

# **The Economics of Tobacco and Tobacco Taxation in Egypt**

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## Executive Summary

Egypt has one of the highest cigarette usage rates globally and in the Eastern Mediterranean Region (particularly among males). WHO (2022) revealed that half of Egyptian adults are exposed to secondhand smoke at home and that nearly a quarter (24.4%) of adult Egyptians currently use tobacco products. In this regard, this report aims to present a set of policies that work to reduce tobacco consumption in Egypt.

In 2020, 48.1% of adult Egyptian males were tobacco smokers, while adult females reached 0.4%. In addition, the age group (45-54 years) has the most significant percentage of smokers, reaching 23.2%, followed by the age group (35-44 years) with around 22.5%. Furthermore, Individuals with a literacy certificate have the highest percentage of smokers (30.1%). In comparison, those with university qualifications or above have the lowest rate of smokers (12.7%). The spending on tobacco increased annually for each smoker, from EGP 4,489.89 in 2016 to EGP 7,262.28 in 2021. Based on data collected from 2007 to 2021, Cigarette price has a negative and statistically significant (at the 5% level) impact on Cigarette Consumption, with an estimated price elasticity of demand of -0.55. Also, income elasticity is positive and equal to 0.27, which means that Cigarette demand is inelastic to income, and cigarettes are normal goods. This finding is consistent with the results obtained from 2016 to 2021, which reflects that—although the expenditure on cigarettes per year per smoker increased from EGP 4,195.2 in 2016 to EGP 6,667.69 in 2021, the number of cigarettes per smoker per year increased by 474.93 cigarettes per smoker (8.8 per cent) since inelastic income elasticity means smokers have low sensitivity to change in income per capita.

It is worth mentioning that during 2019–2021, cigarette affordability presented a descending trend (increasing RIP). The decreased affordability over this period did not, however, lead to a reduction in the consumption of cigarettes. The volume of cigarette sales continued to increase until it reached 108.27 billion cigarettes in 2021. It is possible to explain this

increase in consumption of cigarettes during the period 2019–2021 with COVID-19 and other variables than changes in affordability. As Maloney et al. (2021) and Carreras et al. (2022) found, adult cigarette smokers smoked more during COVID-19 to stay calm and deal with negative feelings and social impacts related to the pandemic. Also, smokers tried to ensure their cigarette supply, even though some faced financial difficulties. However, in general, during 2016–2021, cigarette consumption increased as affordability increased.

It is recommended that policymakers take steps to reduce tobacco consumption in Egypt through three main axes:

1. Tax Regime: Increasing cigarette taxes, imposing a uniform specific tax on all types of cigarettes, adjusting tobacco tax rates yearly, increasing taxes on waterpipe tobacco/shisha and other smokeless tobacco products, and taking the appropriate steps to combat tobacco smuggling.
2. Youth protection and prevention: Adopting a comprehensive policy to limit and enforce access to tobacco for kids by Raising the purchase age from 18 to 21, Developing mass media campaigns, and Imposing penalties on any company that markets cigarettes to youth.
3. Provide Incentives: Mitigating any potentially regressive effects of the higher taxes on the significant portion of Egypt's population that lives in poverty and implementing a truly digital comprehensive health insurance system.

In addition, the report suggests further research work to understand the tobacco industry pricing strategy and how it undermines tobacco tax policy; study tobacco health risk awareness among socially disadvantaged people as a crucial tool for smoking cessation; explore incentives for smoking cessation, such as through a digital comprehensive health insurance system; and strengthen supply chain risk management of tobacco as a commodity.

## 1. Introduction

Tobacco and smoking, along with their numerous associated risks, are regarded as among the greatest economic, environmental, health, social, and educational challenges confronting the entire world. According to a 2022 World Health Organization (WHO) report, tobacco kills more than eight million people each year. More than seven million of those deaths are the result of direct tobacco use, while around 1.2 million are the result of non-smokers being exposed to second-hand smoke. According to the *Tobacco Atlas*, the economic cost of smoking was estimated to be nearly two trillion US dollars (2016 purchasing power parity, or PPP) globally, which includes health care costs and lost productivity due to illness and premature death (Drope et al, 2018)

The Arab Republic of Egypt has some of the highest cigarette usage rates both globally and in the Eastern Mediterranean Region. According to a study conducted by the Central Agency for Public Mobilization and Statistics (CAPMAS), cigarette and water pipe smoking—which is known as shisha in the Egyptian market—account for most tobacco consumption, followed by limited consumption of e-cigarettes and smokeless tobacco products (Mordor Intelligence, 2022). According to Euromonitor (2022) Sales of cigarettes in Egypt increased from EGP 70.27 billion in 2016 to EGP 123.45 billion in 2021. The prevalence of water pipe smoking among young adults (aged 18–29 years) in three Eastern Mediterranean countries (Egypt, Jordan, and Palestine) is high (Salloum et al., 2019) According to Statista (2023) revenue in the e-cigarette market amounts to 0.37 billion USD in 2023, and this market is expected to grow annually by 15.07 percent (CAGR 2023–2027).

The Egyptian government has taken action to reduce tobacco use by adopting a few policies, including some limitations on tobacco advertising and promotion, restrictions on smoking in public places, and, most recently, the adoption of graphic warning labels. These policies were adopted in response to a growing awareness of the health and economic consequences of tobacco use. Government-owned

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Eastern Tobacco Company (ETC) had a monopoly on this market in the past. Recently, the existence of numerous regional and international competitors made the Egyptian tobacco industry more competitive.

In this report, the tobacco environment in Egypt is briefly described, starting with a discussion of the country profile; types of tobacco products available; prevalence of tobacco uses by gender, age, income, and region/province; and household expenditure on tobacco. This is followed by a brief review of the supply of tobacco and tobacco products. Then, existing global evidence is presented, including the most important findings of the previous literature on cigarette consumption and how it is affected by prices. The first part shows how an increase in cigarette prices affects the demand for cigarettes and the key variables used in previous research, showing price elasticities by income, gender, age, and region; income elasticities; and cross-price elasticities. The second part presents the existing evidence for Egypt. This is followed by new estimates of the impact of price and income on cigarette demand from 2007 to 2021 in Egypt. This is followed by a short description of tobacco control policies in Egypt, along with a more detailed discussion of cigarette taxes and prices. The report closes with recommendations for future tobacco control policy in Egypt.

