



Affordability of Cigarettes among Adult Smokers in Kosovo

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Keywords:

Affordability, cigarette prices, disposable income, excise tax, adult tobacco consumption

JEL Codes: H2, H3, I10, I18

Abstract

Background

This study investigates the role of cigarette affordability on smoking behavior among adult smokers in Kosovo.

Methodology

Different measures of affordability are constructed using the Survey on Tobacco Consumption in Southeastern Europe (STC-SEE) and the Household Budget Survey (HBS) data on unit values and disposable household income as well as prices. Cigarette consumption variables are created using the number of cigarettes smoked per day reported by survey respondents and HBS data. We also impute the household income variable to increase the sample size and explanatory power. After running diagnostic checks and confirming that the presence of heteroscedasticity is not an issue, an ordinary least squares (OLS) methodology is employed to empirically estimate the relationship. OLS estimates are considered optimal estimates, particularly in relatively small samples, since they possess optimum properties and have minimum variance in the class of unbiased linear estimators. Additional relevant measures enable different specifications to be estimated as a robustness check.

Results

The study suggests that lower affordability is related to lower tobacco consumption in Kosovo, and the results are consistent in terms of the sign and size of coefficients

with different measures of affordability. Our key variable of affordability is highly statistically significant, and the results suggest that a one-percent reduction in cigarette affordability would be followed by a three-percent reduction in cigarette consumption in Kosovo.

The results suggest that males in Kosovo consume cigarettes around 38 percent more than females. Additionally, employment and civil status also appear to explain the variation of cigarette consumption in Kosovo, as employed adults consume four percent more than unemployed adults and married adults consume around 0.5 percent more than unmarried ones.

In terms of education, the results suggest that, on average, adults with a secondary education consume six percent more cigarettes than those with only a primary or lower level of education. Adults with a tertiary level education consume around six percent less than those with a primary level of education. Finally, consumption intensity seems to differ across regions. On average, in urban areas people consume less than in non-urban areas. Compared to the municipality of Ferizaj as the base category, the residents of the three largest municipalities—Prishtina, Peja, and Prizren—smoke less, whereas residents of Gjilan and Mitrovica smoke more.

Conclusions

This study fills a gap in the literature by exploring the issue of cigarette affordability in Kosovo and provides evidence that tax and price policies that reduce cigarette affordability can help curb cigarette consumption among adults in Kosovo. It provides evidence that age, gender, civil status, level of education, and geographic location are important determinants of cigarette consumption intensity among adult smokers in Kosovo. Thus, policy makers in Kosovo should design their tobacco tax policies considering these determinants of smoking intensity.

Keywords: Affordability, cigarette prices, disposable income, excise tax, adult tobacco consumption

Introduction

According to the World Health Organization, more than 80 percent of all smokers live in low- and middle-income countries such as Kosovo. Tobacco consumption in Kosovo is high. As of 2019, the prevalence was 36.4 percent among adults from 18 to 85 years of age, and an overwhelming majority of the population is exposed to tobacco smoke at home and in bars and restaurants (Prekazi & Pula, 2020). Besides its negative effect on health, tobacco consumption also negatively affects the economic development of a country, given the financial and health-related costs it imposes. Thus, the high prevalence of smoking in Kosovo is even more concerning, since Kosovo remains one of the poorest countries in Europe. Despite recent economic growth-in the past decade, Kosovo has outperformed its neighbors and has largely been inclusive (World Bank, 2021)—these improvements still have been insufficient to catch up with the region or the rest of Europe.

Tobacco excise tax increases are recognized as the most effective tobacco control measure (Blecher & van Walbeek, 2004). But for tax increases to act as a deterrent to tobacco consumption, their effects should not be offset by the effect of income growth—that is, the tobacco prices resulting from the increase in taxes need to grow at a faster rate

than real income. Thus, affordability, or the price of tobacco products relative to income, is considered one of the main determinants of tobacco consumption. It is also broadly used as an index for estimating progress in tobacco taxation in low-income countries—where tobacco consumption is high, tobacco taxes tend to be lower—in comparison to high-income countries (Blecher, 2010).

