Cigarette Smoking in Jordan: Prevalence, manufacturing, demand, and taxation

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Executive Summary

Jordan has one of the highest rates of tobacco smoking in the region and globally. The STEPs surveys in Jordan showed that the prevalence of daily tobacco smoking increased from 49.6 percent in 2007 to 58.0 percent in 2019 among males and increased from 5.7 percent in 2007 to 10.8 percent in 2019 among females. Jordan scored low in the implementation of MPOWER measures and ranked 13th in the Eastern Mediterranean Region (EMR). This report aims to summarize available information on tobacco in Jordan in terms of smoking prevalence, household expenditure on tobacco, tobacco manufacturing, cigarette consumption, the demand for tobacco products, and tobacco taxation.

Over a decade (2003–2013), tobacco consumption in Jordan increased by 58 percent, and the average annual household member expenditure on tobacco and cigarettes increased by 172 percent. The increase in expenditure was partly attributed to the increase in the average cigarette price by 115 percent over the same period of 2003-2013. The average annual household member expenditure on tobacco was 558 Jordanian dinars (JOD) in 2017, which forms 4.42 percent of total household expenditures.

The average tobacco and cigarette prices in 2010–2018 increased by 43 percent, while inflation over this period was 25 percent. In 2020, Jordan scored only three out of five possible points in cigarette price effectiveness ratings according to Tobacconomics Cigarette Tax Scorecard. A 20-pack of the most-sold brand is 2.25 Jordanian dinars, significantly less than the World Health Organization's recommended minimum of 3.03 Jordanian dinars ($Intl 10.31). Cigarette prices last rose in January 2018, following an increase in the excise tax, which contributed towards an increase of one-third in the cost of a pack of the most-sold brand. This price increase was associated with a decline in total cigarette consumption by merely 2.3 percent. The 2018 tax increase was implemented as part of a larger package of tax reforms aimed at increasing government revenues. According to a report by the International Tax and Investment Center, tobacco taxes accounted for approximately seven percent of total tax revenues in Jordan in 2018.

Jordan applies a multi-tiered specific excise tax system on cigarettes, which varies according to the retail sale price (RSP). Jordan scored only one point out of five for its tax structure due to the tiered design of its specific excise tax. Jordan has increased cigarette taxes over the years, including early in 2017, but has not substantially raised taxes on other forms of tobacco. Increased cigarette taxes without a corresponding increase in taxes on other tobacco products can encourage substitution with other products, which may result in lost revenue, possibly with no reduction in consumption. Current waterpipe tobacco taxes are 21 percent of the retail price in Jordan. Hence, there needs to be an increase in the specific tax from $0.18 to $7.03 per 20 grams of waterpipe tobacco to meet the 75-percent target.

The elasticity of demand for cigarettes in Jordan is estimated to be -0.6, which comprises the sum of the conditional price elasticity of -0.235 and the smoking participation elasticity of -0.365. The elasticity of demand for cigarettes for females was estimated to be -0.008 and for males -0.81. To reduce demand, cigarettes must become less affordable. Jordan scored well in this component, scoring all 5 points in 2020 in the Tobacconomics Cigarette Tax Scorecard because of the steady drop in affordability over the previous six years. However, the price of most tobacco products in Jordan is still affordable for most people, including smokers.

A high tax share of price is generally a good indicator of cigarette tax effectiveness and is essential to raise government tax revenues from cigarettes. In 2020, Jordan scored 4.50 points out of 5 in this component. The total tax share of price is 78.02 percent, meaning the country has passed the minimum benchmark of 75 percent. However, the excise tax share is 64.22 percent, indicating room for improvement to attain the recommended 70-percent minimum benchmark.

Jordan became a party to the WHO Framework Convention on Tobacco Control on February 27, 2005. Jordan has not yet signed the WHO Protocol to Eliminate Illicit Trade in Tobacco Products. However, internal coordination and anti-smuggling efforts have intensified in Jordan in recent years in recognition of the important contribution that legitimate tobacco taxes make to government revenues.

Based on the findings of this report, the authors recommend ***increasing tobacco excise taxes and optimizing the tax structure.*** Significant increases in excise taxes that lead to price increases have consistently proven to be the most cost-effective mechanism for reducing tobacco consumption. The evidence demonstrates that simpler excise tax structures—utilized in all high-income countries—leave the least room for industry manipulation or tax avoidance and brand/product switching by consumers.

Besides its importance in setting taxes at a higher level to discourage consumption, specific excise tax policies must include regular adjustments to increase the tax rate so that it outpaces inflation and income growth in the country over time. Excise tax increases should aim to reduce the affordability of tobacco products. The base on which the tax is applied is also important. For specific taxation, the tax base should be the quantity in clearly defined units (usually sticks for cigarettes and grams for waterpipe tobacco). For ad valorem (or mixed) taxation, the best practice is to use the retail price as the tax base and introduce a minimum excise tax.

With regard to non-tax regulations that affect the price of tobacco products, pricing regulation may be considered to prevent the tobacco industry from exercising differential tax shifting, which it uses to ensure that large price gaps exist between premium and cheap cigarettes. However, pricing policies cannot be used alone. To make excise tax on tobacco products more effective in reducing overall tobacco use, all tobacco products must be taxed comparably. Regular assessment, evaluation, and monitoring of the impact of tobacco tax policies over time are essential components of effective tax policy development and analysis.

Moreover, the authors recommend that Jordan ***implement smoking cessation interventions*** to support smokers in sustaining smoking cessation after the tax increase. To start, health care providers need to ask people about their smoking status and offer help to quit if they are smokers. The best practice for this cessation help is a combination of counseling and medication (for example, nicotine-replacement therapy), and medical insurance agencies should collaborate with these initiatives to ensure that these services are accessible and preferably free to would-be quitters.

Introduction

Smoking is the leading cause of preventable death and a main risk factor for cancer and cardiovascular and pulmonary diseases. Tobacco prevalence rates are expected to decrease across all the World Health Organization (WHO) regions by 2025 as a result of tobacco control efforts. However, the smallest decline is projected in the Eastern Mediterranean region (EMR)—from 33.3 percent in 2020 to 31.0 percent in 2025—making it almost certain that the region will not achieve the WHO's 30-percent relative reduction target by 2025.(1) The EMR has the lowest average prices of tobacco products among all WHO regions. (2) However, there is little research on the economics of tobacco, and the majority of demand elasticity estimates for tobacco products are for cigarettes. (3) In a recent report on the performance of cigarette tax policies, the EMR as a whole had the second-lowest score. (4)

Article 6 of the WHO Framework Convention on Tobacco Control (FCTC) supports taxation, and where appropriate, pricing policies, to curb the use of tobacco products. (5) Additionally, the MPOWER policy package of effective tobacco control policies stresses that raising the price of tobacco products through taxation is the most effective way to reduce smoking. (6) However, evidence to date has been largely limited to cigarettes, and, thus, evidence to support fiscal measures to curb waterpipe tobacco smoking (WTS) is scarce. This evidence gap was acknowledged in a 2015 WHO advisory note and more recently in a National Cancer Institute monograph on the economics of tobacco control. (7) In addition to the importance of raising taxes on tobacco products, MPOWER emphasizes monitoring of tobacco use, as it is a cross-cutting activity that involves periodically collecting nationally representative population-based youth and adult data on key indicators of tobacco use.