## **2. Tobacco Use - Country Profile**

Egypt is a developing country where smoking is becoming more common among the populace. A large fraction of Egyptian teenagers uses tobacco products, and the prevalence of tobacco use, and cigarette consumption has been steadily rising for many years. This chapter discusses the types of tobacco and the prevalence of use in Egypt, as well as the household expenditure on tobacco in Egypt.

### ***2.1 Country profile***

According to the most recent United Nations World Population Prospects data, the current population of Egypt in 2022 is around 111 million, with a 1.6 percent increase from 2021 (Macrotrends, 2022). The population of Egypt makes up 1.31 percent of the entire global population. Egypt has the 14th largest population in the world ranking of all countries (including dependent territories). Egypt has a density of 103 people per square kilometer (266 people per square mile). With a trend toward increasing urbanization, nearly 43 percent of the population lives in urban areas (44,041,052 people in 2020) and 57 percent in rural areas. The age of the average Egyptian is 24.6 years (Worldometer, 2022).



According to the CAPMAS (2022), 2020 poverty rates remain consistently high, with approximately 29.7 percent of the population living below the poverty line during the fiscal year of 2019/2020. Egypt has been undergoing structural and economic reforms since 1991 as it moves from a centralized to a market-oriented economy. Starting in 2005, there were significant changes made to the taxation system, public financial management, privatization, monetary policy, and the banking sector (Hanafy et al., 2010) Over the majority of the last two decades, these tendencies have contributed to a sizeable economic boom and growing incomes. Although the rate of unemployment has decreased recently—from 12.6 percent in 2012 to 9.3 percent in 2021—it is still alarmingly high (The World Bank, 2022). As with much of the world, Egypt’s economy has been adversely affected by the ongoing global economic downturn.

## ***2.2 Types of tobacco products***

Three product categories make up the Egyptian tobacco market: cigarettes, water pipes, and electronic nicotine delivery systems (ENDS), sometimes known as e-shisha or e-cigarettes. Cigarettes are the most common type. Due to the closure of local tobacco stores in Egypt because of the COVID-19 pandemic, the global market for tobacco products, including cigarettes, suffered. However, with the rise of COVID-19, several e-commerce shops have significantly increased the ability for manufacturers to sell their goods without having to deal face-to-face with actual customers. As consumers adhere to social-distancing rules and refrain from physically visiting shops, online vendors have witnessed a large boost in sales (Mordor Intelligence, 2022). Sales of cigarettes in Egypt increased from EGP 70.27 billion in 2016 to EGP 123.45 billion in 2021 (Euromonitor, 2022).

Smoking cigarettes with a cup of tea or coffee is common among Egyptian workers and truck drivers during their work time because they believe that cigarette smoking increases their concentration at work (Deif, 2011) This explains the high rate of smoking among individuals with a lower level of education. There is also a common belief among Egyptians that cigarettes make the smoker calmer and reduce stress and anxiety (Deif, 2011). Moreover, there are many factors that have contributed to the growth of the water pipe, also known as “shisha,” market in Egypt. These factors include changing lifestyles; continuous innovation of products in terms of flavor, size, ingredients, and nicotine content; as well as the consumer belief that smoking reduces stress and anxiety (Mordor Intelligence, 2022).

The gouza, the bouri, and the shisha are three different types of waterpipes, and the use of each type generally reflects socioeconomic class and region. The gouza is the most popular among the poor in rural regions, is the lowest priced, and is typically handmade. The bouri, often referred to as the elmasry, is a prefabricated water pipe that is mostly utilized by urban poor people. The larger, more elaborate water pipe, also known as narghile or shisha in Egypt, is most often used by smokers from the middle and upper classes. It is frequently found at upscale dining establishments and coffee shops. All water pipes are made to be used with “mu’assel,” a tobacco variety that has been mixed with honey or molasses and is normally sold in quantities adequate for one water pipe smoking session. There are many flavors of mu’assel, including honey, apple, banana, and other fruits. The majority of water pipe smoking occurs in social settings (Hanafy et al., 2010)

Younger persons who smoke shisha tend to do so more frequently with companions, and shisha consumption is a well-liked social activity among market customers. Additionally, the majority of female shisha (water pipe) buyers think the product is stylish and that water pipes are less dangerous than cigarettes (Mordor Intelligence, 2022).

Furthermore, low-tar, low-nicotine, organic, and smokeless products are frequently advertised as safer than cigarettes. This, in turn, leads to increased demand for smokeless tobacco and e-cigarettes, which are becoming more popular around the world and are being marketed as less dangerous alternatives to cigarettes (Mordor Intelligence, 2022).

Overall, cigarettes are the main tobacco product in Egypt, followed by water pipe (shisha), followed by limited consumption of e-cigarettes and smokeless tobacco products. Therefore, this report focuses mainly on cigarettes, in addition to shisha products when relevant.

## ***2.3 Prevalence by gender, age, income, and region/province***

### ***2.3.1 Prevalence by gender***

According to the data in 2020, 48.1 percent of adult males (age 15 and older) smoke tobacco, (The World Bank, 2020) while only 0.4 percent of adult females are tobacco smokers (The World Bank, 2020) (World Data Atlas, 2020).