In lower-income countries cigarettes are usually less affordable, despite prices generally being lower in absolute terms than in higher-income countries (Blecher, 2010). The evidence indicates that, in all countries, demand for cigarettes increases as income levels increase, though perhaps this effect is more pronounced in lower-income countries (Blecher & van Walbeek, 2008). In turn, rising incomes may undermine preexisting taxation levels unless tobacco taxes are raised in response to changes in income. This argument is particularly pertinent in the case of lower-income countries experiencing rapid economic growth (Gordon et al., 2020). Income growth in these countries can offset the consumption-reducing effects of tax and price increases by making tobacco products more affordable (Nargis et al., 2021). Therefore, an increase in tobacco taxes must also discourage any increase in demand for cigarettes if incomes rise, effectively ensuring cigarettes remain less affordable.

The aim of this study is to examine the association between the affordability of cigarettes and consumption in Kosovo by adult smokers from different demographic and socioeconomic groups. To the best of our knowledge, there is only one other study that tackles the issue of cigarette affordability in Kosovo, but it does not focus on discrete groups (Hayrumayan, 2018).

The rest of this paper is structured as follows. Section 2 discusses the data used, the sources and the descriptive statistics. The model specification is described in Section 3. The empirical results of the estimation and their implications are discussed in Section 4. Section 5 concludes the paper.

Methodology

Data

This study uses data from the Survey on Tobacco Consumption in Southeastern Europe (STC-SEE) and the Household Budget Survey (HBS). The STC-SEE survey in Kosovo was conducted in 2019 and uses a sample of 1,000 adults from 18 to 85 years of age. It is a nationally representative sample based on the latest census conducted in Kosovo in 2011. The survey collects information from respondents on their background characteristics, tobacco use (all types), smoking cessation, exposure to secondhand smoke (SHS), the economics of tobacco, media, and attitudes and perceptions. In the STC-SEE survey, individuals report separately the number of manufactured and hand-rolled cigarettes consumed, and the results suggest that the overwhelming majority (97 percent) of smokers in Kosovo consume manufactured cigarettes (Prekazi & Pula, 2020).

Although the survey differentiates between never, current, and former smokers, it does not provide enough detailed information on former smokers for their inclusion in this study. In particular, without data on the date of cessation nor their income or expenditure on smoking at the time of cessation, it is necessary to remove former smokers from the sample and focus only on current smokers. Never smokers are also removed since the study focuses on smokers' behavior. This reduces our sample size from 1,000 observations to 339. The data set is then expanded using HBS data from 2007 to 2017. HBS is a nationally representative survey that provides detailed information on household consumption and information on a set of individual characteristics of the household members. The sample size of the HBS data is 109,313 observations.

To estimate the impact of cigarette affordability on cigarette consumption while controlling for different demographic and socioeconomic characteristics of adult smokers in Kosovo, this study uses the fol-

lowing main variables: self-reported prices and individual disposable income (Table A1 in Appendix).

Cigarette consumption

The number of cigarettes consumed per week reported by current smokers is used to measure weekly cigarette consumption or smoking intensity. Smokers' responses are coded as a continuous variable to measure cigarette consumption. As reported, the average smoker consumes approximately 140 cigarettes per week, corresponding to a pack of 20 cigarettes daily. Nevertheless, given the extreme values, we also estimate the natural logarithm of the variable to reduce variation and normalize its distribution.

Cigarette price

In the STC-SEE survey, smokers report separately on a) how much they spend on cigarettes on a weekly basis for their personal use and b) how much they paid for the last pack of cigarettes (20 sticks) they purchased. Next, we construct a variable of unit value per 100 cigarettes by dividing smokers' weekly expenditure on cigarettes by their weekly consumption of cigarettes and multiplying the result by 100.

While the self-reported price measure from the survey can provide a good comparison scale to the official data reported by customs, each has important potential biases. Self-reported price data could be endogenous because price information is not entirely independent of respondents' decisions about smoking and how much to smoke. At the same time, official data could fail to capture the complete national picture by not showing enough variation. The latter is especially problematic in Kosovo, where limited data is reported.