Jordan has one of the highest rates of tobacco smoking in the region and globally. Moreover, Jordan scored low in implementing the MPOWER measures and ranked 13th in the EMR. (8) The absence of effective and enforced tobacco control measures can increase the number of smokers and the intensity of tobacco smoking. This report aims to summarize available information on tobacco in Jordan in terms of smoking prevalence, household expenditure on tobacco, tobacco manufacturing, cigarette consumption, the demand for tobacco products, and tobacco taxation. This report consolidates the available evidence on cigarettes, investigates the strength of this

evidence, and explores current issues and a way forward for research to support cigarette excise tax policy in the country.

Country Profile

The current population of Jordan is 11.3 million, based on projections of the latest United Nations data. (9) The Jordanian population is relatively young, with a median age of 22.4 years. More than a third (34.3 percent) of the population is younger than 15 years of age, while 62.0 percent is between the ages of 15 and 64 and 3.7 percent is older than age 65. Life expectancy at birth has steadily increased from 71.4 years in 2000 to 74.4 years in 2018; however, female life expectancy (76.2 years) is higher than male life expectancy (72.7) by 3.5 years.

The Jordanian population has already experienced its epidemiological transition of disease, given the evident decline in the burden of communicable disease and the increase in the prevalence of noncommunicable diseases (NCDs). The urban population is overwhelmingly larger than the rural population, with 90.3 percent of Jordanians living in an urban setting while the remaining 9.7 percent live in rural settings. The Jordanian population is highly concentrated in three governorates: the capital Amman, Zarqa, and Irbid host more than 60 percent of the country's population. The other nine governorates are home to the remaining 40 percent of the population. Many demographic and health disparities exist between the residents of the different governorates in Jordan, specifically between rural and urban areas. Disparities also exist in access to health care, as hospitals, comprehensive health centers, clinics, and diagnostic labs are more likely to be located in urban areas. In 2018, the illiteracy rate in Jordan stood at 5.1 percent (3.1 percent for males and 7.2 percent for females), and only 26.5 percent of the population continued education beyond secondary school.

Tobacco Products and the Prevalence of Smoking

The main types of tobacco products in Jordan include cigarettes, waterpipe (Argileh), pipe tobacco, cigars, and hand-rolled cigarettes. The Eastern Mediterranean Consortium on the Economics of Waterpipe Tobacco Smoking (ECON-WTS) survey in 2022, which included a total of 1,925 adults from Jordan, reported a prevalence rate of 32.0 percent (95 percent CI: 29.9,

34.1) for current cigarette smoking. (10) The prevalence of current cigarette smoking among adults was significantly higher in males compared to females (50.4 percent versus 9.1 percent).

The prevalence rates for current waterpipe smoking, dual current smoking, and current smoking of any tobacco type were 11.0 percent (95 percent CI: 9.6, 12.4), 2.8 percent (95 percent CI: 2.1, 3.6), and 40.2 percent (95 percent CI: 38.0, 42.4), respectively. In Jordan, more than half of male current cigarette smokers (52.0 percent) and one third of female cigarette smokers (33.3 percent) reported smoking at least 20 cigarettes per day. The majority of waterpipe smokers used flavored tobacco (92.3 percent of males and 98.5 percent of females), the majority of male respondents (70.5 percent) and less than half of females (46.9 percent) smoked more than three waterpipe sessions at home, and the majority of respondents smoked three sessions or less per week in a café (62.9 percent of males and 85.7 percent of females). Table 1 shows the prevalence rates of current cigarette smoking by gender and other sociodemographic characteristics.

The data from the ECON-WTS survey showed that the prevalence of current cigarette smoking was the lowest among males and females who reported having no source of income. This finding is not consistent with the findings of Toukan's study. According to Toukan, (11) the prevalence of cigarette smoking was the highest among the poorest, with the highest rate (57 percent) being found among adult males with an income of 100 to 250 Jordanian dinars per month, compared to a prevalence rate of 14 percent among adult males with income of 500 Jordanian dinars per month or more. Calculations showed that the poorest 40 percent of adult males were 1.7 times more likely to smoke cigarettes than the richest 17 percent of adult males.

Table 1. Prevalence rates of current cigarette smoking for males and females 18 years or older, according to sociodemographic characteristics*

Variable	**Males**	**Females**	**Total**
Region			
North	52.3%	10.9%	33.1%
Middle	50.6%	7.9%	32.2%
South	40.2%	5.7%	25.3%
Total	50.4%	9.1%	32.0%

Age			
18 – < 30	51.1%	8.0%	31.3%
30 – < 40	54.3%	6.1%	32.7%
40 – < 50	56.1%	10.8%	35.3%
≥ 50	42.2%	11.4%	29.3%
Education level			
Primary education or less	49.6%	10.7%	31.5%
Middle education	53.8%	9.2%	35.2%
High school/ diploma	49.2%	6.7%	28.7%
University education	46.2%	8.7%	29.1%
Nationality			
Jordanian	51.0%	8.8%	32.0%
Others	45.5%	12.2%	32.3%
Personal monthly income (USD 1 = JOD 0.71)			
No income	30.4%	5.9%	10.9%
Less than JOD 300	51.9%	16.7%	39.0%
From 300 to less than 500	55.7%	11.5%	47.5%
From 500 to less than 900	53.0%	9.7%	44.8%
900 and more	50.0%	14.3%	46.3%

Note: The estimates were produced by secondary analysis of data from the Eastern Mediterranean Consortium on the Economics of Waterpipe Tobacco Smoking (ECON-WTS) survey, 2022; Nakkash et al. Prevalence of cigarette and waterpipe tobacco smoking among adults in three Eastern Mediterranean countries: a cross-sectional household survey. BMJ Open. 2022 Mar 4;12(3):e055201. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8900030/

The STEPs surveys in Jordan showed that the percentages of people smoking tobacco daily were 29.0 percent in 2007 and 34.6 percent in 2019. (12) The prevalence increased from 49.6 percent in 2007 to 58.0 percent in 2019 among males and increased from 5.7 percent in 2007 to 10.8 percent in 2019 among females. Table 2 shows the Jordan STEPS Survey 2019 findings for

adults aged 18 to 69 years old. Variance in the average age of starting smoking was evident for males and females (17.1 and 23.9 years of age, respectively), and the mean number of manufactured cigarettes smoked per day by male and female smokers of manufactured cigarettes was 22.6 and 13 cigarettes, respectively. Table 3 shows the prevalence of daily cigarette smoking (95 percent CI), stratified by gender and age, according to the Global Burden of Disease (GBD) study for the year 2016. (13)

It is worth mentioning that there are variations between studies in the prevalence estimates of smoking. This might be explained by differences in the population studied, age groups included in the sample, and definition of "smoking."

Table 2. Prevalence (95% confidence interval) of smoking in Jordan (Jordan STEPS Survey 2019)

Variable	**Males**	**Females**	**Total**
Tobacco smoking (daily and non-daily)	65.3% (62.3, 68.2)	16.4% (14.2, 18.6)	41.0% (38.8, 43.2)
Daily tobacco smoking	58.0% (54.9, 61.1)	10.8% (9.1, 12.5)	34.6% (32.4, 36.7)
For those who smoke tobacco daily			
Average age started smoking (years)	17.1	23.9	18.2 (18.3, 19.1)
Percentage of daily smokers smoking manufactured cigarettes	90.6% (88.2, 93.0)	78.7% (71.4, 85.9)	88.8% (86.5, 91.1)
Mean number of manufactured cigarettes smoked per day	22.6	13.0	21.1 (20.2, 22.0)
Source: https://www.moh.gov.jo/ebv4.0/root_storage/en/eb_list_page/stepwise_survey_(steps)_2020_technical_report-english.pdf			

Household Expenditure on Tobacco

The Department of Statistics conducted several household surveys on expenditures and incomes, which included questions on tobacco consumption. (14) The survey data are presented in Table 4. From 2003 to 2013, tobacco consumption in Jordan increased by 58 percent, and the average

annual household member expenditure on tobacco and cigarettes increased by 172 percent, which was partly caused by the increase of the average cigarette price by 115 percent over the same period.