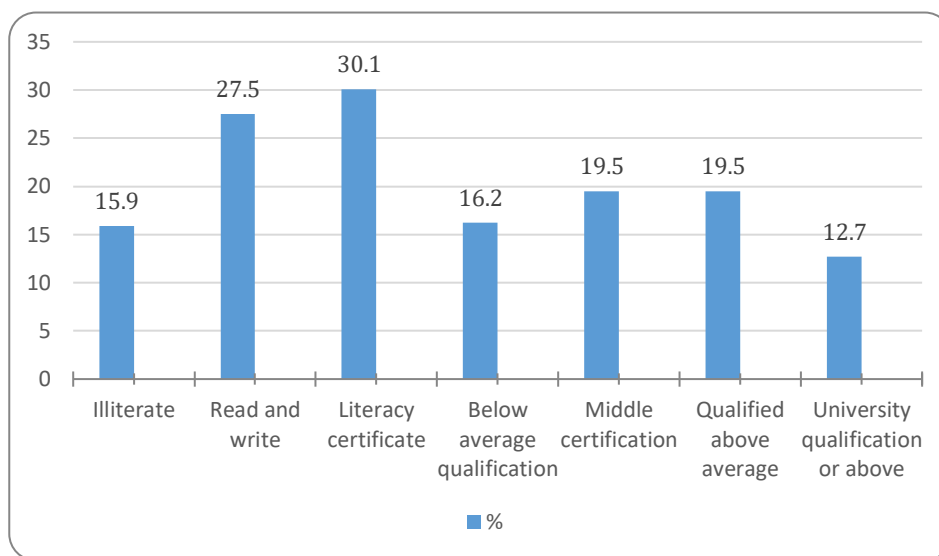
### 2.3.2 Prevalence by income

Multiple cigarette price increases in 2021 led to some people making the decision to give up smoking. This tendency primarily affects middle- and upper-middle-income groups who have tight budgets and high levels of health consciousness. However, the overall impact is still modest. Customers with lower incomes maybe more accustomed to smoking due to habit and daily routine. Many continue to do so despite rising prices (Euromonitor, 2022).

### 2.3.3 Prevalence by level of education

As shown in Figure 1, individuals with a literacy certificate have the highest percentage of smokers (30.1 percent), while those with university qualifications or above have the lowest percentage of smokers (12.7 percent) (CAPMAS, 2021).

**Figure 1.** Tobacco consumption by level of education (%)

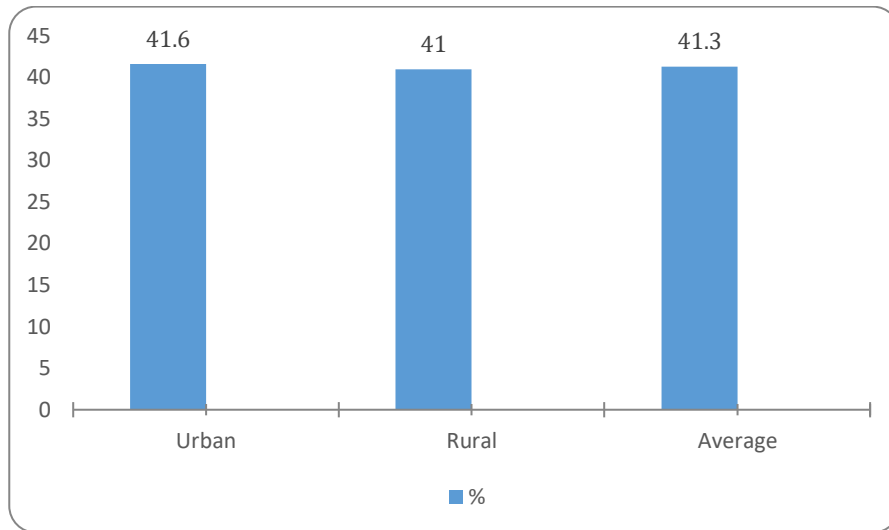


Source: CAPMAS (2021)

### 2.3.4 Prevalence by region/province

As illustrated in Figure 2, 41.6 percent of Egyptian households in urban areas have a smoker, while 41 percent of households in rural areas have a smoker. Overall, 41.3 percent of Egyptian households have a smoker (CAPMAS, 2021).

**Figure 2. Percent of families with smokers**

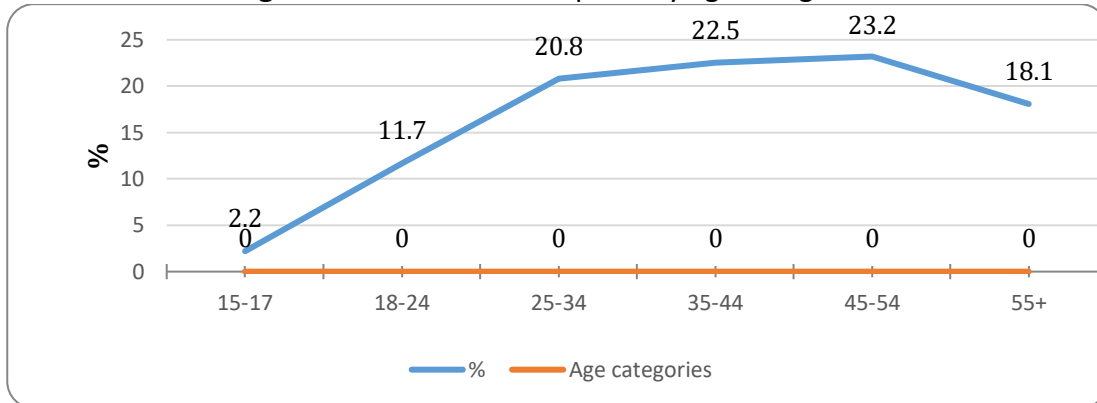


Source: CAPMAS (2021)

### 2.3.5 Prevalence by age

According to Figure 3, the prevalence of smoking by age group peaks at 45–54 years, with the largest percentage of smokers reaching 23.2 percent. Then rates decrease in the younger age groups, with 35–44 years around 22.5 percent, and 25–34 years with around 20.8 percent. In addition to smoking adults, half of Egyptian adults are exposed to second-hand smoke at home, according to WHO (2022) (WHO, 2022).

**Figure 3. Tobacco consumption by age categories**

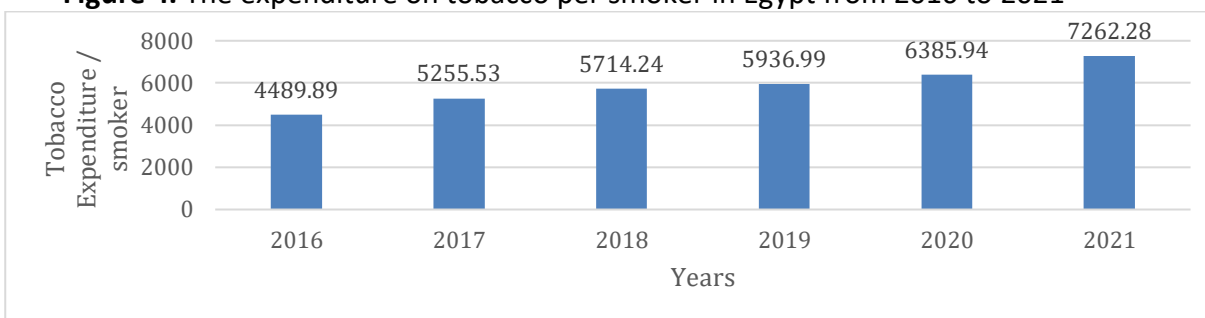


Source: CAPMAS (2021)

