union: Natural Gas Storage
(Million cubic meters/day)



Sources: Bruegel and IMF staff calculations.

2. Energy market pressures in Europe are likely to continue throughout 2023. While there is significant uncertainty about global natural gas supply and demand forces going forward, a continuation of Russian exports to the European Union (EU) at their current level would result in a supply loss of about 100 billion cubic meters/year (25 percent of 2022 EU's demand) that will need to be replaced by more expensive liquefied natural gas (LNG) imports. Future LNG prices are also uncertain, but they will likely increase as infrastructure bottlenecks constrain the extent to which Russia can redirect exports to other

Electricity Prices
(Euro/MWh, HUPX)



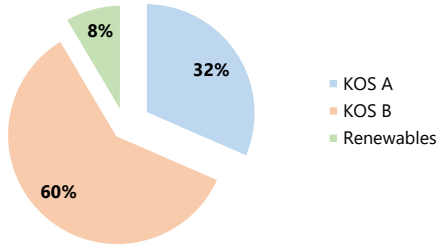
Sources: Kosovo authorities and IMF staff calculations.

[1] This note was written by Selim Thaci and Gabriel Di Bella. Sabiha Mohona provided research assistance.

markets, notably China. In any event, natural gas market developments will spill over into both electricity and coal markets.

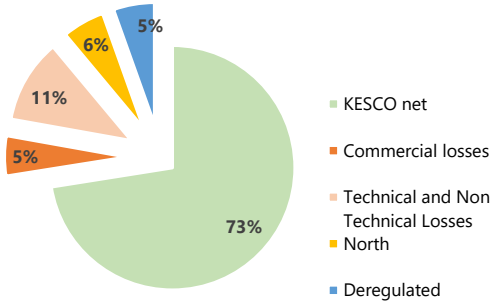
3. Higher energy prices represent a heavy blow for Kosovo's current account. Despite having the 5th largest global reserves of lignite coal, lignite's low-energy content and Kosovo's inadequate infrastructure have prevented exports at a meaningful scale, along with actions by other countries to reduce carbon emissions and move away from coal use. However, lignite is used to generate more than 90 percent of Kosovo's electricity, with the rest produced by wind farms, hydro-generation and to a small extent, solar farms. Natural gas use is virtually inexistent, with no distribution network for residential or commercial consumers. Although interconnection with gas pipelines reaching Serbia and North Macedonia is possible, there is currently none. There are also no local oil refining facilities; thus, petroleum-related imports are mostly of refined products. Kosovo's net energy imports are projected to have reached 12.5 percent of GDP in 2022, up 3.5 percentage points (pp) with respect to 2021, despite a 35 percent decrease in electricity imports and 5 percent decrease in fuel imports.

Total Supply
(Percent of total, 2022)



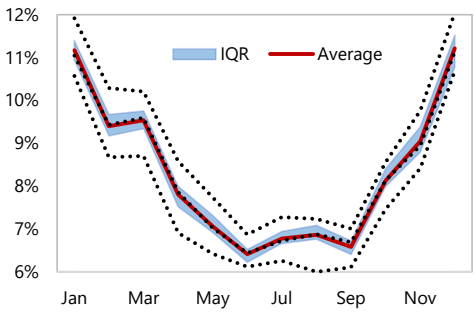
Sources: Kosovo authorities and IMF staff calculations.
Note: KOS A and KOS B refer to state-owned coal-based generation plants ("Kosova A and B").

Total Demand
(Percent of total, 2022)



Sources: Kosovo authorities and IMF staff calculations.

Electricty Demand Seasonality in Kosovo
(Percent of annual consumption, 2011–21)

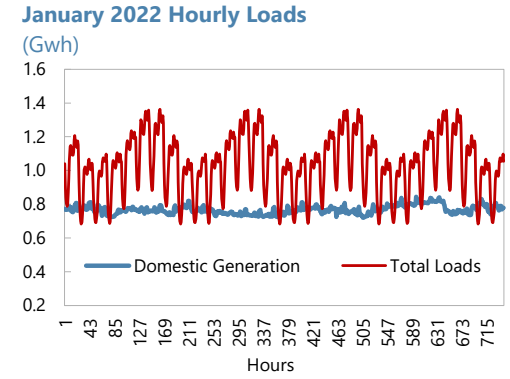


Sources: Kosovo authorities and IMF staff calculations.

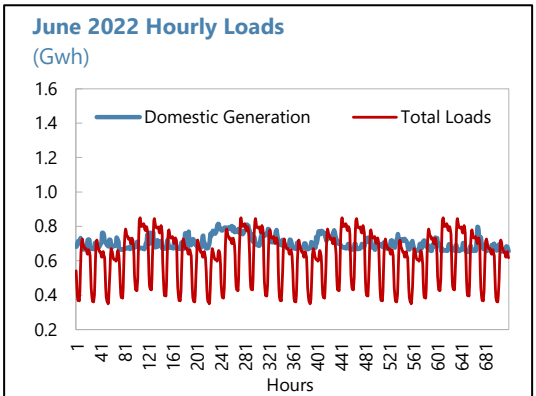
B. Kosovo's Electricity Supply Chain and Load: Coal-Based Supply and Highly Seasonal Demand

4. Kosovo's electricity supply chain (ESC) includes both public and private firms. Electricity production is dominated by a publicly owned enterprise (POE), Kosovo Energy Corporation (KEK), which owns two coal-based power plants (Kosova A and B), and the lignite mines that fuel both plants. Another POE (Ibër-Lepenc JSC) owns and operates the only reservoir-based hydro-electricity power plant. A few private firms also produce electricity (wind-based, run-of-the-river hydro-electric, and solar). Transmission and operation are performed by Kosovo's Transmission System and Market Operator (KOSTT, a POE), a member of ENTSO-E (the European Network of Transmission System Operators for Electricity). KOSTT, as the system's transmission and system operator (TSO), balances electricity generation and loads. Electricity Distribution Services in Kosovo (KEDS, a privately-owned firm) oversees distribution.

The same firm owns KESCO (Kosovo Electricity Supply Company), in charge of retail supply, metering, and collection.[2]



Sources: Kosovo authorities and IMF staff calculations.



Sources: Kosovo authorities and IMF staff calculations.

5. More than 20 percent of Kosovo's electricity consumption is either not billed or billed but not collected. Demand in the "regulated" market accounts for about 90 percent of the load, while the "deregulated" market, composed by a few large firms that procure their electricity mostly through imports, accounts for another 5 percent; the remaining 5 percent is from "unregulated" consumers from four northern municipalities mostly inhabited by ethnic Serbs, from whom Kosovo has been unable to collect fees since the early 2000s. Moreover, around 11–12 pp of the regulated market are technical and non-technical losses of distribution, and another 5 pp are commercial losses. Electricity demand is highly seasonal, given its use for household and district heating in Pristina, resulting in winter hourly loads that are about twice as large as those in the summer.[3] Despite supply volatility on account of reliability issues of both Kosova A and B, this load pattern results in electricity imports in the winter and exports in the summer. Household consumption constitutes around 60 percent of demand, followed by commercial consumption (38 percent) and public lighting (2 percent).