Table 3. Prevalence of daily cigarette smoking (95% CI) stratified by gender and age, according to the Global Burden of Disease (GBD) study for the year 2016

Age group	Male			Female			Total		
	Prevalence (%)	95% CI		Prevalence (%)	95% CI		Prevalence (%)	95% CI	
All ages	30.0	26.0	34.0	6.0	5.0	9.0	19.0	16.0	22.0
Age-standardized	31.0	27.0	35.0	7.0	5.0	9.0	19.0	16.0	22.0
10 to 14	2.0	1.0	3.0	1.0	0.0	2.0	1.0	1.0	2.0
15 to 19	14.0	7.0	23.0	4.0	1.0	9.0	9.0	4.0	16.0
20 to 24	33.0	20.0	48.0	5.0	2.0	11.0	19.0	11.0	30.0
25 to 29	42.0	27.0	59.0	8.0	3.0	17.0	25.0	15.0	38.0
30 to 34	44.0	28.0	60.0	7.0	3.0	15.0	26.0	16.0	38.0
35 to 39	42.0	27.0	58.0	10.0	4.0	20.0	27.0	16.0	40.0
40 to 44	41.0	26.0	57.0	11.0	5.0	22.0	27.0	16.0	41.0
45 to 49	42.0	27.0	58.0	13.0	5.0	25.0	28.0	17.0	42.0
50 to 54	39.0	25.0	57.0	9.0	2.0	23.0	25.0	14.0	40.0
55 to 59	34.0	21.0	50.0	9.0	2.0	22.0	22.0	12.0	36.0
60 to 64	32.0	19.0	48.0	6.0	2.0	16.0	19.0	10.0	32.0
65 to 69	28.0	16.0	42.0	4.0	1.0	11.0	16.0	8.0	26.0
70 to 74	19.0	10.0	32.0	5.0	1.0	14.0	12.0	6.0	23.0
75 to 79	21.0	12.0	34.0	4.0	1.0	10.0	12.0	6.0	22.0
≥80	13.0	7.0	23.0	4.0	1.0	11.0	8.0	4.0	16.0

Source: xihttp://ghdx.healthdata.org/sites/default/files/record-attached-files/IHME_GBD_2015_SMOKING_PREVALENCE_1980_2015.zip

Table 4. Tobacco expenditure and consumption in Jordan: Household survey data*

	2002–2003	2006	2008	2010	2013
Average annual household member expenditure on tobacco and cigarettes (in JOD)	34.8	47.1	60.3	78.9	94.8
Average annual cigarettes consumption per household member (in cigarette packs)	52		55	62	66
Average annual current income of household member (in JOD)	900.5	1083.7	1350.5	1660.2	1857.2
No. of household members (millions)	5.0	5.4	5.8	6.0	6.2
Total cigarette consumption (million cigarettes)	5203		6421	7475	8247
Total tobacco expenditure (in million JOD)	174		352	481	602
Average calculated price of a 20-cigarette pack (JOD)	0.7		1.1	1.3	1.4
Source: http://www.dos.gov.jo/dos_home_e/main/sdb_ec_e/household/index.htm					

The average annual household member expenditure on tobacco and cigarettes increased to JOD 558 in 2017 (Table 5). (15) This might be explained by the substantial tobacco price increase in 2017 and 2018. According to the Households Expenditures and Income Survey from the National Jordanian Department of Statistics, households with at least one smoker spent on average 74 dinars per month on tobacco products in 2017/2018. In total, Jordanian families spent JOD 717 million (equivalent to more than USD 1 billion) on tobacco products over the year 2017/2018. (16) About 59 percent of the Jordanian households subsidized by the main social assistance program the National Aid Fund have at least one smoker.

The annual expenditures of Jordanian households on tobacco and cigarettes accounted for 4.42 percent of the annual expenditure on groups of commodities and services in 2017. Cigarette expenditures by socioeconomic groups were estimated by Toukan. (11) The average poorest adult male cigarette smoker, with an income of 100 to 250 Jordanian dinars per month, spends approximately 25 times more on cigarettes than on health, approximately 10 times more on cigarettes than on education, approximately 2.5 times more on cigarettes than on housing, and approximately 1.5 times more on cigarettes than on food. Smoking cost the country 1 billion Jordanian dinars in 2012, including money spent on tobacco and smoking-related diseases, which amounted to approximately five percent of the gross domestic product.

Table 5. Average annual household member expenditure on tobacco and cigarettes (in JOD) in 2017, by governorate*

Governorate	Expenditure on tobacco and cigarettes (in JOD)
Amman	551.0
Balqa	589.6
Zarqa	573.4
Madaba	596.9
Irbid	542.1
Mafraq	518.4
Jarash	578.4
Ajlun	513.1
Karak	656.4
Tafiela	553.2
Ma'an	499.3
Aqaba	573.9
Jordan	558
Source: http://dosweb.dos.gov.jo/databank/household/Methodology/Methodology_2017_en.pdf	

Farming

While most consumed tobacco products in Jordan are manufactured within the country, consistent recent data on the production of cigarettes and other tobacco products are not available. According to the FAO database, (17) from 1961 to 2002 tobacco growing was rather extensive in Jordan, reaching a maximum in 1983 with the production of unmanufactured tobacco at 6,017 tons and an area harvested of 8,370 hectares. However, in 2003 tobacco growing sharply declined, and currently it is very limited in the country.

Though the government of Jordan does not prohibit tobacco farming, tobacco growing sharply declined since 2003 and is considered non-existent in the country, according to the United Nations Food and Agriculture Organization (FAO) data for 2020 and reports from the World Bank. (18) Jordan is among the poorest countries in terms of water and energy supplies, and cultivating tobacco is considered to consume disproportionately high amounts of land nutrients

and water. Additionally, the plant itself is prone to infection and transmission of plant diseases. Therefore, there is a limited forecast for change in the farming status for tobacco in Jordan according to government officials. There are some news reports on unauthorized farms for tobacco plants, yet these are not considered large nor organized for mass production or commercialization. Table 6 shows the trends in tobacco production from 2010 to 2019, according to the FAO. (19)

Table 6. Trends in tobacco leaf production from 2010 to 2019, according to the Food and Agriculture Organization

Year	Gross production index number	Gross per capita production index number	Area harvested	Yield	Production (tons)
	Value	Value	Value (ha)	Value (hg/ha)	Value
2019	1168.42	1056.65	65	16308	106
2018	1789.47	1640.44	81	20988	170
2017	189.47	176.88	12	15000	18
2015	126.32	124.53	13	9231	12
2014	73.68	75.47	7	10000	7
2013	31.58	33.86	3	10000	3
2012	84.21	95.09	11	7273	8
2011	557.89	665.1	9	58889	53
2010	136.84	172.15	14	9286	13

Source: Food and Agriculture Organization http://data.un.org/Data.aspx?d=FAO&f=itemCode%3a826

hg/ha: hectograms per hectare

Jordan falls in one of the geographical regions that has shown remarkable growth in the market of tobacco manufacturing in the Middle East and African (MEAF) markets. The estimated annual growth rate of the tobacco manufacturing market is from 5 to 12 percent. No exception to the rest of the region, most consumed tobacco products in Jordan are manufactured within the country or nearby countries, including the Gulf area.

