

Impact of affordability on cigarettes consumption in Kosovo

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Introduction and background

- Kosovo is an upper-middle-income country, with a GDP per capita \$4,986
- High prevalence and very low tobacco prices
- As of 2019

TOBACCO USE

	Overall (%)	Male (%)	Female (%)
Current tobacco smokers	36.4	48.9	23.8
Daily tobacco smokers	34.4	47.0	21.7
Average number of cigarettes smoked per day	20.7	23.6	14.7

Average net salary level (in Euro), 2012 - 2021

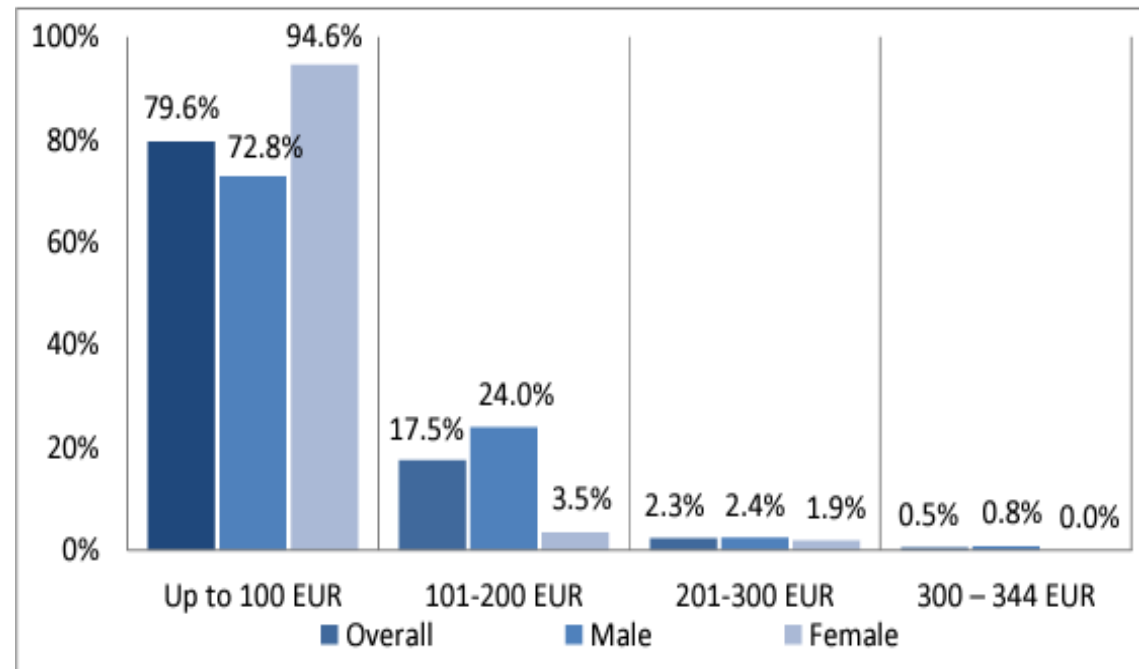
	Kosovo	Public sector	Publicly Owned Enterprises	Private Sector
	Net	Net	Net	Net
2012	348	366	502	308
2013	351	370	512	310
2014	365	423	583	301
2015	376	454	598	300
2016	382	467	609	310
2017	390	474	620	324
2018	409	509	639	342
2019	430	519	677	372
2020	416	552	680	342
2021	432	542	680	376

Background

As of 2019

ECONOMICS	
	Overall (EUR)
Average price per pack of 20 manufactured cigarettes	1.98
Average price per 20 hand-rolled cigarettes	1.49
The average monthly expenditure for manufactured cigarettes	69.0
The average monthly expenditure for hand-rolled cigarettes	28.5

Monthly expenditure on cigarettes



Relevance

- Besides its **negative effect on health**, tobacco consumption also **negatively affects the economic development** of a country given its imposed **financial and health-related costs**.
- **Tobacco price increase** is recognized as the **most effective tobacco control measure**, but for it to be successful its effect should not be offset by the effect of the income growth, i.e. the tobacco prices need to grow at a faster rate than real income. Thus, **affordability, or the price of tobacco products relative to the income**, is considered one of **the main determinants of tobacco consumption**.
- The evidence indicates that if not followed by a price increase both in developed and developing countries **demand for cigarettes increases with the increase of the level of income**.
- Income growth can **offset the effect of tax and price increases** in reducing consumption by making tobacco products more affordable.
- As the income in Kosovo is rapidly increasing it is important to assess its impact affordability has in the demand for cigarettes