C. The ESC's Financial Flows: Choke Points, Load Shedding and Fiscal Costs

6. The tariff setting framework is broadly sound, but the increase in European electricity prices has led to challenges. Tariffs are set once per year by the Energy Regulatory Office (ERO) taking into consideration domestic generation prices, expected load and generation, generation composition, import volumes and prices, projected technical, non-technical and commercial losses, and a value added of distribution that provides room for improvements and investment in the distribution network and a regulated profit.[4] Tariffs were last adjusted in February 2022 (up by about 10 percent for households consuming more than 800 KWh/month, while keeping other tariffs

[2] KEDS and KESCO are owned by the Limak-Çalik consortium, a Turkish company. Other suppliers are licensed but they are currently mostly inactive.

[3] Net electricity imports cover about 10 percent of demand; however, gross electricity imports are equivalent to about 20 percent of demand, and gross electricity exports represent around 10 percent of domestic supply.

[4] The ERO is an independent agency that regulates electricity, district heating, and gas markets in Kosovo. It was established in 2004, after the promulgation of the Laws on Energy, on Electricity, and on the Energy Regulator. The ERO helps to ensure that Kosovo's regulatory framework is in line with the EU 'acquis' on energy.

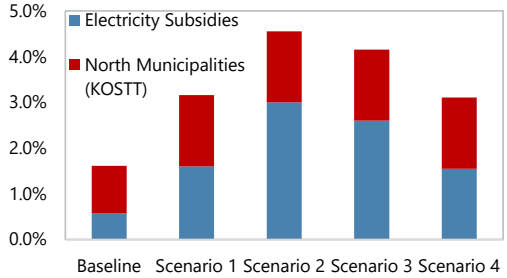
for households and firms constant) to account for higher import prices of electricity, and government subsidies.[5] Though the tariff setting allows for revisions when tariff parameters deviate from actuals, the ERO has not authorized further tariff increases in 2022, arguing that government subsidies to the sector (of about 2 percent of GDP) were sufficient to finance the difference between import electricity prices and those recognized in tariffs.

7. Higher European electricity prices have stressed the sector's flows, creating liquidity choke points. Before 2021, relatively low European electricity prices allowed the system to operate without significant fiscal costs.[6] Technical, non-technical, and commercial losses were covered by electricity tariffs, electricity price volatility was lower, and the electricity consumption of the north was paid through a budget transfer to KOSTT.[7] The increase in natural gas and electricity prices since 2021 stressed this model, first in the winter of 2021–22 and again in the late summer of 2022, as record high electricity prices created a liquidity choke point in KEDS, the distribution company, that led to load-shedding. While budgetary support for the sector increased substantially, KEK electricity exports in the summer also increased to record levels (€150 million, about 1.5 percent of GDP).

D. The Short-Term Outlook: Stress Likely to Continue

8. The war in Ukraine will keep uncertainty high, and energy prices volatile in the short term. A full Russian gas shutoff would likely lead to both higher natural gas and electricity prices; a less temperate winter would also weigh on electricity prices. Even if replenished natural gas stocks allow Europe to avoid shortages in the winter of 2022–23, the spring will find the region trying to refill inventories but with very modest (or totally absent) Russian supply, which may result in the market retesting in 2023 the record high natural gas and electricity prices of 2022 (Di Bella et al, 2022; IMF, 2022). In any event, it is likely that Europe will end up facing higher energy prices than before the war in the medium term.[8]

Fiscal Cost of Electricity Sector in Kosovo–Calender year 2023
(Alternative Scenarios, percent of GDP)



Sources: Kosovar authorities and IMF staff calculations.

[5] Electricity tariffs are set at 7€cts/KWh (6.1€cts/KWh for households and 8.4€cts/KWh for non-households), reflecting a coal-based generation price of 2.95 €cts/KWh, a renewable generation price of 9€cts/KWh, and a price for electricity imports of 18.6€cts/KWh. Lignite prices for domestic generation are only 3€/Ton, mainly reflecting a royalty, which allows for domestic coal-based electricity prices to be significantly lower than in the EU.

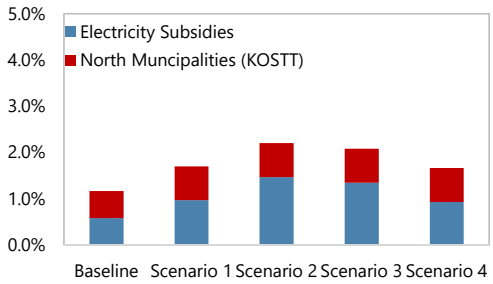
[6] The budget includes a subsidy for vulnerable households to cover electricity consumption of €4.5 million.

[7] In winter of 2017-18 the consumption of Kosovo's north municipalities was not balanced (i.e., a source of energy generation was not nominated to equal such demand), which decreased the electricity's frequency of continental Europe as a whole. As KOSTT joined ENTSO-E in 2020, it committed to balance this consumption. In parallel, a more permanent solution is being seek between Serbia and Kosovo with the 2013 Brussels' agreement framework.

[8] The EU agreed on a natural gas price cap in mid-December 2022, though its impact on gas supply remains uncertain.

9. Higher European electricity prices and lower domestic electricity supply may result is significant stress for Kosovo's energy sector and budget. To estimate this stress, a baseline scenario is constructed that assumes that foreign electricity prices in 2023 remain, on average, at the same level of 2022; that KEK's electricity supply remains unchanged; and that electricity demand also remains unchanged at 2022 levels. The baseline fiscal cost of keeping electricity tariffs constant and avoiding load shedding in the winter would be about 1 percent of GDP (0.5 percent of GDP for subsidies to the regulated electricity sector, and the other 0.5 percent of GDP to finance the electricity consumption of the northern municipalities), and about 1.5 percent of GDP for 2023. In addition, the following scenarios are considered:

Fiscal Cost of Electricity Sector in Kosovo–Winter 2022–23
(Alternative Scenarios, percent of GDP)



Sources: Kosovar authorities and IMF staff calculations.

- Scenario 1 assumes a 50 percent increase in the external price of electricity in 2023.
- Scenario 2 assumes in addition a 10 percent decrease in KEK electricity production.

If downside risks materialize, the costs for the sector and the budget would be significant. In scenario 2, the fiscal cost over the winter would reach more than 2 percent of GDP and around 4.5 percent of GDP for 2023. In this case, it is unlikely that the higher cost of electricity imports will be covered completely by additional subsidies, but rather by a combination of subsidies and demand compression. While the latter can be induced through different actions, higher foreign electricity prices will likely lead once again to liquidity choke points and to load shedding.