Manufacturing

In 1999, there were three major tobacco manufacturing companies: Jordan Tobacco & Cigarettes Co., Union Tobacco & Cigarette Industries Company (UTC), and International Tobacco Cigarettes Company (ITCC). In 2001, the Audeh Group entered into a joint venture with Japan Tobacco International to form JT International (Jordan) Ltd. The joint venture represents the first direct investment by a major international cigarette company in the Middle East employing locals. The Group handles, directly or indirectly, the selling, distribution, merchandising, and marketing of the JTI cigarette brands, covering 10 domestic markets. Philip Morris Investments B. V. Jordan (PMJ) was established in 2011 as a result of the PMI acquisition of the operations of the International Tobacco Cigarettes Company (ITCC). (20) In 2014, there were seven tobacco manufacturers in Jordan. (21) The main cigarette manufacturers in Jordan in 2022 are shown in Table 7.

According to the World Bank report, (22) Jordan produced 4.1 billion cigarettes in 1999, up from 3.8 billion in 1993. According to the country's FCTC reports, (18) 7.4 billion cigarettes were produced in 2010, and production increased to 8.6 billion cigarettes in 2012, while 1.756 billion cigarettes were imported in 2012. Additionally, the value of tobacco imports in Jordan from 2010 to 2016 ranged from JOD 42 million to JOD 63 million, while the tobacco export value was slightly lower, between JOD 24 million and JOD 52 million. Nevertheless, a recent update for domestic exports for tobacco as reported by the Department of Statistics showed a decrease from 39.25 million in 2016 to 26.13 million in 2020. (23) Although cigarettes were initially produced principally for domestic consumption, Jordan's tobacco industry now produces cigarettes for export to markets in the region. The annual statistics book of Jordan for 2020 reported a prominent increase in tobacco product imports in 2020 despite the drop in 2018 and 2019; from 34 million in 2019 to 53 million in 2020. (24)

The tobacco industry has impeded the passage and enforcement of tobacco control legislation in Jordan in the past. For example, recent efforts to raise taxes on tobacco products were offset by the tobacco industry when they initiated a 25-percent cigarette price reduction in early 2013. (25) Tobacco companies asserted that the reduction was an attempt to decrease cigarette smuggling; however, the net effect was to reduce the impact of higher taxes, keeping cigarettes affordable.

The tobacco industry in Jordan has also engaged in so-called corporate social responsibility (CSR) activities to enhance its image with the public, media, and government. These activities have included funding educational programs, community development initiatives, and others. Nevertheless, the evidence indicates that the tobacco industry consistently opposes tobacco control efforts to improve public health. Another example is the availability of waterpipe in restaurants and cafes, with delivery services in the country, which hinders implementation of the smoke-free public places law. After years of declaring themselves public places, the vast majority still allow smoking indoors, claiming that serving shisha is their core business. Penalties given to such businesses are being closely controlled by a committee composed of—among other institutions—the Ministry of Tourism, Ministry of Health, and Jordan Restaurant Association, which protects the interests of the above businesses. (26) Based on this committee's rule, decisions on inspections and penalties given to any touristic establishment must be agreed to by all members of the committee.

Table 7. Tobacco manufacturers and sale revenue

Tobacco manufacturers	Sales revenue (in million USD)
Philip Morris Investments BV/Jordan Ltd. Co.	21.02
Union Tobacco & Cigarette Industries	8.03
JTI Jordan Manufacturing Ltd.	6.01
Al Furat for the Tobacco and Cigarette Industry	6.01
Gadora Tobacco PSC	5.50
Al Andalus Flavored Tobacco Molasses Co. L.L.C.	5.10
Alzawrae Industrial Company	5.00
Masia International Tobacco	1.43
Al Fursan Beverages Trading Company	0.91

Based on industry data, Legal domestic sales (LDS) in Jordan were estimated at nearly 11.6 billion cigarettes in 2018, falling by 4.0 percent in comparison with 2017. Two major international tobacco manufacturers dominate the market: Japan Tobacco International SA (JTI)

and PMI, together representing more than 80 percent of LDS. Table 8 shows the legal domestic sales as percentages of the total market shares by price segment.

Table 8. Legal domestic sales (% of total) in Jordan*

Year	Low price segment	Mid-price segment	Premium price segment
2014	46.9	32.1	21.0
2015	47.4	31.8	20.9
2016	49.4	29.1	21.5
2017	51.2	28.6	20.2
2018	55.7	30.1	14.2
Source: Oxford Economics based on industry data.			

As shown in Table 8, the breakdown of LDS indicates a rising trend in the consumption of lower-value cigarette brands, which accounted for nearly 56 percent of consumption in 2018, up from 47 percent in 2014. This is partly driven by affordability. The price of a pack of the most-sold brand (MSB) of cigarettes has increased by 66.7 percent over the past five years, during a period of deteriorating economic conditions whereby household incomes have been squeezed by rising unemployment. This is illustrated by the increase in the relative income price: it required approximately 6.5 percent of per capita income to purchase 100 packs of the MSB in 2018, up from 4.1 percent in 2014. In addition, significant inflows of Syrian refugees, who display a strong preference towards lower-value cigarette brands, have supported this trend.

Cigarette prices last rose in January 2018 following an increase in the excise tax, which contributed towards an increase of one-third in the cost of a pack of the MSB. This tax increase was implemented as part of a wider package of tax reforms aimed at increasing government revenues; tobacco taxation is one of the largest contributors to the budget. According to a report by the International Tax and Investment Center, tobacco taxes accounted for approximately seven percent of total tax revenues in Jordan in 2018. This price increase was associated with a decline in total cigarette consumption by merely 2.3 percent.

Taxes account for more than 80 percent of the RSP in Jordan—one of the highest rates evident across the Levant region. (27) Table 9 shows the cigarettes retail sale price (RSP) and taxes. The MSB of cigarettes cost JOD 2.00 (USD 2.82) per pack in 2018. This was higher than the MSB in Iraq—a major source of non-domestic inflows, according to the 2019 Empty Pack Surveys (EPS)—which retailed at USD 0.42 per pack. Retail prices in Jordan are also higher than in many other neighboring markets including Lebanon and Syria. (18)

Table 9. Cigarettes retail sale price (RSP) and taxes

Year	Tax yield (JOD per pack)	Cigarettes RSP (JOD per pack)
2014	1.03	1.2
2015	1.23	1.3
2016	1.23	1.3
2017	1.23	1.5
2018	1.47	2.0
2019 Q1	1.47	2.0
2019 Q3	1.47	2.0
Source: Oxford Economics based on industry data Based on the MSB in October of each year, with the exception of 2019, which is the rate applied in January 2019. Tax yield includes excise tax and VAT.		

Based on the Jordan annual statistical book 2020, the consumer product index for cigarettes and tobacco has increased from 75.4 in 2014 to 101.4 in 2022. Thus, the price of cigarettes and tobacco has progressively increased by more than 25 percent, and the relative change since 2019 was at least three percent.