To diminish any potential bias from the endogeneity of using self-reported prices, we

cluster the unit values at the municipality level. We also construct a second measure of price based on the self-reported price of the last pack of cigarettes purchased, which is coded as a continuous variable. The measures of unit value are comparable to those of price in the range of 10 to 14 euros per 100 cigarettes.

Disposable income

In terms of income, the respondents choose from a presented scale ranging from less than 200 to more than 1800 euros per month. They report their net earnings during the previous month as well as the total net household income earned or received by the members of the household during the previous month, including all income from work, pensions, social assistance, remittances, and other sources. The original survey uses 14 categories of disposable income for net personal income and 16 categories for household net income. Table A2 in the Appendix shows that most respondents reported around 100 euros in net personal monthly income. For monthly household income, about half of respondents chose one of three main categories: 350, 450, and 550 euros.

Both these variables are recoded into continuous variables using class marks for each individual to increase variation and thus better capture the impact of income. The household variable is then divided by the number of household members, and its natural logarithm is estimated to reduce the variation and improve the distribution. Furthermore, to increase the model's explanatory power by increasing data usage, we impute the data on household net income using stochastic regression imputation, which tries to predict the missing values by regressing it from other related variables in the same data set plus some random residual value. The table below shows that the sample's average net monthly household income per capita is 140 euros, with a standard deviation of 120 euros.

Cigarette affordability

The key measure in this study is affordability, defined as the amount of money necessary to purchase a certain quantity of cigarettes relative to income, which is considered one of the main determinants of tobacco consumption. Following Hu et al. (2019), the variable is constructed as the percentage of self-reported household income per capita required to purchase 100 packs of manufactured cigarettes of 20 sticks using the constructed unit value variable. Using the HBS data on tobacco expenditure and the number of cigarettes consumed, we construct a unit value measure which we then use as an input in constructing the affordability measures. The affordability variable is averaged at the municipality level. Higher values of this indicator suggest lower cigarette affordability and vice versa.

Controls

Other characteristics that we include in the estimation and thus control for are demographic characteristics such as gender (male or female); socioeconomic characteristics, which include education level (primary or less, secondary, or higher); and geographical residence (urban or rural as well as municipality). The variables used to control for education and the municipalities where respondents live are categorical variables with more than two choices. Initial responses on the education level are in 10 categories, but for practical reasons the variables are recoded into three main categories.

The average age of respondents is 40, with a standard deviation of 17 years. 45 percent of the sample of smokers are male. 45 percent of smokers report having secondary education, 30 percent report completing primary school education or less, and around 24 percent report having a college degree or other professional degrees. 62 percent of smokers were married at the time of the survey. 21 percent of the smokers in the sample reside in the Prishtina region, 21

percent in the Prizren region, 15 percent in the Mitrovica region, and 13 percent in the Peja region. In addition, about 39 percent of smokers surveyed live in urban areas, while 61 percent live in rural areas. 40 percent were employed at the time of the survey (Table A2 in the Appendix).

Methods

With some adjustments due to the data available in Kosovo, the study follows the methodology developed by Hu et al. (2019). To estimate the elasticity of cigarette affordability and daily cigarette consumption, the authors rely on a Generalized Estimating Equation coupled with the Independence Model Criterion method to select the best working correlations. This study is constrained in terms of methodology due to the lack of a time span dimension in the data, therefore it relies on the Ordinary Least Squares or Generalized Least Squares estimation technique in the presence of heteroscedasticity.

Following Hu et al. (2019), the subsequent model specification is used to examine the association between per capita cigarette consumption and cigarette affordability:

$$lnCigC_i = y_0 + y_1 lnCigA_i + y_k X_i + v_i$$

where *i* denotes individual. *CigAi* is the cigarette affordability, as defined above for the *i*th individual in survey. *CigCi* is the average number of cigarettes consumed per week by the *i*th individual in the survey. *Xi* is a vector of individual demographics (age, gender, and marital status), socioeconomic characteristics (education level), and geographic indicators (urban/rural status). We also run the same specification with the affordability variable calculated from the measure of the price of the last pack purchased.