E. Medium Term Challenges: Greening the Electricity Generation Matrix

10. Coal-based electricity generation is the largest source of greenhouse gas (GHG) emissions in Kosovo. Kosovo's carbon intensity, as measured by CO_2 emissions per unit of output, is the highest in the western Balkans and about four times the average of the EU. The burning of fossil fuel for heating is the main cause for the high concentration of harmful PM2.5, one of the leading causes of illness and death associated with respiratory, pulmonary and heart diseases. The ambient concentrations of PM2.5 in Kosovo exceed the World Health Organization air quality guideline value of 10 µg/m3 and the EU limit value of 25 µg/m3.[9] Moreover, the EU's carbon border adjustment mechanism (CBAM) will require EU importers, as of 2026, to purchase carbon certificates equivalent to the weekly EU carbon price. The CBAM would initially apply to imports of cement, iron and steel, aluminum, fertilizers, and electricity. In this regard, Kosovo's current electricity generation

[9] Kosovo is a member of the Energy Community (2006), and a signatory of the EU-SAA (2016) and the Sofia Declaration (2020). Under the Energy Community, Kosovo has commitments with respect to national GHG emissions monitoring and reporting systems, and about the National Energy and Climate Plans (NECPs). Under the SAA, Kosovo is part of the SAA Energy and Environment Committee, which commits the country to develop national plans for the reduction of GHG emissions. Kosovo's participation in the Sofia Declaration on the Green Agenda, commits the country to a path of carbon neutrality by 2050.

profile will clearly be a drawback for its efforts to attract EU FDI, and it may constrain Kosovo's electricity exports during the summer.

11. In addition, unreliable domestic supply makes the system vulnerable to short-term price fluctuations. Frequent unplanned outages of Kosovo's old coal-based plants have been a main reason preventing the sector to engage in long-term electricity supply contracts, rendering the system dependent on the volatile day-ahead and intraday markets. Moreover, absent a solution within the Brussels' agreement framework, the northern municipalities' consumption will continue to represent a heavy burden for the budget. High non-technical and commercial electricity losses have also led to fiscal costs and rendered the electricity system more vulnerable.

F. Policy Options: Stylized Suggestions

12. In the short-term, more efficient use of electricity should reduce demand and contribute to balance the system in 2023. A partial pass-through of external prices to tariffs, including differential increases for peak-hour consumption for non-vulnerable clients would contribute to a more efficient use of electricity, and reduce the fiscal cost of subsidies. This is illustrated by Scenario 3, which considers a 20 percent of the increase in the external price of electricity assumed in Scenario 1 is passed through domestic tariffs. While prices should reflect to the extent possible market signals, vulnerable households should preferably be protected through direct transfers. While the tariff-setting mechanism allows for up to three annual adjustments if tariff parameters are no longer realistic, the de facto implementation of this mechanism (accounting for planned instead of effectively paid subsidies) creates liquidity choke points that have resulted in load shedding. Increased frequency of tariff adjustments (from once to at least twice per year) and of the payment of subsidies should reduce liquidity choke points and reduce the need for load shedding, which always should be the last resort. If load shedding is needed, it should be allocated smartly to preserve economic activity.

13. In the medium term, boosting energy efficiency and diversification away from lignite is priority. To that end, creating a fund for the renewal and expansion of domestic electricity generation capacity in green technologies could be explored. KEK's extraordinary export revenues could be earmarked for this. In this regard, Scenario 4 shows, for illustrative purposes, the added energy security and reduced fiscal costs if 150 MW of wind-based electricity would have been in place, under the assumption of the higher international prices and lower supply assumed in Scenario 2.[10] Further regional integration, especially with Albania, would allow for more efficient balancing of generation and loads.[11] Moreover, existing transmission and generation capacity should be properly maintained to increase reliability, efficiency and reduce pollution. Tackling air pollution is a key priority. In this regard, the focus should be on enforcing regulation for emissions and investing to install filters in Kosova B. In the residential sector, a feebate mechanism could be used to encourage

[10] Scenario 4 assumes an effective capacity for wind of 28 percent, in line with Kosovo's average.

[11] In late 2019, ERO signed cooperation agreements with the Energy Regulatory Entities of Albania and North Macedonia, to strengthen the cooperation for harmonizing the regulatory frameworks and to promote the development and integration of energy markets.

reductions in pollution by rewarding heating efficiency of buildings and the adoption of clean efficient stoves, while green investment funds could be deployed to expand district heating. Reducing non-technical losses through stronger penalization of theft is essential, while continue to seek options to implement the Brussels' agreement energy protocols is key to lower fiscal exposures. In addition, ERO will need to continue working with KESCO–KEDS to ensure that planned improvements in the distribution network result in the target decreases in electricity theft. Starting to explore carbon pricing would strengthen price signals and result in more efficient demand and less carbon intensity.

References

Di Bella, G, M Flanagan, K Foda, S Maslova, A Pienkowski, M Stuermer and F Toscani, 2022, “Natural Gas in Europe: The Potential Impact of Disruptions to Supply”, IMF Working Paper 22/145.

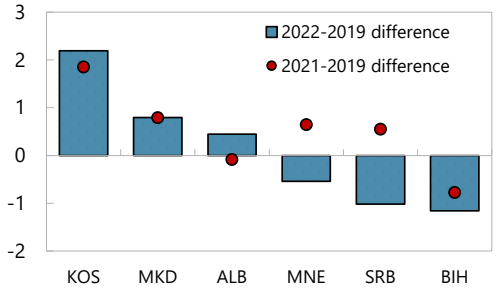
IMF, 2022, "Regional Economic Outlook: Europe. The Fog of War Clouds the European Outlook," Washington D.C.

KOSOVO: TAX REVENUE GROWTH AND FORMALIZATION[1]

A. Introduction

1. Kosovo's tax revenue over 2021–22 has surpassed tax base growth. Following the pandemic, tax revenue grew strongly, posting the largest increase among western Balkan countries. While part of this strong performance reflects increased activity, surging inflation, and buoyance, this note explores the extent to which tax revenue increases may have also grown due to gains in formalization, both of workers and businesses.

Changes in Taxes: 2019–2022
(Percentage points of GDP)

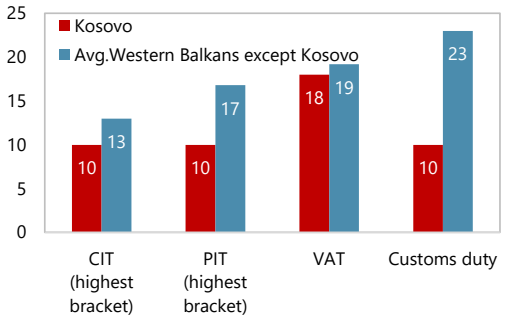


Sources: World Economic Outlook, IMF and country statistics offices.

2. Kosovo's tax system is based on consumption and income taxes, which together make up around 25 percent of GDP. Historically, consumption taxes, which include value-added taxes (VAT), excise, and customs, have been the major source of revenue in Kosovo. Income taxes, including corporate income taxes (CIT) and personal income taxes (PIT), have played a more limited role.