Cigarette Consumption

Table 10 shows the composition of cigarette consumption based on industry data. Total consumption of cigarettes in Jordan was estimated at 12.6 billion in 2018, falling by 1.9 percent in comparison with 2017. The decline in total consumption was underpinned by falling LDS. However, this was partially offset by rising non-domestic inflows over the same period. The incidence of non-domestic inflows rose to 8.3 percent in 2018 from 6.3 percent in 2017. This was primarily driven by rising non-domestic illicit inflows, with legal non-domestic inflows

representing a small and relatively unchanged component of total consumption (just 1.3 percent in 2018).

According to the estimates provided by the industry, total illicit incidence rose to 7.0 percent in 2018. In volume terms, this represented 887 million illicit cigarettes consumed during the year, compared to 488 million in 2016. Illicit consumption is anticipated to have risen again in 2019, with the 2019 Q1 and Q3 EPS reports indicating an average non-domestic incidence of 28.6 percent, a 20.3 percentage point increase in comparison with 2018. The sharp rise in non-domestic inflows apparent in 2019 coincided with the re-opening of international borders with neighboring countries Iraq (August 2018) and Syria (October 2018) for people and goods transport after both were closed three years prior. The highest level of non-domestic incidence was evident in the city of Irbid—the closest city to the Syrian border—reporting an average non-domestic incidence of 52.6 percent in the 2019 Q1 and Q3 EPS. In total, the illicit incidence is estimated to have risen to 27.3 percent for the first three quarters of 2019, while the volume of illicit cigarettes consumed during this period was significantly higher than the previous three years combined.

Table 10. Composition of cigarette consumption in Jordan

	2016		2017		2018		% change	2019 Q1–Q3	
	Cigarettes (billions)	%	Cigarettes (billions)	%	Cigarettes (billions)	%	2017-2018	Cigarettes (billions)	%
Legal domestic consumption	12.1	95.1	12.1	93.7	11.6	91.7	-4	8.6	71.4
Total non-domestic inflows (ND)	0.6	5.0	0.8	6.3	1	8.3	29.2	3.4	28.6
Non-domestic legal (NDL)	0.1	1.1	0.2	1.2	0.2	1.3	6.3	0.1	1.2
Non-domestic illicit	0.5	3.8	0.7	5.1	0.9	7.0	34.5	3.3	27.3
Domestic illicit	0	0	0	0	0	0	N/A	0	0
Total consumption	12.8	100	12.9	100	12.6	100	-1.9	12.0	100
Total illicit consumption	0.5	3.8	0.7	5.1	0.9	7	34.5	3.3	27.3
Source: Oxford Economics based on industry data									

Illicit Trade Flows

The majority of illicit cigarettes in 2018 were labeled as duty-free market variant brands (more than three quarters). But despite being identified as duty-free in the EPS, these brands do not enter the market through legitimate duty-free channels. Around 22 million counterfeit cigarettes were consumed in 2018, having risen from 10 million in 2017 and zero in 2016. The issue of counterfeiting foreign cigarettes hit national headlines following a series of raids conducted in July 2018 by the Jordan Customs Department (JCD), which discovered several illegal production facilities across Jordan, implicating numerous high-profile businessmen and some government officials.

The JCD remains active following the re-opening of international borders and the subsequent rise in illicit consumption. Amendments to the Customs Law in June 2018 and April 2019 have strengthened enforcement powers and provided increased punishments for individuals engaged in smuggling activity.

It must be noted that the industry consistently overestimates the magnitude of illicit trade across the world. Independent studies have shown (Figure 1) that levels of illicit trade are lower and manageable than claimed by tobacco companies. (28)

Import and Export

In 2019, the top importers of cigarettes containing tobacco from Jordan in descending order were the United Arab Emirates, Angola, Mauritius, Kyrgyz Republic, and Qatar. In 2020, the top importers of cigarettes containing tobacco from Jordan in descending order were mainly the United Arab Emirates, accounting for US$ 423,730 and 87,828 kilograms. This is followed by the Kyrgyz Republic, China, Qatar, and Paraguay (Table 11). Jordan's exports of cigarettes containing tobacco were US$ 1,292,290 and 27,758 kilograms in 2019. Exports for free zones were US$ 1,292,290 and accounted for 27,758 kilograms. (39)

Figure 1: Estimates of illicit trade from the industry and independent researchers

Table 11. Cigarettes containing tobacco imports from Jordan in 2020

Reporter	**Trade value 1000 US$**	**Quantity (kg)**
United Arab Emirates	423.73	87827.6
Angola	309.71	13900
Kyrgyz Republic	238.40	42151
China	155.22	27986
Qatar	152.43	31116.7
Bahrain	84.10	9088
Paraguay	70.82	14229
Singapore	61.92	10600
United States	40.80	16
European Union	18.24	555

Portugal	9.63	128
Poland	5.00	206
Germany	3.49	219
Turkey	0.68	46
Ukraine	0.38	4.32
Source: https://wits.worldbank.org/trade/comtrade/en/country/All/year/2020/tradeflow/Imports/partner/JOR/product/240220		

Regulatory Framework

Several laws interact with tobacco control in Jordan. The main law that holds tobacco control under its umbrella is Public Health Law 47/2008, endorsed in 2008 and amended in 2017. The law addresses smoke-free places, tobacco advertising and promotion, tobacco products display, and provides sanctions for violations. The tobacco advertising and promotion sections of the Public Health Law 47/2008 are comprehensive, with the exception of sponsorship, which is not included. The point-of-sale tobacco display regulations are under the Tobacco Products Display Regulations of 2013 (amended in 2015), however, they exclude tobacco shops from most of the display regulations.

Other laws and regulations that address tobacco control are Jordanian Standard 466/2012, which addresses cigarettes' packaging and labeling, and Jordan Standard 787/2014, which addresses waterpipe tobacco content and its specifications under the Jordan Standards and Metrology Organization. Moreover, the Traffic Law of 2008 prohibits smoking while driving and the Juvenile Conduct Law of 2006 prohibits the sale of tobacco to minors. The Inspection Law 33/2017 unifies the way inspections are conducted and lets municipalities actively participate in the process. This is reflected in tobacco violations, as it empowers municipalities with the ability to inspect institutes and ticket the violators, supporting the efforts of the Ministry of Health.

Jordan became a party to the WHO Framework Convention on Tobacco Control on February 27, 2005. Jordan is not yet a party to the WHO Protocol to Eliminate Illicit Trade in Tobacco Products, but internal coordination and anti-smuggling efforts have intensified in Jordan in recent years in

recognition of the important contribution that legitimate tobacco taxes make to government revenues.

The main tobacco control policies of Jordan are summarized below: (30)

- Smoke-free places: Smoking is prohibited in hospitals, health centers, schools, cinemas, theaters, public libraries, museums, governmental and non-governmental public premises, means of transportation, arrival and departure halls at airports, enclosed stadiums, lecture-halls and any other place deemed by the Minister as public. The law fails to list all indoor public places and workplaces, so smoking is restricted or completely unrestricted in some places. Further, the law authorizes the Minister of Health to allow designated smoking areas in public places. The Ministry of Health has allowed a phase-in of the smoking ban in restaurants. The current policy bans indoor smoking in all free public places, including restaurants, and all kinds of smoking should be realized outdoors.