## 2.4 Household expenditure on tobacco

According to the data from Egyptian Center for Strategic Studies (ECSS), and Euromonitor International Tobacco in Egypt (2022), the expenditure on tobacco per year per smoker increased from EGP 4,489.89 in 2016 to EGP 7,262.28 in 2021, as shown in Figure 4<sup>1</sup>

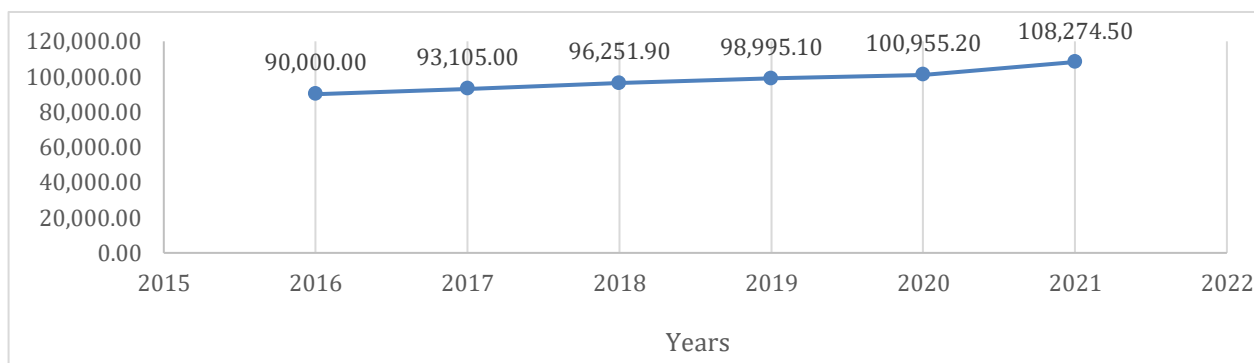
**Figure 4.** The expenditure on tobacco per smoker in Egypt from 2016 to 2021



Source: Authors' calculations (2022)

The most popular tobacco product in Egypt is cigarettes. Egypt has some of the highest cigarette usage rates both globally and in the Eastern Mediterranean Region (particularly among males). As shown in Figure 5, the number of cigarettes smoked in Egypt increased from 90 billion sticks in 2016 to 108.27 billion sticks in 2021 (Euromonitor, 2022).

**Figure 5.** Sales of cigarettes in Egypt from 2016 to 2021



Source: Euromonitor International Tobacco in Egypt (2022)

<sup>1</sup> The Expenditure on tobacco per number of smokers is calculated by dividing sales of tobacco by total number of smokers. As, (Sales of tobacco from: Euromonitor International Tobacco in Egypt. Sales of Tobacco by Category: Value 2016-2021. July 2022), and Total number of smokers from Euromonitor International Tobacco in Egypt. Number of Adult Smokers by Gender 2016-2021. July 2022

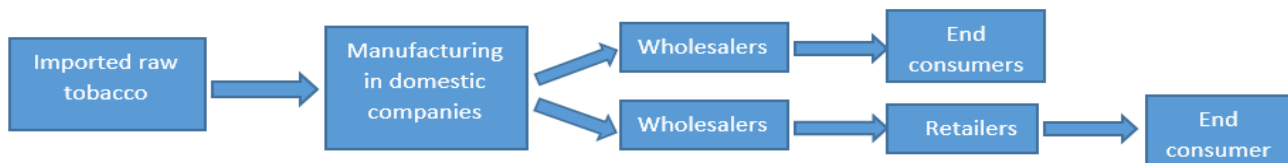
### 3. The Supply of Tobacco Products in Egypt

The tobacco supply chain reveals the people and processes involved in getting tobacco products from seed to consumer. From the initial step of acquiring raw materials to the delivery of the product or service to end users, the supply chain captures the full system of creating and delivering a good or service (University of Bath, 2022). In Egypt, there are two supply chains for tobacco: one for domestically manufactured tobacco products and another for imported tobacco products.

#### ***Supply chain of domestically manufactured tobacco products***

As shown in Figure 6, the tobacco supply chain for domestic production starts with raw tobacco imported from other countries. This is then manufactured by domestic companies, after which it is distributed through two channels. One channel is through wholesalers who deliver it directly to end consumers, in essence, acting as both wholesaler and retailer. The other channel is through wholesalers who distribute it among retailers, who then supply end consumers.

**Figure 6.** Supply chain of domestically manufactured tobacco products

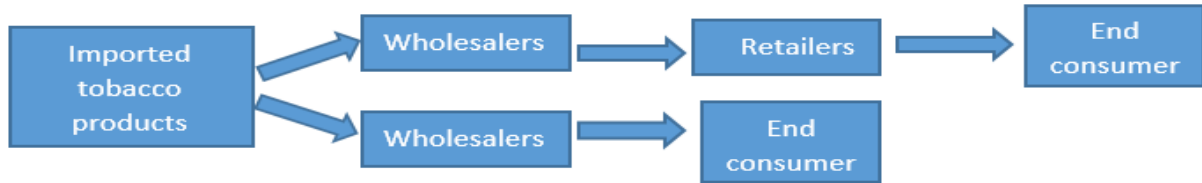


Source: by the Authors

#### ***Supply chain of imported tobacco products***

As shown in Figure 7, imported tobacco products are purchased from foreign countries and then distributed in the market through the same two channels as domestically manufactured products. One channel goes directly to wholesalers and then to end consumers. The other channel goes through wholesalers, who supply the products to retailers, who deliver it to the end consumers.

**Figure 7.** Supply chain of imported tobacco products



Source: by the Authors

### **3.1 Farming**

Farming is considered the first phase in the tobacco supply chain, but—since Egypt does not permit the growth of tobacco—companies that manufacture tobacco products must import their raw tobacco from other countries(CASTLE, 2021).