In case the above-specified models satisfy the assumptions of the classical linear regression model, OLS methodology

is employed to estimate them since the least-squares estimates possess optimal properties, particularly for relatively small samples, and have minimum variance in the class of unbiased linear estimators (Gujarati, 2003, p.79). Nevertheless, when income is part of the dependent variable the presence of heteroscedasticity is expected, in the sense that the variance of the unobserved factors affecting tobacco consumption increases with income. In the presence of heteroscedasticity, least-squares estimate are no longer the best linear unbiased estimator (Wooldrige, 2013). In these cases, the Generalized Least Squares (GLS) estimator-which accounts for a known structure of the error variance (heteroscedasticity), serial correlation pattern in the errors, or both— can be used via a transformation of the original model. After running the diagnostic checks and confirming that our results do not suggest the presence of heteroscedasticity, we decide to rely on the OLS estimates as the optimal estimates.

Results

This section presents the empirical results of the main models employed to estimate the relationship between tobacco consumption and affordability in Kosovo, using HBS data as well as KAS prices. The preferred model specification is presented in the first column and measures the impact of affordability constructed using the unit values. The second column presents the results of the model that measures the impact of affordability derived from (KAS) prices. The extended version of these results is presented in Tables A3a and A3b in the Appendix.

Table 3a.

Determinants of tobacco consumption – robustness results, short version

InCigC	Using affordability HBS data	Using affordability KAS price
Affordability	-0.025***	-0.028***
	(-5.77)	(-6.39)
Age	0.002**	0.002***
	(10.20)	(10.21)
Male	0.384***	0.383***
	(81.22)	(80.73)
Employed	0.043***	0.042***
	(8.07)	(8.05)
Married	0.057***	0.058***
	(12.54)	(12.69)
Educ_Secondary level	0.059***	0.058***
	(10.26)	(-10.19)
Educ_Tertiary level	-0.064***	-0.065***
	(-9.05)	(-9.21)
Urban	-0.007*	-0.007*
	(-1.82)	(-1.72)
Gjakova	0.006	0.005
	(0.054)	(-0.48)
Gjilan	0.097***	0.095***
	(11.13)	(10.81)
Mitrovica	0.022***	0.022**
	(2.67)	(-2.62)
Peja	-0.406***	-0.406***
	(-48.90)	(-48.81)
Prishtina	-0.327***	-0.329***
	(-43.38)	(-43.49)
Prizren	-0.071***	-0.072***
	(-9.43)	(-9.57)
N	109,313	109,313
R-squared	0.24	0.24

t statistics in () ***p<.01, **<.05, *p<.01

The results are relatively consistent in terms of sign and size of coefficients with both measures of affordability. Furthermore, the estimate of both affordability variables is highly significant in each specification. We also impute the household income variable to increase the sample size and explanatory power.

Our key variable of affordability is highly statistically significant, together with most of the control variables. The estimate for the coefficient associated with the variables of affordability (lnCigAff) is significant at a one-percent level with a negative sign. 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. On average, the results suggest that a one-percent reduction in cigarette affordability is followed by a three-percent reduction in cigarette consumption in Kosovo. Our results are in line with theoretical and practical expectations.

Besides affordability, age seems to be an important factor in cigarette consumption in Kosovo. The results suggest that the estimate associated with the age variable is highly significant at one percent with a positive sign; however, the size of the effect is very small. On average, the results suggest that a one-year increase in age is followed by a 0.02 percent increase in consumption.

Gender is also an important predictor of cigarette consumption in Kosovo. The estimate for the coefficient of the male variable is highly significant at one-percent significance level with a positive sign and a relatively sizeable effect. On average, the results suggest that males in Kosovo consume around 38 percent more cigarettes than females.

Employment and civil status also seem to explain the variation in cigarette consumption in Kosovo. The results suggest that employed people, on average, consume around four percent more cigarettes than the unemployed. Additionally, the results suggest that married people, on average, consume about 0.5 percent more than unmarried people.