- Tobacco advertising, promotion, and sponsorship: Almost all forms of tobacco advertising and promotion are prohibited, including in traditional and electronic media. However, some forms of indirect promotion, such as retailer incentive programs, may escape the ban. Tobacco sponsorship is not restricted by the law, but it is officially restricted by the Ministry of Health.

- Tobacco packaging and labeling: The law requires health warnings on all tobacco products. Tobacco products carry a different percentage of warnings. On cigarette packs, the authorized text-only health warning must occupy 40 percent of the front of the pack, placed lengthwise down the long edge of the pack. One of four authorized combined picture and text warnings must occupy 40 percent of the back of the pack, placed along the bottom edge. Misleading terms, descriptors, trademarks, and figurative and other signs are prohibited. The warning message on e-cigarettes and heated tobacco products should cover 30 percent.

- Tobacco taxation and prices: The World Health Organization recommends raising tobacco taxes so that they account for at least 75 percent of retail prices. Total taxes in Jordan are 78 percent, however, the excise tax share is 64.22 percent, indicating room for improvement to

attain the recommended 70-percent minimum benchmark. Moreover, equally strong taxation policies are lacking for waterpipe tobacco.

The Demand for Tobacco Products

A survey of a sample of 4,090 adults using tobacco in Jordan (31) used a two-part model of cigarette demand. The survey outlined that price negatively correlated with the decision to smoke; however, the results were not statistically significant. Wealth was negatively associated with the decision to smoke, and the results were statistically significant. The price was negatively correlated with the quantity smoked, while wealth was positively correlated with the quantity smoked.

The elasticity of demand for cigarettes in Jordan was estimated to be -0.6, which equates to the sum of the conditional price elasticity of -0.235 and the smoking participation elasticity of -0.365. The elasticity of demand for cigarettes for females was estimated to be -0.008 and for males -0.81. There could be several reasons why the elasticity of demand for cigarettes among females was estimated to be -0.008. An explanation could be that females who smoke may face fewer alternatives to smoking, such as nicotine-replacement therapies or cessation programs, which could make them less likely to reduce their consumption in response to price increases. Another possible explanation is that this elasticity might not be a reliable estimate because of small smoking prevalence in females. Young people were more price-elastic than old people. Estimated price elasticities by age groups were as follows: -1.2 (ages 15–23), -1.01 (ages 24–30), -1.11 (ages 31–40), -0.75 (ages 41–50), -0.05 (ages 51–60), and -0.06 (age older than 60). Analysis of the database published by the Jordan Department of Statistics surveys in 2016 also showed demand sensitivity in relation to income. (11) The poorest 40 percent of adult males were 1.7 times more likely to smoke cigarettes than the richest 17 percent of adult males.

Another study with a volumetric choice experiment design of eight cigarettes and waterpipe tobacco product varieties was conducted using nationally representative household surveys in Lebanon, Jordan, and Palestine. (3) The study included 1,925 respondents (44.6 percent female) from Jordan. All own-price elasticities for cigarette products were non-zero (statistically significant). Elasticity for premium cigarettes was roughly unitary, indicating that a change in the

price of one product results in a change of comparable percentage (and opposite direction) in its demand. In Jordan, the demand for waterpipe products was generally inelastic, as elasticities varied from -0.3 for waterpipe smoking in discount cafés to -0.9 for discount waterpipe tobacco smoked in the home. Home-delivered waterpipe elasticity was not significant, and elasticity for non-flavored waterpipe tobacco was statistically significant and positive (0.8). Table 12 shows the own-price elasticity estimates in Jordan by product.

Table 12. Own-price elasticity estimates in Jordan, by product

Tobacco product	**Own-price elasticity**
Premium cigarettes	-1.080*
Discount cigarettes	-0.719*
Premium waterpipe tobacco	-0.601*
Discount waterpipe tobacco	-0.915*
Non-flavored waterpipe tobacco	0.816*
Waterpipe home delivery	0.104
Premium waterpipe café	-0.674*
Discount waterpipe café	-0.335*
Note: *p-value < 0.05 *Source:* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9763177/	

The cross-price elasticity of premium versus discount cigarettes was positive (0.3) and highly significant (that is, they are substitutes). Premium cigarettes versus premium waterpipe tobacco elasticity was significant (-0.2). Premium waterpipe tobacco versus discount waterpipe tobacco elasticities was significant and positive (0.5). Table 13 shows the cross-price elasticity estimates by product in Jordan.

Table 13. Cross-price elasticity estimates in Jordan, by product

Tobacco product	**Cross-price elasticity**
Premium cigarettes × discount cigarettes	0.268*
Discount cigarettes × premium cigarettes	0.109*
Premium cigarettes × premium waterpipe tobacco	-0.254*
Premium waterpipe tobacco × premium cigarettes	-0.038

Premium cigarettes × discount waterpipe tobacco	0.101
Discount waterpipe tobacco × premium cigarettes	0.074
Premium waterpipe tobacco × discount waterpipe tobacco	0.504*
Discount waterpipe tobacco × premium waterpipe tobacco	0.018
Premium waterpipe tobacco × non-flavored waterpipe tobacco	-0.125
Non-flavored waterpipe tobacco × premium waterpipe tobacco	-0.136
Premium waterpipe tobacco × waterpipe home delivery	0.403
Waterpipe home delivery × premium waterpipe tobacco	-0.033
Premium waterpipe tobacco × premium waterpipe café	-0.177
Premium waterpipe café × premium waterpipe tobacco	0.112
Premium waterpipe tobacco × discount waterpipe café	0.098
Discount waterpipe café × premium waterpipe tobacco	0.161
*p-value < 0.05 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9763177/	

In Jordan, with the exception of discount cigarettes, females generally had higher elasticities compared to males. (32) For example, the price elasticity of discount waterpipe for females was about twice the elasticity observed for males (-1.38 versus -0.62). Moreover, the price elasticity of premium cigarettes for females was slightly higher than the price elasticity for males (-1.12 versus -1.09). Table 14 summarizes the price elasticities of tobacco product varieties by gender in Jordan. The price elasticities of the three tobacco product varieties were higher for females. For example, a 10-percent average increase in waterpipe prices would result in a decrease in the quantity of waterpipe consumed by about 6.2 percent for females and only 3.7 percent for males. The demand for all tobacco product varieties was inelastic in Jordan.

Table 14. Own-price and cross-price elasticities of tobacco groups in Jordan*

	Cigarettes		**Waterpipe (250 g)**		**Waterpipe (sessions)**	
	Females	**Males**	**Females**	**Males**	**Females**	**Males**
Cigarettes	-0.708 (0.000)	-0.565 (0.000)	-0.071 (0.702)	-0.126 (0.290)	-0.011 (0.975)	-0.027 (0.817)
Waterpipe (250 g)	0.065 (0.658)	0.056 (0.227)	-0.620 (0.001)	-0.371 (0.003)	0.344 (0.339)	0.075 (0.565)

Waterpipe (sessions)	-0.025 (0.864)	-0.022 (0.664)	-0.051 (0.785)	0.066 (0.602)	-0.465 (0.208)	-0.202 (0.105)
Source: Reported figures indicate the price elasticity of each tobacco product, while the values in parentheses indicate the p-value. https://bmjopen.bmj.com/content/bmjopen/12/7/e058495.full.pdf						

Tobacco Taxation

Tobacco prevalence rates are expected to decrease across all the WHO regions by 2025 as a result of tobacco control efforts. However, the smallest decline is projected in the Eastern Mediterranean region (EMR)—from 33.3 percent in 2020 to 31.0 percent in 2025—making it almost certain that the region will not achieve the WHO's 30-percent relative reduction target by 2025. (33) According to the Jordan WHO STEPwise Approach to NCD Risk Factor Surveillance (STEPS) 2019 survey, 65.3 percent of males and 16.4 percent of females were current smokers of any tobacco products. (34) Hence, high quality measures and interventions are needed.