#### **3.1.1 Trade and employment**

In 2020, Egypt became the 17th largest importer of raw tobacco in the world, bringing in USD 132 million worth that year alone. In the same year, raw tobacco was the 129th most-imported product in Egypt. The top five countries from which Egypt imports raw tobacco are: India (USD 39.5 million), Malawi (USD 30.2 million), Germany (USD 14 million), Brazil (USD 13.2 million), and the Philippines (USD 9.85 million) (The Observatory of Economics Complexity, 2020). Since Egypt does not cultivate tobacco, there are no jobs in the agriculture sector.

### **3.2 Manufacturing**

#### **3.2.1 History and market structure**

This is the second phase in domestically produced tobacco products. Manufacturing in Egypt used to be dominated by the largest cigarette maker in the Middle East, which is a domestic government-owned company, Eastern Tobacco Company (ETC) (sometimes referred as Eastern Company SAE). The entry of numerous regional and international competitors, however, has made the Egyptian tobacco market more competitive in recent years. The country's retail shelves have a higher availability of well-known companies and foreign brands (Mordor Intelligence, 2022). Hence the current major players in the tobacco industry are:

- a) Eastern Tobacco Company (ETC)
- b) Philip Morris International Inc.
- c) British American Tobacco PLC
- d) Japan Tobacco International SA
- e) Imperial Brands PLC

### 3.2.2 Ownership (CASTLE, 2021).

#### The domestic tobacco industry in Egypt

Eastern Tobacco Company (ETC) was established in 1920 by a decree issued by Sultan Ahmed Fouad (Eastern Company, 2019). The company specializes in the manufacturing and trade of tobacco, as well as its byproducts and related goods. Assiut, Menoufia, Alexandria, Giza, and other governorates all host a significant number of their factories. In Egypt, there are roughly 350 distribution hubs. The business has an office and a mu'assel factory in Giza as well as a main facility in October that occupies 365 acres. In addition, there are factories in Alexandria, in Rusafa (which makes cigars), and in Muharram Beck (which produces an average of 20 million cigarettes per day in addition to the mu'assel. Furthermore, there are two factories—one in Abu Tig in the Assiut Governorate and the other in Monouf in the Menoufia Governorate—both of which are dedicated to producing mu'assel. In 2020 and 2021, the corporation returned EGP 75 billion in cigarette tax to the national budget.

For fiscal year 2019, according to the companies' market shares, the Eastern Tobacco Company (ETC)—which is the only local company—dominates the market with a volume of 72 percent of the total market share. The other corporations, which are all international companies, represent the remaining 28 percent of the market share.

Importantly, the majority of Eastern Tobacco Company (ETC) shares are owned by the Egyptian government, with 50.5 percent of the total shares, followed by 43.5 percent of the shares that are traded in the Egyptian stock market; meanwhile six percent of shares are owned by the employees of the company (Eastern Company, 2020).



## International tobacco industry in Egypt

### *Philip Morris Misr LLC*

The license for Philip Morris International (PMI) products in Egypt is Philip Morris Misr LLC, which was founded in 2013. In 2014, the company underwent a significant restructuring of its operations in Egypt, which included the signing of a new contract manufacturing agreement with the Eastern Tobacco Company (ETC), the establishment of a new affiliate of Philip Morris International in Egypt, and a new distribution contract with Trans Business for Trading and Distribution LLC. In their annual report for 2015, Philip Morris presents 15 percent of cigarettes market share in Egypt.

### *British American Tobacco (BAT) Middle East*

BAT ranks third in the market for cigarettes with a 10.7percent share in 2015.

### *Japan Tobacco Inc. (JTI)*

In 2013, JTI bought the largest manufacturer of water pipes, Al Nakhla Tobacco Co. The Winston were introduced in Egypt by JTI in 2014 thanks to a production arrangement it entered into with ETC.

### *Imperial Tobacco Group*

Imperial Tobacco Group is a multinational British tobacco firm with its global headquarters in Bristol, United Kingdom. According to its global market share, Imperial Tobacco Group is the fourth-largest international cigarette manufacturer in the world. It operates 51 plants across the world and produces more than 320 billion cigarettes annually. Davidoff and West are its main brands globally.

### *3.2.3 Employment*

Employment in the tobacco industry in Egypt is classified into two types. First, direct employment in the tobacco manufacturing sector, mainly in the Eastern Tobacco Company (ETC), which is responsible for domestic tobacco production besides having the license for production of some of the foreign brands. In 2022, ETC had 12,872 employees (Market Screener, 2022). Due to the absence of tobacco cultivation in Egypt, there is no employment in the agriculture sector. Second, indirect employment exists in the

distribution sector, whether wholesalers or retailers or importing companies responsible for importing foreign tobacco products, as they distribute and import other products besides those related to tobacco.

#### *3.2.4 Trade (exports and imports)*

The value of imports of other manufactured tobacco and manufactured tobacco substitutes “homogenized or reconstituted tobacco; tobacco extracts and essences” to Egypt was USD 37 million in 2021, representing a decrease from USD 75 million in 2020 (TrendEconomy, 2023) . As for exports of tobacco products, the number of cigarettes exported by the Eastern Tobacco Company (ETC) decreased by 14 percent between fiscal year 2020–2021 and fiscal year 2021–2022, from 83 million cigarettes to 71 million cigarettes, respectively (Elhouty, 2022).

#### *3.2.5 Trends in production*

In 2014, Philip Morris International (PMI) underwent a significant restructuring of its operations in Egypt, which included the signing of a new contract manufacturing agreement with the Eastern Tobacco Company (ETC). In 2022, the United Tobacco Co. (UTC) secured a government license to establish a cigarette factory. The company is jointly owned by PMI and Eastern Tobacco Company (ETC), which acquired a 24-percent share in the firm. According to the agreement, UTC must lease the building and the current production lines from Eastern Tobacco Company (ETC). for a period of three years to continue producing PMI products. Up until June 2022, Eastern Tobacco Company (ETC) is required to produce PMI products on the same production lines. To guarantee that its products are accessible in Egypt, PMI reaffirmed its complete commitment to all current contractual agreements with suppliers and traders. The business claimed that it will keep offering all its items at the same rates and with the same packaging (Tobacco reporter, 2022).