We also investigate whether the level of education has any explanatory power in cigarette consumption in Kosovo. The results are statistically significant at a one-percent significance level with different signs for different levels of education. The results suggest that adults with secondary education consume six percent more cigarettes on average than those with only primary or less education. In contrast, adults with a tertiary education consume around six percent less than those with a primary level of education.

Finally, the consumption intensity differs across regions in Kosovo. The estimate for the coefficient of the urban variable is significant at a 10-percent significance level with a negative sign. On average the results suggest that residents of urban areas in Kosovo consume around 0.7 percent less than those in rural areas. From the control variables for municipalities, the estimates for the coefficient associated with all municipalities are highly significant at a 10-percent significance level, with the exception of Gjakova. The estimates of the municipalities of Gjilan and Mitrovica have positive signs, suggesting that residents of Gjilan consume about nine percent more than those of Ferizaj, and residents of Mitrovica consume two percent more than those of Ferizaj. The estimates of the larger municipalities-such as Prishtina, Peja, and Prizren-are negative, suggesting that their residents consume less cigarettes than those of Ferizaj.

¹ The statistical significance of individual variables does change when applying survey weights. Given that the use of weighted data remains debatable whether it is necessary for analytic purpose in the literature (Pfeffermann, 1993; Gelman, 2007; Lohr, 2007; Faiella, 2010), in spite of the wide consensus in using survey weights when estimating population parameters, we should consider only the estimates obtained without sample weights.

The main limitation of this study is the potential endogeneity bias from the self-reported data, given that price information is not entirely independent of respondents' decisions about whether to smoke and how much to smoke. To diminish any potential bias, we cluster the unit values at the municipal level. The other limitation is the relatively small sample size, which we try to increase by imputing the data for the income variable.

In conclusion, this study fills a gap in the literature by exploring the issue of cigarette affordability in Kosovo. It provides evidence that tax and price policies that reduce cigarette affordability can help curb cigarette consumption among adults in Kosovo. Importantly, raising cigarette taxes and, through them, prices—thus making cigarettes less affordable—would likely benefit many smokers by prompting them to cut down or stop smoking, reducing their health burden and economic costs attributed to smoking.

Conclusions

This paper aims to investigate the relationship between affordability and cigarette consumption in Kosovo and thus enrich the existing literature on identifying the determinants of tobacco consumption. This dynamic has yet to be explored in Kosovo despite the high prevalence of smoking in the country and the region.

The investigation is conducted by estimating the relationship between cigarette consumption and affordability through OLS techniques while controlling for the effect of different characteristics such as demographics (gender), socioeconomic factors (education level), and geographical residence (urban/rural and municipalities).

The investigation is carried out using the OLS technique. We consider this an advantage, since OLS estimates possess optimal properties, particularly for relatively small samples, and have minimum variance in the class of unbiased linear estimators. Furthermore, for robustness checks, we construct four different measures of affordability and two measures of consumption intensity using data from the STC-SEE survey and HBS.

The results consistently show that lower affordability is associated with lower cigarette consumption. Furthermore, the results show that age, gender, level of education, employment, and civil status affect cigarette consumption among adults, and that consumption intensity varies across regions.

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Appendix

Table A1. List of variables

,	Variable	Description	Туре
Smoking status	CurrentSmokers	Dichotomous variable for smoking status	Dichotomous
Consumption	InCigC	The natural logarithm of number of cigarettes consumed per week	Continuous
Affordability	InAffordabilityHBS	Affordability variables with imputed income using HBS unit values data averaged at municipality	Continuous
	InAffordabilityKAS	Affordability variables with imputed income using ASK price averaged at municipality	Continuous
Controls	Age	The age of the individuals in years	Continuous
	Male	Dichotomous variable for males	Dichotomous
	Educ	Categorical variable for education level; base category = respondents that have finished primary level of education or less; Educ_Secondary level= respondents that have finished secondary level of education; Educ_Tertiary = respondents that have finished tertiary level of education	Categorical
	Region	Categorical variable for the different regions or municipalities	Categorical
	Urban	Dichotomous variable for urban and rural region	Dichotomous
	Married	Dichotomous variable for single and married	Dichotomous
	Employed	Dichotomous variable for employment status	Dichotomous

Table A2.