The Eastern Mediterranean region has the lowest average prices of tobacco products among all WHO regions. (35) Tobacco product prices are an important factor when considering that decreasing affordability is the most effective strategy to reduce the uptake of smoking among young people. (36) The WHO Framework Convention on Tobacco Control recommends that taxation policy takes into account the price elasticity of demand to reduce tobacco consumption and that all tobacco products be taxed comparably to avoid unintended consequences, such as product substitution. (1) A growing body of evidence globally, including from many low- and middle-income countries, clearly demonstrates that tobacco taxes are a powerful tool for reducing tobacco use while providing a reliable source of government revenues.

Interventions—such as tobacco taxation—which lead to reduced tobacco consumption, improved population health and increased revenues for governments should be part of a comprehensive strategy for tobacco control. The evidence demonstrates that simpler excise tax structures—utilized in most high-income countries—leave the least room for industry manipulation or tax avoidance and brand/product switching by consumers.

Not only is it important to set taxes at a high level to discourage consumption, but specific excise tax policies must also include regular adjustments to increase the tax rate so that it keeps up with inflation and income growth in the country over time—or, better yet, outpaces them. Excise tax increases should aim to reduce the affordability of tobacco products. A uniform specific tax on

tobacco involves charging a fixed amount of tax per unit of tobacco product, such as per cigarette or per gram of tobacco. This type of tax is often easier to administer than a more complex tax system, such as an ad valorem tax based on the price of the product, and it can help to ensure that all tobacco products are subject to the same level of taxation. On the other hand, tiered tax structures can result in a larger price variation and potentially more opportunities for substitution to less expensive brands. Though more onerous for the tax administration, hybrid systems that utilize both are a possibility, but should rely more on a uniform specific tax that is indexed to inflation and growth, while the ad valorem tax should be applied to the retail price.

As suggested above, the base on which the tax is applied is important. For specific taxation, the tax base should be the quantity in clearly defined units. For ad valorem taxation, the best practice is to use the retail price as the tax base and to introduce a minimum excise tax if there is only an ad valorem tax. With regard to non-tax regulations that affect the price of tobacco products, pricing regulation may be considered to prevent the tobacco industry from exercising differential tax shifting, which it uses to ensure that large price gaps exist between premium and cheap cigarettes. However, pricing policies cannot be used alone. To make excise tax on tobacco products more effective in reducing overall tobacco use, all tobacco products must be taxed comparably.

Until 2014, Jordan had a mixed tobacco excise system with a specific tax and an ad valorem tax. The ad valorem rate was 102 percent of the net-of-tax price pursuant to Regulation No. 8/2000. The general sales tax (16 percent) is also applied to tobacco products. The main unified specific excise per pack of 20 cigarettes was JOD 0.3 in 2008, and in 2010 it increased to JOD 0.32. Then it gradually increased to JOD 0.42 in 2014, JOD 0.47 in 2015, JOD 0.482 in 2017, and JOD 0.57 in 2018—or by JOD 0.15 per pack (by 36 percent) in four years. In January 2014, the additional tiered specific excise tax was introduced (Regulation No. 26 of 2014) instead of the ad valorem tax. It was set as JOD 0.283 per pack of cigarettes with a price below JOD 0.9 per pack of 20 cigarettes and JOD 0.938 for packs with a price above JOD 2.4.

In 2017 and 2018, the tier excise rates were changed. In 2018 (Regulation No. 3 of 2018), the excise ranged from JOD 0.545 for cigarettes with prices lower than JOD 1.5 per pack to JOD 1.315 for cigarettes with prices higher than JOD 3.25 per pack (this excise share in the final retail price constitutes between 36.6 percent and 40.5 percent). However, for cigarettes that had the

same price in 2014–2018, this additional excise rate was almost not changed. For example, for cigarettes with a price of JOD 1.5 per pack, the additional excise rate was JOD 0.545 in both 2014 and 2018. Total excise for such cigarettes increased from JOD 0.965 to JOD 1.132, or by 17 percent in four years.

In 2019, the tax on cigarettes remained constant. Currently, the cigarette tax is a sum of the following: (1) main unified specific excise, (2) additional tiered specific excise, and (3) general sales tax.

Jordan applies a multi-tiered specific excise tax system on cigarettes, which varies according to the RSP. First, all cigarettes are subject to a fixed rate of JOD 0.570 per pack regardless of the RSP, a rate that was last increased in January 2018 (from JOD 0.482 per pack). Second, a multi-tiered rate is applied on top. This starts at JOD 0.545 per pack with a RSP of JOD 1.50 or below, and gradually rises by 2.2 piastres with every 5 piastres, or JOD 0.05 incremental increase in the RSP up to the maximum rate of JOD 1.315 per pack with a RSP of JOD 3.25 or above. VAT is applicable to the sale of cigarettes at a nominal rate of 16 percent of the RSP. Customs duties are also applied, depending on the level of processing. Raw tobacco is subject to a 45-percent duty on the cost, insurance, and freight (CIF) price, the cut filler is subject to a 75-percent duty, while a rate of 150 percent is applied to finished products.

In 2010, the excise rate for other tobacco was increased from JOD 2.5 to JOD 3.3 per kilogram. Excise rates for two types of waterpipe tobacco were set in 2014 at JOD 4.5 and JOD 10 per kilogram, at 150 JOD per kilogram for cigars, and at JOD 50 per kilogram for smoking tobacco for pipes and RYO. In May 2019, the government imposed a 200-percent tax on electronic cigarettes, vape pens, and their paraphernalia as part of amendments to the Special Tax Law.

Prices: Most-sold brand, cheapest brands, and premium brands

According to the WHO Report on the Global Tobacco Epidemic, (37) the price of the most popular cigarette brand in Jordan increased from JOD 0.85 in 2008, to JOD 0.95 in 2010, to JOD 1.1 in 2012, to JOD 1.2 in 2014, and to JOD 1.4 in 2016—or by 65 percent in eight years. However, the most popular brand was also the cheapest brand in 2016, so the trend for average price differed. According to the survey conducted in 2011, (31) the average reported price was

JOD 1.43. The survey also reported that the average number of packs of cigarettes smokers used was 7.98 packs per week. According to the Department of Statistics database, (34) the average tobacco and cigarette prices from 2010 to 2018 increased by 43 percent, while inflation over those eight years was 25 percent. However, the changes in cigarette prices were not consistent.

Affordability and Change in Affordability

Affordability and related changes in the affordability of tobacco products is a vital issue that can affect smoking rates and consumption, especially in low- and middle-income countries. According to the World Bank (2019), the Tobacco Affordability Index (TAI) is calculated as the percentage annual change in nominal average income per capita divided by the tobacco price increase: TAI = (income increase / consumer price index tobacco – 1) * 100. A negative TAI value means that tobacco became less affordable and tobacco consumption is expected to decrease.