### **3.3 Distribution and retailers**

#### *3.3.1 Types of retailers*

Distribution is the third phase in the supply chain of tobacco. It refers to the methodology for getting products to consumers (Business.com, 2022). Distribution can occur through the wholesaler who then supplies the retailers, or it could go directly from the manufacturing company to the retailers. The type

of purchaser represents the primary distinction between wholesale and retail. In contrast to retail, which involves selling goods directly to customers, wholesale involves selling goods in large quantities to other companies, including retail establishments (Shipbob, 2022).

The distributors and retailers of tobacco in Egypt include retail outlets like specialty stores, vape/tobacco stores, hypermarkets/supermarkets, convenience stores, and gas stations. As these outlets are in heavily populated zones, with a greater number of customer groups, manufacturers use these opportunities to promote their products by giving multipack discounts (e.g., buy-two-get-one-free or two-for-one deals) and wholesale price discounts, driving the products' sales through these channels. Furthermore, point-of-sale (POS) marketing uses color, design, and other features to encourage impulse purchases of tobacco products. Due to restrictions on tobacco and cigarette advertising, these stores offer greater visibility through the POS strategy. These efforts do not go unnoticed, as six in 10 adults in Egypt noticed tobacco advertisements or promotions when visiting points of sale (Mordor Intelligence, 2022).

### *3.3.2 Price segments, market share, domestic versus international*

There are three price segments for cigarettes:

- 1) The lower segment – includes single sticks (which remain a legal practice) or packs priced between EGP 1 and EGP 22. This segment includes the domestic brands Cleopatra Queen soft pack, Cleopatra Box, and Boston/Belmont cigarettes.
- 2) The middle segment – includes packs of cigarettes with an average price between EGP 22 and EGP 35. This segment includes the domestic brands Cleopatra Super cigarettes, Cleopatra Black, and Mondial cigarettes.
- 3) The higher segment – includes packs of cigarettes priced at more than EGP 35 (Almwafy, 2021). This segment includes international brands Merit cigarettes, Marlboro cigarettes, and L&M cigarettes.

The Cleopatra Queen soft pack manufactured by Eastern Tobacco Company is considered the most popular brand, as it represents 55 percent of sales in 2020 (Eastern Company, 2020).

The process of distribution of tobacco products could occur through both domestic and international companies, which are responsible for tobacco products dissemination throughout Egyptian markets as well as internationally to other countries.

### *3.3.3 Single sticks/packs*

Selling single cigarette sticks is a well-known technique for cigarette vendors and the impoverished who cannot afford a full pack of cigarettes, but this practice has also come under criticism for its impact on the general public's tax revenue.

When selling a single-stick cigarette, the seller sells it at a higher price than the price of the cigarette itself when selling it in a pack. The difference between the price of the single-stick cigarette when it is sold and the price of the cigarette itself when the pack is sold is determined informally by the sellers.

There are no additional taxes collected on this difference in price; also, no additional cost is added to the purchasing price from the producing company or wholesaler. Hence, the revenue that the seller achieves when selling a single-stick cigarette is higher than the revenue he achieves when selling it as part of an entire pack of cigarettes, but there is no tax gain for the government.

The Association of Cigarette Dealers claims that the sales of single sticks cigarettes have risen notably in impoverished areas, provinces in Upper Egypt, and some villages and hamlets in Lower Egypt. According to the president of the association, the single stick phenomenon previously only made up 1–2 percent of total sales, but it has grown in 2015 to 15 or 20 percent. As the practice has become more widespread, it affects producing companies that pay taxes to the state (Saad et al., 2015).

## **4. The Demand for Tobacco Products in Egypt**

This chapter briefly reviews existing global evidence by presenting the most important findings of previous literature on cigarette consumption and how it is affected by prices. The first part shows how an increase in cigarette prices affects the demand for cigarettes. It includes key variables used by the previous studies showing price elasticities by income, gender, age, and region, income elasticities, and

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cross-price elasticities. The second part presents the existing evidence for Egypt. This is followed by new estimates of the impacts of price and income on cigarette demand in Egypt.

#### **4.1 Global evidence**

The literature review highlighted some earlier significant research on the impacts of pricing on cigarette demand, but there are other important factors that should be considered when building a model of cigarette demand.

One of the fundamental principles of economics is that demand for a given good is often inversely related to its price, which causes a downward-sloping demand curve. However, some researchers believed the law of demand did not apply to the market for addictive products like cigarettes (Elster, 1979; Winston, 1980; Schelling, 1984). According to these researchers, those who use addictive products do not necessarily act as rationally as the economic models predict. However, numerous other studies have shown empirically and unequivocally that the demand for addictive products responds to changes in price and other demand factors (Wasserman et al., 1991; Chaloupka & Warner, 2000).

Estimates of the price elasticity of demand for cigarettes mentioned in the literature vary slightly from one source to another. According to a review of studies on the price elasticity of cigarette demand conducted by the United States National Cancer Institute (1993), the available range both in the US and internationally at that time was between -0.14 and -1.23. But according to the U.S. Department of Health and Human Services (2014) the price elasticity of cigarette demand fall between -0.3 and -0.5, as a 10% increase in price has been estimated to reduce overall cigarette consumption by 3–5%.

Additionally, Keeler (1991) discovered that the price elasticity of cigarette smoking changes over time, while Wasserman et al. (1991) found that the price elasticity of the demand for cigarettes is greater over the long term than it is over the short term.

Moreover, the price sensitivity of cigarette demand is not uniform across all countries, as some researchers have found that cigarette usage is more sensitive to price in low- and middle-income countries than in affluent countries (Warner, 1990). Sayginsoy and colleagues (2002) calculated cigarette demand elasticities for low-, middle-, and high-income populations in Bulgaria at -1.33, -1, and -0.52

respectively. Similarly, van Walbeek (2002) calculated elasticities in South Africa by income quartile that range from -1.39 for the lowest-income quartile to -0.81 for the highest-income quartile.

These findings were also confirmed in a study by Chaloupka et al. (2014), which revealed that in high-income countries most estimates for the price elasticity of cigarette demand fall between -0.25 and -0.50. At the same time, demand is more sensitive to price in low- and middle-income countries, where it ranges from -0.50 to -1.00. This variation in relative price sensitivity is consistent with the economic theories of addictive behavior, which contend that people with lower incomes and less education will be more sensitive to changes in prices than people with higher incomes and more education.