Descriptive statistics of the STC-SEE merged with the HBS data set

Descriptive statistics

Variable Variable	Obs.	Mean	S	td. dev.		Min.	Max.			
InCigC	109321	4.941		0.043		2.303	6.328			
InAffordabilityHBS	109313	-0.053		0.095		-1.833	2.105			
InAffordabilityKAS	109316	1.269		0.051		0.205	3.678			
Age	109324	31.031		1.023		18	83			
Male										
Female	109324	0.001		0.035		0	1			
Male	109324	0.999		0.035		0	1			
Employed										
No	109318	0.001		0.037		0	1			
Yes	109318	0.999		0.037		0	1			
Married										
No	109323	0.998		0.045		0	1			
Yes	109323	0.002		0.045		0	1			
Educ										
Primary or less	109321	0.001		0.031		0	1			
Secondary	109321	0.998		0.041		0	1			
Higher	109321	0.001		0.026		0	1			
Urban										
No	109324	0.999		0.037		0	1			
Yes	109324	0.001		0.037		0	1			
RegionKOS										
Urosevac	109324	0		0.018		0	1			
Djakovica	109324	0		0.014		0	1			
Gnjilane	109324	0		0.019		0	1			
Mitrovica	109324	0		0.021		0	1			
Pec	109324	0		0.021		0	1			
Pristina	109324	0.001		0.027		0	1			
Prizren	109324	0.998		0.05		0	1			
Correlation matrix										
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10
(1) InCigC	1.000									
(2) InAffordabilityHBS	-0.323	1.000								
(3) InAffordabilityKAS	-0.326	0.995	1.000							
(4) Age	-0.100	0.483	0.478	1.000						
(5) Male	0.399	-0.611	-0.613	-0.316	1.000					
(6) Employed	0.255	-0.735	-0.732	-0.601	0.594	1.000				
(7) Married	-0.179	0.680	0.671	0.680	-0.477	-0.563	1.000			
(8) Educ	-0.066	-0.351	-0.345	-0.466	0.140	0.389	-0.305	1.000		
(9) Urban	-0.142	0.518	0.509	0.320	-0.506	-0.449	0.445	-0.049	1.000	
(10) RegionKOS	0.106	-0.681	-0.672	-0.452	0.537	0.543	-0.687	0.201	-0.528	1.00
,	500	0.001	0.5, =	0.102	0.501	0.0 10	0.001	0.201	0.020	

Table A3a.