Tobacco affordability declined in most of the years. However, from 2011 to 2014, the tobacco affordability index was only -1.3, as cigarette prices were substantially reduced in 2013. From 2015 to 2018, the tobacco affordability index was -19.0, and tobacco consumption declined over those years. Table 15 shows tobacco affordability in Jordan.

Table 15. Tobacco affordability in Jordan

	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
CPI[$], tobacco and cigarettes	100,7	112,1	102,9	101,4	90,4	115,0	103,5	103,2	107,9	114,7
CPI, all items	99,3	104,8	104,2	104,5	104,8	102,9	99,1	99,2	103,3	104,5
GDP annual growth	100,4	97,2	97,3	97,3	97,7	98,5	101,5	98.8	99,4	101,2
Tobacco Affordability Index*	-1.0	-9.1	-1.5	0.2	13.3	-11.8	-2.8	-5.0	-4.8	-7.8

[$] Consumer price index

Source: https://documents1.worldbank.org/curated/en/809891561045747696/pdf/Jordan-Overview-of-Tobacco-Use-Tobacco-Control-Legislation-and-Taxation.pdf

Tobacco Tax Revenue

According to the WHO Report on the Global Tobacco Epidemic, (41) tobacco excise revenue in Jordan increased from JOD 312 million in 2012 to JOD 375 million in 2013 and JOD 554 million in 2016. VAT tobacco revenue also increased from JOD 67 million in 2013 and JOD 120 million in 2016. Additionally, the total amount of taxes on tobacco production increased from JOD 345 million to JOD 440 million in 2008 and 2011 respectively. From 2012 to 2015, the tax was stable at JOD 420 million a year, but sharply decreased to JOD 326 million and JOD 269 million in 2016 and 2017. In 2018, an estimated JOD 697 million in excise tax revenue was generated from LDS. This is equal to more than 15 percent of central government tax revenues for 2018. Government revenues have gradually risen, however, the ongoing trend of consumers' downtrading to lower-value brands of cigarettes (implying a lower tax yield per cigarette, all else being equal) will have squeezed revenues.

Summary of Findings

Jordan has one of the highest rates of tobacco smoking in the region and globally. The STEPS surveys in Jordan showed that the percentage of people smoking tobacco daily increased by 5.6 percent between 2007 (29.0 percent) and 2019 (34.6 percent). Over a decade (2003–2013), tobacco consumption in Jordan increased by 58 percent, and the average annual household member expenditure on tobacco and cigarettes increased by 172 percent. The increase in expenditure was partly attributed to the increase in the average cigarette price by 115 percent. The average annual household member expenditure on tobacco was JOD 558 in 2017 (4.42 percent of total expenditures).

The average tobacco and cigarette prices from 2010 to 2018 increased by 43 percent, while inflation over this period was 25 percent. In 2020, Jordan scored 3 out of 5 points in cigarette price on the Tobacconomics Cigarette Tax Scorecard.

Jordan applies a multi-tiered specific excise tax system on cigarettes, which varies according to the retail sale price (RSP). Jordan scored only 1 point out of 5 on the Tax Scorecard due to the tiered design of its specific excise tax. Jordan has increased cigarette taxes over the years, including early in 2017, but has not substantially raised taxes on other forms of tobacco.

Increased cigarette taxes without a corresponding increase in taxes on other tobacco products can encourage substitution with other products, which may result in lost revenue, possibly with no reduction in consumption. Current waterpipe tobacco taxes are 21 percent of the retail price in Jordan.

To reduce demand, cigarettes must become less affordable. Jordan scored well in this component, receiving all 5 points in 2020 in the Tax Scorecard because of the steady drop in affordability in the previous six years. However, the price of most tobacco products in Jordan is still affordable for most people, including smokers.

A high tax share of price is generally a good indicator of cigarette tax effectiveness and is essential to raise government tax revenues from cigarettes. In 2020, Jordan scored 4.50 points out of 5 in this component on the Tax Scorecard. The total tax share of price is 78.02 percent, meaning the country has passed the minimum benchmark of 75 percent. However, the excise tax share is 64.22 percent, indicating room for improvement to attain the recommended 70-percent minimum benchmark. Note that the high score on tax share of price is less meaningful when prices are low because clearly the tax is still not sufficient to drive the prices high enough to affect consumption for significant positive public health returns.

The tobacco industry is engaged in some actions to undermine national health policies and efforts by the government to control smoking in Jordan. In 2013, the tobacco industry responded to a tax raise on tobacco products by reducing the price of cigarettes by 25 percent, claiming that lowering the price could reduce cigarette smuggling, but the effect was that it kept cigarettes affordable.

The following cigarette tax policy improvements are recommended as concrete next steps to reduce smoking prevalence in Jordan while increasing the tax revenue collected by the government:

- Implement a new uniform specific excise tax structure—that is, eliminate all tiers— with annual adjustments to outpace inflation and economic growth.

- Set excise taxes to account for at least 70 percent of the retail price.

- Increase the tax on cigarettes to raise the price of cigarettes to at least JOD 3.03 per pack (comparable to $Intl 10.31) and reduce affordability.

- Increase corresponding taxes on other tobacco products to discourage substitution with other types of tobacco.

- Increase the specific tax from US$ 0.18 to US$ 7.03 per 20 grams of waterpipe tobacco to meet the 75-percent target—a 54-percent increase to the current waterpipe tobacco taxation (21 percent of the retail price), resulting in an average price increase from US$ 2.05 to US$ 11.19.

- Consider joining the emerging international agreement, the Protocol to Eliminate Illicit Trade in Tobacco Products, or at the very least seek to implement its key provisions to secure the supply chain for tobacco products, including a well-designed track and trace system that is integrated with other countries' systems to exchange useful information.

Policy Implications and Recommendations

1. *Increase tobacco excise taxes and optimize tax structure*

Significant increases in excise taxes that lead to price increases have consistently proven to be the most cost-effective mechanism for reducing tobacco consumption. The evidence demonstrates that simpler excise tax structures—utilized in most high-income countries—leave the least room for industry manipulation or tax avoidance and brand/product switching by consumers. Besides its importance in setting taxes at a higher level to discourage consumption, specific excise tax policies must include regular adjustments to increase the tax rate so that it outpaces inflation and income growth in the country over time. Excise tax increases should aim to reduce the affordability of tobacco products.

The base on which the tax is applied is also important. For specific taxation, the tax base should be the quantity in clearly defined units (usually sticks for cigarettes and grams for waterpipe tobacco). For ad valorem (or mixed) taxation, the best practice is to use the retail price as the tax base and introduce a minimum excise tax.

With regard to non-tax regulations that affect the price of tobacco products, pricing regulation may be considered to prevent the tobacco industry from exercising differential tax shifting, which it uses to ensure that large price gaps exist between premium and cheap cigarettes. However, pricing policies cannot be used alone. To make excise tax on tobacco products more effective in reducing overall tobacco use, all tobacco products must be taxed comparably. Regular assessment, evaluation and monitoring of the impact of tobacco tax policies over time are essential components of effective tax policy development and analysis.

2. *Smoking cessation interventions*

Jordan needs to implement smoking cessation interventions to support smokers in sustaining smoking cessation after the tax increase. To start, health care providers need to ask people their smoking status and offer help to quit if they are smokers. The best practice for this cessation help is a combination of counseling and medication (for example, nicotine-replacement therapy), and medical insurance agencies should collaborate with these initiatives to ensure that these are accessible and preferably free to would-be quitters.

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