Furthermore, there are few studies examining the price elasticities of demand for various tobacco products across gender groupings (Tauras et al., 2013; Joseph & Chaloupka, 2016). And the available empirical data on gender variations in the price elasticity of demand for tobacco products, particularly cigarettes, is contradictory. For instance, there are empirical studies that suggest men smoke more cigarettes than women (Kalaboka et al., 2008; Atikah et al., 2019). Similar findings were made by Sweis and Chaloupka (2014), who revealed that the price elasticity of cigarettes was higher for Jordanian men than for women, (0.81 vs. 0.01), Also, Hagen et al. (2016) discovered that men in impoverished nations are around 10 times more likely to smoke tobacco than women (32 percent versus 3.1 percent), while in industrialized countries men are less than two times as likely to smoke tobacco compared to women (30 percent versus 17 percent). In contrast, Tauras et al. (2013) showed that the price elasticity of young women in subpopulations in the United States was greater than two times that of their male counterparts (0.63 versus 0.25).

Additionally, there have never been any previous attempts to evaluate gender variations in the price elasticities of water pipe tobacco products. However, smoking water pipe tobacco, also known as narghile and shisha, is becoming more common among both men and women in the Arab world (Jawad et al., 2018).

Furthermore, the price elasticity of cigarette demand varies with age. For example, Lewit and Coate (1982) revealed that youth have a higher elasticity of demand for tobacco than adults, using United States data from the 1976 National Health Interview Survey.

Although the income elasticity of cigarette demand is of less interest to economists when income growth is low, it is of greater interest in situations where incomes are growing quickly. They use income elasticity of demand as a control variable when estimating the price elasticity of cigarette demand, which is of great interest to economists and policy makers due to its importance for the excise tax in controlling cigarette consumption (Kenkel et al., 2012). The income variable can have a sizeable impact on cigarette usage. Earlier tobacco demand researchers have asserted that cigarettes are normal goods with positive income elasticity, whose demand rises as income rises (Fujii, 1980). However, additional studies have revealed that cigarette consumption is becoming an increasingly inferior good over time, as demand for cigarettes falls after income reaches a certain threshold (Wasserman et al., 1991; Townsend et al., 1994).

Lastly, the cost of relevant goods and the interdependence of cigarettes with other goods also have an impact on consumer demand for cigarettes. For instance, if prices increase, smokers may switch to alternative tobacco products that are less expensive to meet their nicotine needs. The assessment of cross-price elasticities of tobacco products and water pipe tobacco elasticities has received less attention in the literature (Salti et al., 2015; Huang et al., 2018; Jankhotkaew et al., 2021).

Although smoking tobacco products other than cigarettes is becoming more commonplace around the world (Jawad et al., 2019), a recent study of the price elasticity of demand for non-cigarette tobacco products indicated a dearth of relevant research in the Arab region (Jawad et al., 2018). Additionally, compared to cigarettes, Arab women typically smoke water pipe tobacco (Salameh & Waked, 2012; El Awa & El Naga, 2013). According to recent estimates based on representative surveys, smoking water pipes is more common among women in Lebanon than smoking cigarettes (54.7 percent versus 27.5 percent, respectively) (Salti et al., 2015).

#### ***4.2 Tobacco demand in Egypt — existing evidence***

This section is based on secondary data from published research articles that reported original data.

To examine the effects of increasing cigarette prices on consumption in Egypt, Nassar (2003) estimated income and price elasticities using CAPMAS household surveys for two periods of time (1995/1996 and 1999/2000) in Egypt. The analysis of the household expenditure data shows a small decrease in total expenditures on cigarettes relative to total expenditures, from 5.86 percent to 5.14 percent, between

the 1995/1996 and 1999/2000 household budget surveys. But it also found an increase in expenditures on other tobacco products as a percentage of total expenditures. Health and education campaigns do not appear to be having much impact. Expenditure elasticities indicate that tobacco products are normal goods, meaning that expenditures increase as income increases. However, the values of expenditure elasticity (income elasticity) are less than one (very low for urban tobacco expenditure), indicating that any change in consumption of cigarettes and tobacco due to a change in income would be small, whether upwards or downwards.

Nassar's estimated price elasticities of cigarettes are -0.397, -0.412, and -0.385 at the national, urban, and rural levels, respectively, according to the data of 1999/2000. This means that each one percent increase in the price of cigarettes causes consumption to fall by about 0.4 percent. With any tax increase, such a minor change in consumption will result in increased government revenue.

In addition, Hanafy et al. (2010) used annual data for the period from 1990 through 2006 to reveal that cigarette price has a negative and statistically significant (at the 10-percent level) impact on per capita cigarette consumption, with an estimated price elasticity of demand of -0.47. Demand is found to be quite elastic to income, with an estimated income elasticity of 1.60.

#### ***4.3 Tobacco demand in Egypt — additional findings***

This part is based on both primary data, from semi-structured interviews the authors conducted with different stakeholders, and secondary data, which were compiled in the form of annual time-series data from 2007 to 2021.

##### ***4.3.1 Additional findings from semi-structured interviews***

This section summarizes findings from semi-structured interviews with stakeholders including Egyptian economists, experts from governmental authorities, and the private sector. They were asked about their views on the effects of raising taxes on tobacco products, and the increase in the income of individuals in Egypt on the demand for tobacco products, the interviewees revealed that:



### ***Tobacco demand is significantly inelastic to income and price levels***

Tobacco products are normal consumer goods, where income increases will increase tobacco consumption. However, changes in income will only have an insignificant impact on cigarette consumption, whether positive or negative, especially for urban tobacco spending. Similarly, the price elasticity of demand for tobacco is inelastic indicating that the demand for cigarettes changes by less proportion than the change in cigarette prices.

### ***Inelastic cigarette demand is perfect for government tax excise***

In the case of smoking, the demand is inelastic possibly because many consumers are addicted to the product. The seller can then pass the tax burden along to consumers in the form of higher prices without precisely proportional decline in the quantity demanded. So, new taxes will result in a gain in government revenues, yet fairly significant declines in overall consumption, which is good for public health.

Summarizing what was mentioned in the semi-structured interviews, imposing taxes by the current amount will decrease consumption but not by a great amount (inelastic cigarette demand) because of consumer behavior, who considers smoking a habit and tobacco products as a necessary commodity. Therefore, it's important to impose taxes and raise prices of cigarettes to the level that decrease the consumption of cigarettes by a large amount at which the price elasticity of demand becomes elastic or the magnitude of the absolute effect is significantly large.