Extended version of model specification using HBS data and unit values

Coef.	St. err.	t-value	p-value	[95% conf.	interval]	Sig.	
-0.025	0.004	-5.77	0	-0.034	-0.017	***	
0.002	0	10.20	0	0.001	0.002	***	
0.384	0.005	81.22	0	0.375	0.394	***	
0.043	0.005	8.07	0	0.033	0.053	***	
0.057	0.005	12.54	0	0.048	0.066	***	
0.059	0.006	10.26	0	0.047	0.07	***	
-0.064	0.007	-9.05	0	-0.078	-0.05	***	
-0.007	0.004	-1.82	.069	-0.015	0.001	*	
0.006	0.01	0.54	.589	-0.015	0.026		
0.097	0.009	11.13	0	0.08	0.114	***	
0.022	0.008	2.67	.008	0.006	0.038	***	
-0.406	0.008	-48.90	0	-0.423	-0.39	***	
-0.327	0.008	-43.38	0	-0.342	-0.313	***	
-0.071	0.008	-9.43	0	-0.086	-0.056	***	
4.46	0.012	385.08	0	4.438	4.483	***	
	4.941	SD depend	lent var		0.042		
	0.241	Number of	obs		109313		
	2477.301	Prob > F			0.000		
-410	0626.472	Bayesian c	rit. (BIC)	-	-410482.443		
	0.002 0.384 0.043 0.057 0.059 -0.064 -0.007 0.006 0.097 0.022 -0.406 -0.327 -0.071 4.46	0.002 0 0.384 0.005 0.043 0.005 0.057 0.005 0.059 0.006 -0.064 0.007 -0.007 0.004 0.006 0.01 0.097 0.009 0.022 0.008 -0.406 0.008 -0.327 0.008 -0.071 0.008 4.46 0.012	0.002 0 10.20 0.384 0.005 81.22 0.043 0.005 8.07 0.057 0.005 12.54 0.059 0.006 10.26 -0.064 0.007 -9.05 -0.007 0.004 -1.82 0.006 0.01 0.54 0.097 0.009 11.13 0.022 0.008 2.67 -0.406 0.008 -48.90 -0.327 0.008 -43.38 -0.071 0.008 -9.43 4.46 0.012 385.08 4.941 SD depend 0.241 Number of 2477.301 Prob > F	0.002 0 10.20 0 0.384 0.005 81.22 0 0.043 0.005 8.07 0 0.057 0.005 12.54 0 0.059 0.006 10.26 0 -0.064 0.007 -9.05 0 -0.007 0.004 -1.82 0.69 0.006 0.01 0.54 .589 0.097 0.009 11.13 0 0.022 0.008 2.67 .008 -0.406 0.008 -48.90 0 -0.327 0.008 -43.38 0 -0.071 0.008 -9.43 0 4.46 0.012 385.08 0 4.941 SD dependent var 0.241 Number of obs 2477.301 Prob > F	0.002	0.002 0 10.20 0 0.001 0.002 0.384 0.005 81.22 0 0.375 0.394 0.043 0.005 8.07 0 0.033 0.053 0.057 0.005 12.54 0 0.048 0.066 0.059 0.006 10.26 0 0.047 0.07 -0.064 0.007 -9.05 0 -0.078 -0.05 -0.007 0.004 -1.82 .069 -0.015 0.001 0.006 0.01 0.54 .589 -0.015 0.026 0.097 0.009 11.13 0 0.08 0.114 0.022 0.008 2.67 .008 0.006 0.038 -0.406 0.008 -48.90 0 -0.423 -0.39 -0.327 0.008 -9.43 0 -0.086 -0.056 4.46 0.012 385.08 0 4.438 4.483 4.941 S	

^{***} p<.01, ** p<.05, * p<.1

Table A3b.

Extended version of model specification using KAS price

InCigC	Coef.	St. err.	t-value	p-val- ue	[95% conf.	interval]	Sig.	
InAffordabilityKAS	-0.028	0.004	-6.39	0	-0.036	-0.019	***	
Age	0.002	0	10.21	0	0.001	0.002	***	
Male: base Female	0.383	0.005	80.73	0	0.374	0.393	***	
Employed: base No	0.042	0.005	8.05	0	0.032	0.053	***	
Married: base No	0.058	0.005	12.69	0	0.049	0.067	***	
Educ Second: base prim.	0.058	0.006	10.19	0	0.047	0.069	***	
Educ Tertiary: base prim	-0.065	0.007	-9.21	0	-0.079	-0.051	***	
Urban area: base No	-0.007	0.004	-1.72	.085	-0.015	0.001	*	
Gjakova	0.005	0.01	0.48	.628	-0.015	0.026		
Gjilan	0.095	0.009	10.81	0	0.078	0.112	***	
Mitrovica	0.022	0.008	2.62	0.009	0.005	0.038	***	
Peja	-0.406	0.008	-48.81	0	-0.422	-0.389	***	
Prishtina	-0.329	0.008	-43.49	0	-0.343	-0.314	***	
Prizren	-0.072	0.008	-9.57	0	-0.087	-0.057	***	
Constant	4.512	0.016	282.02	0	4.481	4.543	***	
Mean dependent var	4.941	SD depend	lent var	0.042				
R-squared	0.241s	Number of	obs	109313				
F-test	2478.002	Prob > F		0.000				
Akaike crit. (AIC)	-410633.927	Bayesian c	rit. (BIC)	-410489.898				

^{***} p<.01, ** p<.05, * p<.1