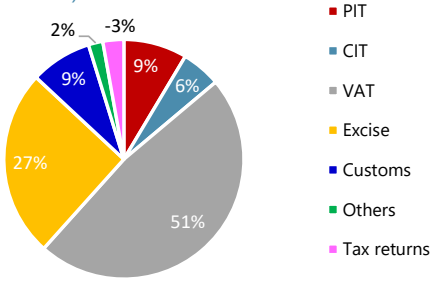
3. Government revenues from both consumption and income taxes are affected by relatively high informality rates. Accordingly, increasing formalization has become a policy priority in recent years, as it would contribute to larger fiscal space and a more even level playing field. At the tax administration level, this has been reflected in more frequent, risk-based audits and inspections, and at the budgetary level through incentives to formalize workers.

Tax Rates in Western Balkans
(Percent)



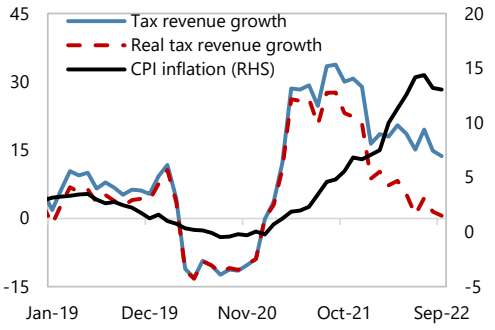
Source: Country tax office websites.

Share of Different Taxes in Total Tax Revenues: 2012–2022
(Percent)

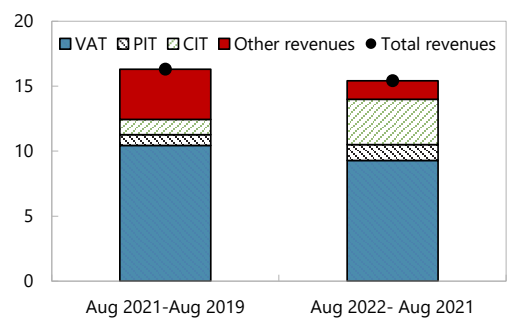


Sources: Kosovo Ministry of Finance and IMF staff calculations.

[1] Prepared by Amanda Edwards, Ezgi O. Ozturk, and Selim Thaci. Sabiha Mohona provided research assistance.



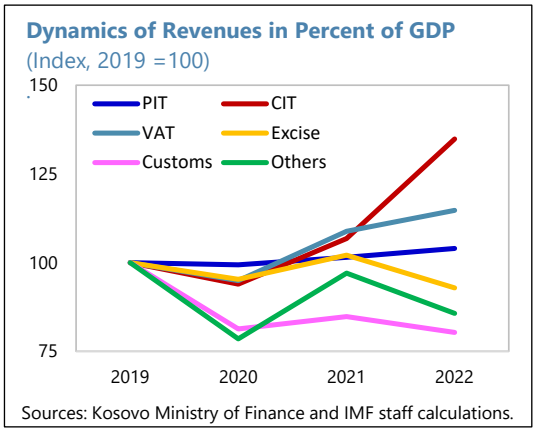
Sources: Kosovo Ministry of finance and IMF staff calculations.



Sources: Kosovo Ministry of finance and IMF staff calculations.

B. Recent Developments in Tax Revenues

4. Tax revenues overshot pre-pandemic levels already in 2021. While a strong rebound in diaspora inflows, mobility normalization and supportive policies led to a fast recovery of economic activity, consumption taxes (VAT and excises) in percent of 2021 GDP overshot their pre-pandemic levels. Income taxes as a share of GDP also expanded, reflecting the strong performance of corporates as well as increases in both employment and salaries.



Sources: Kosovo Ministry of Finance and IMF staff calculations.

5. Tax revenue growth continued in 2022, parallel to the surge in inflation. Economic activity slowed in 2022, given the impact of the terms-of-trade shock on private demand, and inflation. Despite this, VAT and income taxes kept rising as a share of GDP; excises declined, as taxes per unit were kept largely unchanged. Custom duties continued to decline reflecting the continued implementation of free trade agreements with the European Union and Türkiye.

C. Disentangling the Sources of Tax Revenue Increase: The Role of Formalization

6. This note applies a simple accounting framework to disentangle the sources of tax collection increases. Tax revenue changes reflect changes in the tax base, the effective tax rate, buoyancy, and tax collection improvements. Tax revenues can be defined as follows:

$$T_t^R = \tau_t^{E,R}\left[[P_t Q_t(1-\lambda_t^R)]\left({}^{Y_t}/_{Y_t^*}\right)^{\eta_R}\right] \quad \text{(I)}$$

where T_t^R is tax revenue in time t, and $\tau_t^{E,R}$ is the effective tax rate in time t, measured as the ratio of tax revenue to declared tax base; P_t denotes the price level, changes of which are defined as inflation $\pi_t = \left({}^{P_t}/_{P_{t-1}} - 1\right)$, and Q_t denotes the real tax base, changes of which are defined as $\gamma_t =$

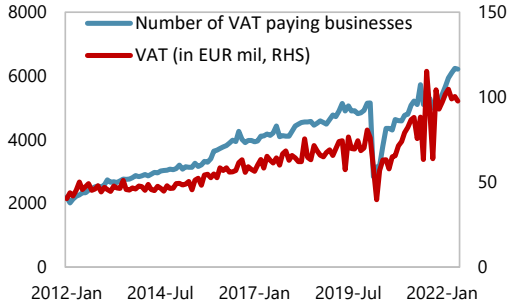
$\left({}^{Q_t}/_{Q_{t-1}} - 1\right)$.[2] The yield $\left({}^{Y_t}/_{Y_t^*}\right)^{\eta_R}$ denotes the GDP to potential GDP ratio to the power of revenue elasticity with respect to the output gap, η_t , and changes in this yield $g_t = \left({}^{Y_t}/_{Y_t^*} - 1\right)$ provide buoyancy.[3] And the tax gap, λ_t, is the difference between the actual tax base and effective revenues, changes in which represent changes in tax collection, including through improved formalization and other factors. Changes in revenues can then be expressed as follows:

$$(1 + \varphi_t^R) = \frac{\tau_t^{E,R}}{\tau_{t-1}^{E,R}}(1 + \pi_t)(1 + \gamma_t)\left(\frac{1-\lambda_t^R}{1-\lambda_{t-1}^R}\right)\left(\frac{1+g_t}{1+g_{t-1}}\right)^{\eta_R} \qquad \text{(II)}$$

Applying logarithms, (II) can be re-expressed as:

$$\varphi_t^R \approx \pi_t + \gamma_t + \Delta\lambda_t^R + \Delta g_t + \Delta\tau_t^{(E,R)} \qquad \text{(III)}$$

7. About a third of VAT revenue increases in 2020–22 could be explained by improvements in tax administration, including increased formalization (Table 1A). While the VAT increase is mainly explained by the evolution of the tax base, increases in formalization have played a significant role. This has been supported by efforts by the Tax Administration of Kosovo (TAK) in the form of increased in-person audits and controls, and inspections. On a year-on-year basis, improvements in tax administration contributed about 35 percent of VAT revenue increases in 2021 and around 22 percent of VAT increases in 2022.