Methodology

- In this study we use data from the STC-SEE survey and HBS. We use both sets of data for robustness check.
 - The STC-SEE survey in Kosovo has been conducted in 2019 and uses a sample of 1,000 adults from 18 to 85 years of age. It is designed to be nationally representative based on the latest census conducted in Kosovo, in 2011.
 - We use yearly data from the Household Budget Survey (HBS) going back to 2007. HBS provides detailed information on household consumption as well as the information on set of individual characteristics of the household members.

$$\ln CigC_i = y_0 + y_1 \ln CigA_i + y_2 x_i + v_i$$

The main variables for this study are **affordability** and **consumption**, with x-control variables

- Affordability variable has been constructed as the percentage of per capita household income required to purchase 100 packs of 20-stick cigarettes.
 - For robustness check we have 4 alternative affordability measures depending on the price used (unit value or price) and the source used (STC-SEE or HBS) for the construction of the variable
- Consumption intensity is measured as number of cigarettes smoked per week.
 - For robustness we have 2 alternative consumption variables depending on the source used (STC SEE or HBS)

Results

InCigC	STC-SEE	STC-SEE	HBS	HBS
	unit value	price	unit value	price
InAffordability	-0.131***	-0.054***	-0.149***	-0.028***
Age	0.00207***	0.00194***	0.000647*	0.00171***
Male	0.376***	0.368***	0.449***	0.383***
Employed	0.0238***	0.0704***	0.0165*	0.0424***
Married	0.0452***	0.0596***	0.01	0.0578***
Educ	0.0607***	0.0314***	-0.0643***	0.0581***
Educ	-0.0960***	-0.0871***	-0.359***	-0.0650***
Urban	0.00526	0.00860*	0.173***	-0.00706
Gjakova	-0.0357***	0.00165	-0.107***	0.00507
Gjilan	0.0190*	0.0876***	-0.0929***	0.0948***
Mitrovica	-0.0480***	0.00655	-0.256***	0.0217**
Peja	-0.357***	-0.439***	-0.508***	-0.406***
Prishtina	-0.310***	-0.340***	-0.564***	-0.329***
Prizren	-0.118***	-0.0817***	-0.342***	-0.0720***
N	109309	109304	43486	109313

Concluding results

- The estimate for the coefficient associated with affordability is highly significant with a negative sign across different specification whether we use price or unit value and STC-SEE data or HBS data.
- Affordability is expected to affect tobacco consumption and the negative sign of the estimate indicates that lower affordability is related to lower tobacco consumption in Kosovo. The size of the effect though changes whether we are using affordability measure based on price or based on unit value, the earlier one presenting a smaller effect and the latter one a larger one.
- On average the results suggest that a 1% reduction of cigarette affordability is followed by a 0.13%-0.15% reduction on cigarette consumption in Kosovo if we are using unit values or 0.03%-0.05% reduction if we are using prices.
- From the control variables, the estimate for the coefficient associated with gender is highly significant with a positive sign suggesting that males consume around 0.4% more cigarettes in Kosovo.

- The coefficient related to the variable controlling for employment, is significant across three specifications with varying size, suggesting that employed people consume around 0.2%-0.7% more than unemployed ones in Kosovo.
- The estimates associated to the level of education are also statistically significant although with varying sign across specifications. The results suggest that those with secondary education consume more than those with primary for around 0.3%-0.6% (with the exception of affordability based on unit values using HBS data which suggest they actually consume less for about 0.6%). And across all specifications results suggest that people with tertiary education consume less for about 0.3%-0.9%.
- The estimates associated to control variable for urban area is statistically significant only when using unit values and suggest that those residing in urban areas smoke more.
- The increase in tobacco taxes must discourage the increase in demand for cigarettes as a response to increase in income, and therefore make them less affordable.