Sources: Kosovo authorities and IMF staff calculations.

Table 1a. Kosovo: Value-Added Taxes: Revenue Change and Contributing Factors

	Millions of euro					Percent				
	2019	2020	2021	2022	Cumulative 2020-2022	2019	2020	2021	2022	Cumulative 2020-2022
Value-Added Taxes (VAT)										
Change in total VAT revenues	46.6	-75.6	268.2	190.1	382.7	5.8	-8.9	34.8	18.3	100%
Contribution factors										
Inflation	49.2	10.5	130.1	146.4	287.0	6.2	1.2	16.9	14.1	75%
Change in real demand	-8.3	-9.1	-7.5	-1.9	-18.5	-1.0	-1.1	-1.0	-0.2	-5%
Buoyancy	7.6	-52.8	39.6	0.0	-13.2	0.9	-6.2	5.1	0.0	-3%
Change in effective tax rate	0.6	-8.2	12.3	4.5	8.6	0.1	-1.0	1.6	0.4	2%
Collection improvement, including formalization	-2.5	-16.1	93.7	41.1	118.7	-0.3	-1.9	12.2	4.0	31%

Sources: Tax Administration Authority of Kosovo and IMF staff calculations.

8. Improvements in tax collection could also explain about one fifth of PIT revenue increases over 2020–22 (Table 1B). Although public sector wages remained unchanged, private sector wages continued to increase, especially in 2022, leading to increases in PIT revenues. In 2020-

[2] Inflation reflects the taxable goods deflator change for VAT, wage inflation for PIT, and profit inflation for CIT. Real demand reflects the quantity of taxable goods, calculated based on domestic demand for VAT, the actual number of employees, which is calculated based on Labor Force Survey data and assuming an informal employment rate of 20 percent, a share of labor in GDP at factor cost of 0.5, for PIT, and the number of CIT paying businesses for CIT.

[3] Based on related literature in emerging markets, the elasticity of tax revenues to the output gap is assumed to be 0.85 for VAT, 0.5 for PIT, and 0.7 for CIT.

21, the government subsidies for registered employees to mitigate the negative impact of the COVID-19 pandemic on households and firms helped to shift more employees from the informal to the formal sector. This effort, coupled with increased labor demand at the time of the strong activity rebound resulted in increased numbers of employees (shown as change in real demand in Table 1B), which contributed around 60 percent of PIT revenue growth in 2021.

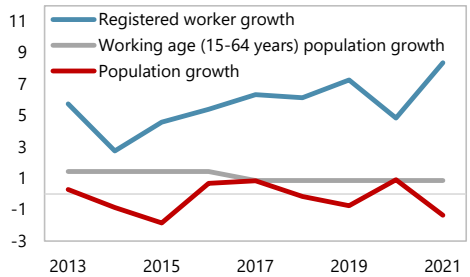
Table 1b. Kosovo: Personal Income Taxes: Revenue Change and Contributing Factors

	Millions of euro					Percent				
	2019	2020	2021	2022	Cumulative 2020-2022	2019	2020	2021	2022	Cumulative 2020-2022
Personal Income Taxes (PIT)										
Change in total PIT revenues	9.1	-1.8	24.8	24.5	47.5	7.0	-1.3	18.0	15.0	100%
Contribution factors										
Inflation	1.6	7.2	3.2	15.0	25.4	1.2	5.2	2.3	9.2	54%
Change in real demand	6.2	-7.5	14.8	4.4	11.8	4.8	-5.3	10.7	2.7	25%
Buoyancy	0.7	-5.2	4.1	0.0	-1.1	0.6	-3.7	3.0	0.0	-2%
Change in effective tax rate	-0.1	-0.7	0.9	0.7	0.9	-0.1	-0.5	0.6	0.5	2%
Collection improvement, including formalization	0.7	4.4	1.8	4.3	10.5	0.5	3.1	1.3	2.6	22%

Sources: Tax Administration Authority of Kosovo and IMF staff calculations.

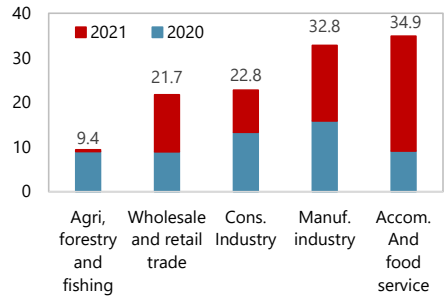
9. Sector-level data shows that government support to increase formal employment, including of females, also led to PIT revenue growth. Increased employment in sectors that tend to have relatively high levels of informality, such as accommodation and food service and construction have expanded the PIT's tax base. Increased female employment can also explain part of the growth in registered employees. While female employment in Kosovo has been relatively low, it grew more rapidly than male employment over the past decade, resulting in an increase in the share of females in total employment from around 30 percent in 2012 to around 40 percent in 2022.

Registered Workers
(Growth in percent, year-on-year)



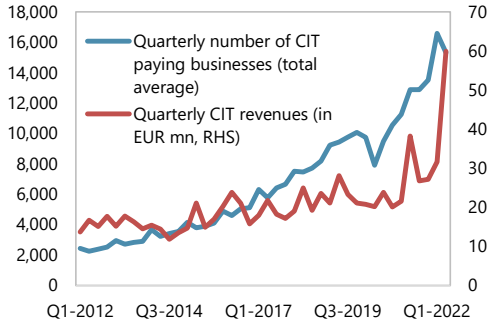
Sources: Kosovo Tax Administration, Kosovo Statistics Agency and IMF staff calculations.

Registered Workers by Sector
(Growth in percent, 2021 vs. 2019)



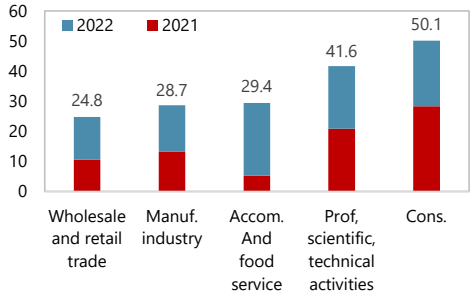
Sources: Kosovo Tax Administration and IMF staff calculations.

CIT paying businesses and CIT revenues



Sources: Kosovo authorities and IMF staff calculations.

Average number of registered businesses
(Growth in percent, 2022 vs. 2019)



Sources: Kosovo Tax Administration and IMF staff calculations.

10. Improved tax collection could explain about two thirds of CIT revenue increases over 2020–22 (Table 1C). The number of CIT paying businesses increased strongly during the recovery following the pandemic-related downturn. The contribution of newly registered firms to CIT revenues increased from around 4 percent of annual CIT in 2019 to 6 percent in 2021, reflecting more business registrations also from sectors that tend to have relatively high levels of informality. The authorities have aimed to maintain and increase the number of registered businesses including through the help of grants and loan guarantees, even though according to the authorities the take-up of these support measures has been lower than the allocated amounts in the budget, particularly with regards to support for female entrepreneurs.

Table 1c. Kosovo: Corporate Income Taxes: Revenue Change and Contributing Factors

	Millions of euro					Percent				
	2019	2020	2021	2022	Cumulative 2020-2022	2019	2020	2021	2022	Cumulative 2020-2022
Corporate Income Taxes (CIT)										
Change in total CIT revenues	7.8	-9.3	28.7	47.6	66.9	9.0	-9.8	33.6	41.7	100%
Contribution factors										
Inflation	0.1	2.2	-2.8	10.0	9.4	0.1	2.4	-3.3	8.8	14%
Change in real demand	5.2	-2.6	14.7	3.5	15.6	6.0	-2.8	17.2	3.1	23%
Buoyancy	0.7	-4.9	3.6	0.0	-1.3	0.8	-5.2	4.2	0.0	-2%
Change in effective tax rate	0.1	-0.3	0.5	1.1	1.2	0.1	-0.3	0.5	0.9	2%
Collection improvement, including formalization	1.8	-3.8	12.8	33.0	42.0	2.1	-4.0	15.0	28.9	63%

Sources: Tax Administration Authority of Kosovo and IMF staff calculations.

11. Overall, increased formalization is estimated to be behind about one third of tax revenue increases over 2020–22 (Table 2). Formalization efforts by the government, Kosovo's Agency of Statistics (KAS), and Customs have borne fruit, contributing around 35 percent of the cumulative change in tax revenues in 2020–22. Inflation, which contributed around 65 percent of the cumulative increase in revenues, reflected price pressures, such as commodity prices and wage increases. Tax base changes (including both inflation and changes in the real tax base) explained about 60 percent of the increase of tax revenues, with other factors playing a relatively minor role, as effective tax rates remained about constant, and the output gap at end-2022 is only slightly negative.

Table 2. Kosovo: Total Tax Revenue Change and Contributing Factors
(Millions of euro)

	2019	2020	2021	2022	Cumulative 2020-2022	
Total Tax Revenues (CIT, PIT, and VAT)						
Change in total tax revenues	63.5	-86.7	321.7	262.1	497.1	100%
Contribution factors						
Inflation	50.9	20.0	130.4	171.4	321.8	65%
Change in real demand	3.1	-19.2	22.0	6.1	8.9	2%
Buoyancy	9.0	-62.9	47.3	0.0	-15.5	-3%
Change in effective tax rate	0.6	-9.2	13.6	6.3	10.7	2%
Collection improvement, including formalization	0.1	-15.4	108.3	78.3	171.2	34%

Sources: Tax Administration Authority of Kosovo and IMF staff calculations.

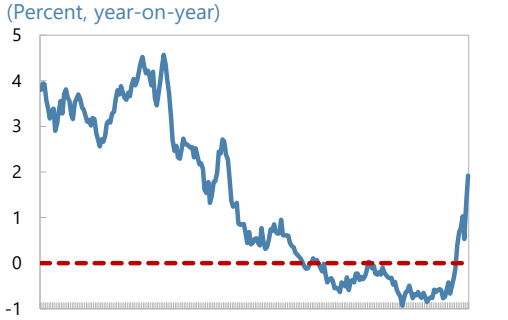
D. Conclusions and Stylized Policy Implications

12. Continued gains in formalization will require a multi-pronged approach. Tax administration efforts by both TAK and Customs, in the form of audits, inspections, penalties and other measures, should be sustained and deepened. However, informality is a multidimensional challenge that requires to be tackled from different angles. This includes simplifying tax procedures, enhancing public governance and transparency to raise awareness and trust in public institutions, strengthening the education system, improving financial inclusion, increasing electronic payments, and improving the judicial system.

SURVIVING LOW INTEREST RATES: CENTRAL BANKS IN KOSOVO AND OTHER WESTERN BALKAN COUNTRIES[1]

1. Financial strength is a key ingredient of central bank *de facto* independence. While charters and laws around the globe establish central bank *de jure* independence, *de facto* independence depends on several factors including the degree of fiscal dominance and the central bank's demonstrated financial strength, among others. In some cases, fiscal dominance and financial weakness are linked (Miguel and Neumeyer, 1995; Stella, 2005). Financially weak central banks can be less effective in carrying their functions. For example, to avoid an increase in quasi-fiscal deficits, they may be more reluctant to change policy rates. But even when the central bank's mandate is constrained by the exchange rate framework (e.g., in dollarized economies), financial weakness may still impair the effective implementation of central bank mandates. For example, a central bank relying on budget transfers to finance its operations may be more prone to undue influence from the government, which would affect its *de facto* independence (Archer and Boehm, 2013).

2. Lower global interest rates reduced central bank revenues, especially in emerging market economies. Central banks in emerging economies invest most of their foreign exchange assets in financial instruments denominated in reserve currencies. Before the GFC, interest income from foreign reserves was the largest revenue source for many of these central banks (Ize, 2006). With the post-GFC decline in global interest rates, interest income fell significantly, and with it, a key source of central bank funding to finance their operating expenses.



Sources: Haver Analytics and IMF staff calculations.

3. Low global interest rates especially affected central bank revenues in unilaterally euroized economies, or in countries with currency boards; in the western Balkans this includes Kosovo, Montenegro, and Bosnia and Herzegovina. This group is particularly affected as their central banks cannot use seigniorage to finance their operations. This note explores how these central banks coped with the long period of low interest rates, including a broad discussion of the measures taken to balance the books, and discusses the implications of the ongoing increase in global interest rates.[2]

[1] Prepared by Si Guo. Sabiha Mohona provided research assistance.

[2] Seigniorage refers to the profits by issuing currency, especially the difference between the face value of coins and their production costs.

A. The Central Banks' Financial Situation: An Overview

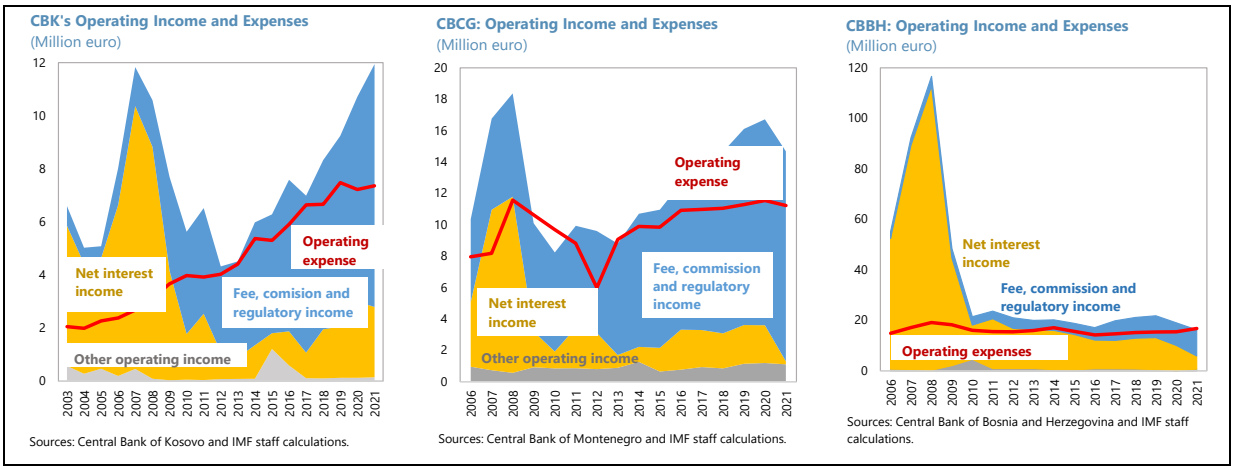
4. The assets of the central banks of Bosnia and Herzegovina (CBBH), Kosovo (CBK) and Montenegro (CBCG) mainly comprise foreign reserves, as they do not lend domestically. Foreign reserves are mostly denominated in euros, including cash, foreign government securities, and deposits. The CBK and CBCG also hold euro-denominated domestic government securities. These securities are not considered as foreign reserves (IMF, 2019; IMF, 2021) because they are less liquid than typical reserve assets. Central bank liabilities of these countries mainly include deposits from commercial banks and governments.

Central Bank Balance Sheet
(Percent of GDP)

	Bosnia and Herzegovina		Kosovo		Montenegro	
Year	*2007*	*2021*	*2007*	*2021*	*2007*	*2021*
Assets	**32.8**	**51.0**	**31.2**	**21.0**	**19.1**	**38.6**
Foreign assets 1/	32.5	49.8	31.1	14.1	17.2	31.8
Domestic claims on government	0.0	0.0	0.0	2.7	0.0	1.1
Gold	0.0	0.9	0.0	0.0	0.0	0.0
Other assets 2/	0.3	0.3	0.1	4.2	1.9	5.7
Liabilities	**30.9**	**48.4**	**30.2**	**20.2**	**17.5**	**37.0**
Domestic banknotes and coins	11.8	21.5	0.0	0.0	0.0	0.0
Due to commercial banks	18.3	22.4	3.3	7.4	12.9	21.7
Due to government and other public entities	0.4	4.4	26.6	8.6	3.3	10.5
Other liabilities	0.3	0.0	0.2	4.2	1.2	4.8
Equity and Reserves	**1.9**	**2.7**	**1.0**	**0.8**	**1.6**	**1.6**

Sources: Central bank financial statements and staff calculations.
1/ Foreign assets include cash, deposits placed at non-resident financial institutions, and foreign securities.
2/ Other assets mainly include fixed assets, intangible assets, and assets related to IMF lending programs.

5. The post-GFC decline in global interest rates led to a significant decrease in income of all three central banks. A closer examination shows that the decline was entirely driven by the lower post-GFC net interest income (from both domestic and foreign sources). Net interest income even turned negative for all three central banks in 2021.



B. How Did Central Banks Absorb the Shock of Lower Interest Income?

6. A large part of the decline in net interest income was compensated by increases in fees, commissions, and regulatory income. In 2021, the sum of net fees, commissions and other regulatory income represented more than 100 percent of the operating expenses at the CBK and CBCG, and about 60 percent at the CBBH. The increases in fees, commissions and regulatory income reflected both the increases in unit rates and financial deepening in these economies.

7. Negative remuneration on excess reserves also led to additional central bank income. Remuneration rates were set broadly in line with short-term interest rates in the euro area, which were negative between 2014 and mid-2022. From a central bank's perspective, the income from negative remuneration could only offset the negative return on foreign reserves funded by excess reserves, while the negative return on foreign reserves funded by mandatory reserves and government deposits still had to be borne by the central bank.[3]

Central Bank Personnel Costs

	Year	Unit	Bosnia and Herzegovina	Kosovo	Montenegro
Total Personnel Costs	2014	% GDP	0.07	0.07	0.19
	2019	% GDP	0.05	0.07	0.17
Change in Total Personnel Costs	2014-19	%	-2	40	26
Change in the Number of Employee	2014-19	%	4	17	5
Change in Personnel Costs per Employee	2014-19	%	-5	19	20
Change in Nominal GDP per Capita	2014-19	%	30	34	43
Nominal Personnel Costs per Employee	2019	euro	27,166	21,138	22,618
Nominal GDP per Capita	2019	euro	5,136	3,959	7,959

Sources: Central bank financial statements and IMF staff calculations.

8. Both the CBK and CBCG accrued interest income from domestic government securities. Interest spreads of these securities over German government bonds averaged 280 bps (Kosovo) and 420 bps (Montenegro) during 2018–22. The CBK started to hold Kosovo government securities in 2015. As of end-2021, government securities only represented 13 percent of total assets, but generated 2/3 of the CBK's gross interest income.

Central Bank Personnel Costs in 2019

(Percent of GDP)

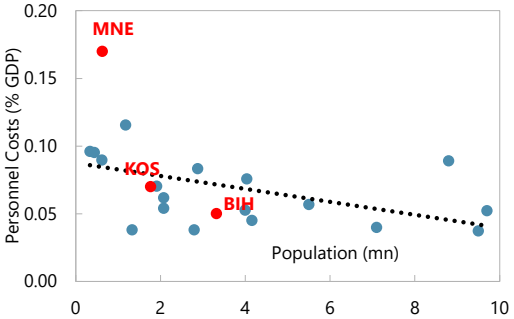
No separate legal tender	
El Salvador	0.07
Kosovo	**0.07**
Montenegro	**0.17**
Ecuador	0.22
San Marino	0.43
Currency board	
Bulgaria	0.04
Bosnia and Herzegovina	**0.05**
Hong Kong SAR	0.07
Brunei	0.09

Sources: Fitch; Haver Analytics and IMF staff calculations.

[3] Although negative renumeration on excess reserves have been implemented by many central banks in Europe, central banks usually pay zero or positive interest rates on mandatory reserves and government deposits.

9. On the expenditure side, personnel cost-to-GDP ratios over 2014–19 were broadly flat at the CBK but declined at the CBBH and CBCG. While the number of employees increased in all three central banks, compensation per employee grew slower than GDP per capita. Assessing the appropriateness of personnel costs is not straightforward. Different central banks have different mandates, which can affect their costs. For example, neither the CBK nor the CBCG has to print banknotes, which lead to costs in other central banks.[4] Studies also document a negative correlation between the population size of a country and the scale of its public sector (normalized by population) due to the economies of scale (Alesina and Wacziarg, 1998). This correlation suggests that central bank personnel cost-to-GDP ratios in smaller countries may be higher than in larger economies. Comparing personnel costs of these three central banks with central banks in economies with similar exchange rate regimes or comparable population sizes suggest that personnel costs of the CBK and CBBH are similar to those of peers, while personnel costs of the CBCG are higher.[5]

Central Bank Personnel Costs and Population Size (2019)



Sources: Central Bank of Kosovo and IMF staff

10. In other western Balkan economies (Albania, North Macedonia, and Serbia), all of which have less constraining exchange rate regimes, the declines in interest income from foreign reserves were not compensated by any substantial increases in fees, commissions, and other regulatory income. This is the case as banknotes in circulation can be treated as a special type of "equity" buffer, reducing the pressure for raising other revenues to finance operational expenses (Pajdo, 2017). In addition, in Albania, interest income from domestic assets mitigated the decline in equity. In North Macedonia, lower interest income was cushioned by valuation gains from the central bank's gold reserves. In Serbia, currency depreciation during 2008–16 led to valuation gains on international reserves.

C. Rising Interest Rates in 2022

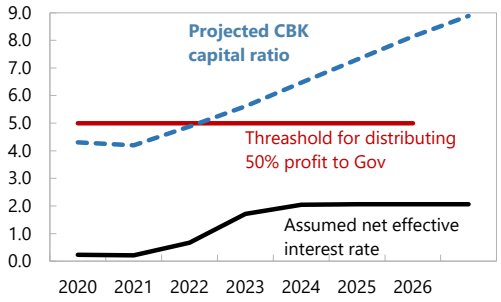
11. Rising global interest rates in 2022 will help ease central bank financial pressures. Central bank interest income from foreign reserve assets will rise with increases in euro area interest rates. In the case of the CBK, its charter requires transfer of 50 percent of its distributable earnings to the Ministry of Finance when its equity exceeds 5 percent of its monetary liabilities. Under the baseline assumption that the net effective return on the CBK's assets will be 150–200 bps higher by 2024 relative to that observed in 2021, staff projects that the rise in net income earnings will bring

[4] Galan and Sarmiento (2005) document four key responsibilities affecting central banks' costs: financial supervision, currency operation, banknotes printing and coin minting, and payment system operation.

[5] Only 6 economies (El Salvador, Ecuador, San Marino, Bulgaria, Hong Kong SAR and Brunei) meet the selection standard of having an exchange rate arrangement of "no separate legal tender" or "currency board" and having published financial statements. For the comparison of personnel costs conditional on population sizes, the sample includes 21 European countries with population from 0.3 to 10 million.

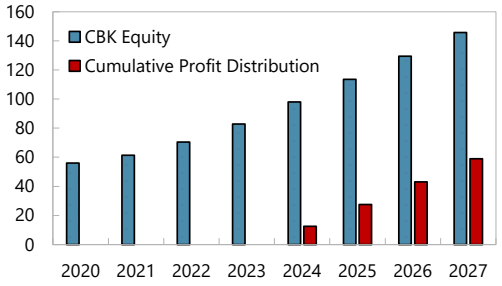
equity to above the 5 percent threshold in late 2023 or early 2024, up from 4.2 percent in 2021.[6] The assessed profits are projected at around €15 million per year (0.2 percent of GDP of 2022).

Projected CBK Capital-to-Monetary Liability Ratio
(Percent)



Sources: Central Bank of Kosovo and IMF staff calculations.

Projected CBK Capital and Cumulative Profit Distribution
(Million Euro)



Sources: Central Bank of Kosovo and IMF staff calculations.

D. Policy Implications

12. While central banks should not set positive profits as a policy target, the practical implementation of this principle can lead to challenges.[7] In all three central banks (CBK, CBBH and CBCG) analyzed in this note, post-GFC declines in net interest income from foreign reserves were substantial and prolonged. Financing their operations required raising income from other sources.

13. Alternatively, central bank reliance on budgetary support to finance their operations can create additional challenges. Most central banks in the region have legislation allowing or requiring the recapitalization of central banks by the budget when equity buffers fall below certain thresholds; this is a positive element. However, central banks facing constrained income streams should avoid becoming dependent on budgetary support to finance their operations, as this may lead to political constraints and even policy expectations that are against central bank policy goals (Archer and Boehm, 2013). Moreover, a few central banks are required to make transfers to the budget, even when they have losses.

14. Investing in domestic government securities should only occur in the context of an overall prudent fiscal policy. In both Kosovo and Montenegro, the interest rate spreads of domestic government securities over those of the euro area helped mitigate the decline in central banks' interest income from foreign reserves. However, domestic government securities in these two countries do not have the same liquidity profile as those from the euro area. Therefore, from the central bank's perspective, the tradeoff of holding domestic government securities is the higher interest income versus the liquidity risk. This liquidity risk can be minimized, however, if domestic

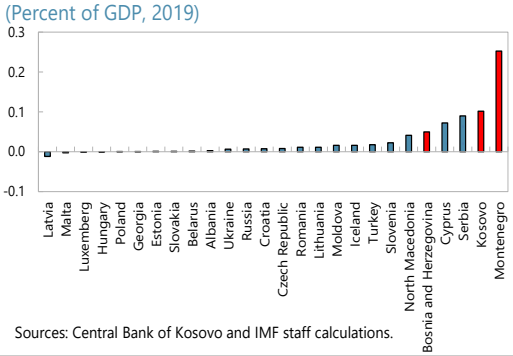
[6] This follows the projected short-term interest rate path in the euro area in the IMF's World Economic Outlook published in October 2022.

[7] Goncharov, Ioannidou and Schmalz (2021) document that statistically central banks prefer reporting slightly positive profits to slightly negative profits.

governments maintain a prudent fiscal policy and central bank holdings are kept as a relatively low share of total assets.[8]

15. The appropriate level of fees, commissions and other regulatory income is difficult to establish. Among emerging economies in Europe, Montenegro and Kosovo have the highest fees, commissions, and other regulatory income as share of GDP. Charges on financial intermediation can eventually be interpreted as taxes on capital income. On one hand, taxing capital income would distort saving and investment, which goes against the classical view on the need for low optimal capital income taxes. On the other hand, lower charges on financial intermediation can raise concerns on inequality (because capital income is mostly earned by the better off) and financial sector externality (Claessens et al. 2010).[9] Therefore, whether it is desirable for central banks to rely on fees, commissions, and regulatory income to finance their operation remains an open question.

Central Bank Fee, Commission and Other Regulatory Income
(Percent of GDP, 2019)



Sources: Central Bank of Kosovo and IMF staff calculations.

16. As interest rates started to rise in 2022, the windfall profits from higher interest income should be preserved. In the case of Kosovo, saving the windfall profits now will reduce financial pressures in the next low interest rate cycle. In addition, because Kosovo is unilaterally euroized, a strong equity position is important as a buffer for policy interventions (e.g., lending through the emergency liquidity assistance window, ELA). Ideally, profits can be saved into a designated account managed by the CBK on behalf of the Minister of Finance (including the ELA window), to be used to cover possible fiscal and quasi-fiscal costs arising from interventions to assist banks in times of crisis.

[8] In the case of Kosovo, the CBK is prohibited from lending to the government directly. However, the CBK is allowed to purchase Kosovo government securities in the secondary market.

[9] See also a summary on optimal capital income tax in Boadway and Keen (2003).

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