This was proven by the study of Hanafy et al (2010), because of the inelasticity of cigarette demand ( $-0.435$ ), the tax increase would generate almost £E 3.5 billion (US\$ 0.6 billion) in new cigarette tax revenues and reduce overall cigarette consumption by almost 19%. While further increasing the tax to 70% of price would increase tax revenues by £E 5.2 billion and reduce overall cigarette consumption by nearly 25%. The health impact would be significant, with some 250,000 deaths averted among current smokers and 350,000 deaths prevented among youth who do not initiate smoking because of the further increase to 70% of price. \*These estimations have been calculated based on an estimation model presented in Table (1).

**Table (1): The impact of increasing cigarette taxes on smoking-attributable mortality and government revenue**

<b>Model parameters, baseline</b>						
Current cigarette smokers (millions)	8.8					
Premature deaths in current smokers (millions)	2.9					
Expected future smokers (millions)	4.2					
Premature deaths in future smokers (millions)	1.4					
Average cigarette tax	££1.75					
Average cigarette price	££3.50					
Tax as a percentage of price	50.0%					
<b>Model projections</b>						
Increased average cigarette tax	££3.25 (July 2010 tax changes)			££4.08		
Increased average cigarette pack price	££5.00			££5.83		
Cigarette tax as a percentage of price	65%			70%		
Alternative elasticity assumptions	-0.4	-0.435	-0.47	-0.4	-0.435	-0.47
Reduction in number of current smokers (millions)	0.74	0.81	0.87	1.01	1.09	1.18
Reduction in premature deaths caused by smoking among current smokers (millions)	0.17	0.19	0.2	0.23	0.25	0.27
Percentage of premature deaths in current smokers averted by higher taxes	6.0%	6.5%	7.1%	8.1%	8.8%	9.5%
Reduction in number of future smokers (millions)	0.72	0.79	0.85	0.96	1.04	1.11
Reduction in premature deaths caused by smoking among future smokers (millions)	0.24	0.26	0.27	0.32	0.35	0.37
Percentage of premature deaths in future smokers averted by higher taxes	17.1%	18.6%	20.1%	22.7%	24.5%	26.4%
Total reduction in number of current and future smokers (millions)	1.47	1.59	1.72	1.96	2.13	2.29
Total reduction in premature deaths in current and future smokers caused by smoking (millions)	0.41	0.45	0.49	0.55	0.6	0.65
Percentage of premature deaths in current and future smokers averted by higher taxes	9.6%	10.5%	11.3%	12.9%	14.0%	15.1%
Additional tax revenues (££ billions)	3.67	3.48	3.29	5.48	5.18	4.89
Additional tax revenues (US\$ billions)	0.66	0.63	0.6	0.99	0.94	0.89

Source: Hanafy et al (2010)

### 4.3. Additional findings from secondary data

This section is based on secondary data, which were compiled in the form of annual time-series data from 2007 to 2021. A simple time-series model for cigarette consumption in Egypt is estimated using the price and income estimates double-log model, as follows:

$$\ln Q_t = \beta_0 + \beta_1 \ln P_t + \beta_2 \ln Y_t + \varepsilon_t \quad (1)$$

where:

- **Q<sub>t</sub>** is cigarette consumption in year **t**, sourced from Euromonitor International.
- **P<sub>t</sub>** is cigarettes average price/20 cigarettes in year **t**, sourced from Euromonitor International by multiplying the average price per stick (which is calculated by dividing sales value over sales volume for each year between 2007 and 2021) by 20.
- **Y<sub>t</sub>** is GDP per capita in year **t**, sourced from the World Bank by dividing real gross domestic product (GDP) by the population of Egypt (in Egyptian pounds).
- **ε<sub>t</sub>** is an error variable.
- **β<sub>1</sub>** and **β<sub>2</sub>** represent the price and income elasticity of cigarette consumption. **β<sub>1</sub>** is expected to be negative, implying a negative relationship between price and consumption by the law of demand. **β<sub>2</sub>** is expected to be positive, implying that cigarettes are a normal good and the demand for cigarettes increases with income growth.

Estimates from the model are presented in Table 2.

**Table 2.** Price and income estimates model, Egypt (2007–2021)

Variable	Coefficient	Std. Error	t-Statistic	P-value
Constant	24.03	0.45	53.87	1.1E-15
GDP per capita	<b>0.27</b>	0.02	13.84	9.72E-09
Cigarettes average price/20 cigarettes	<b>-0.55</b>	0.15	-3.63	0.003
R-squared	0.94	<b>Prob(F-statistic)</b>		4.19E-08
Adjusted R-squared	0.93			

Source: Authors' calculations

From the above findings, cigarette price is found to have a negative and statistically significant (at the five-percent level) impact on cigarette consumption, with an estimated price elasticity of demand of -

0.55, which means that cigarettes demand is inelastic to price levels. So for 2007–2021, every one-percent rise in the price of cigarettes would result in a 0.55-percent decline in consumption, holding the effect of other variables constant.

Also, income elasticity is positive and equal to 0.27, which means that cigarette demand is inelastic to income, and cigarettes are normal goods. So, every one-percent rise in the income level will result in a 0.27-percent increase in cigarette consumption, holding the effect of other variables constant.

#### *4.3.3 Comparing findings from the existing evidence with the additional findings (from semi-structured interviews and secondary data)*

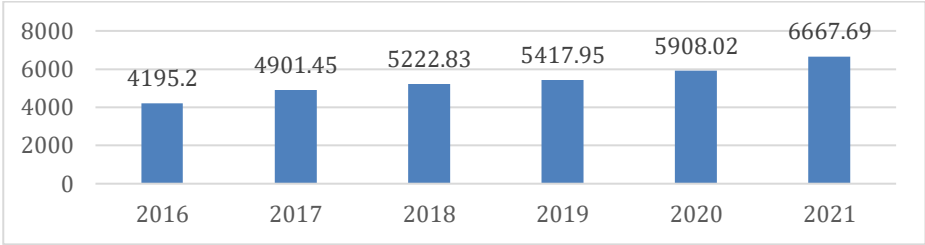
#### **When comparing the findings from different sources mentioned above, it is found that:**

When looking at the price elasticity of demand for cigarettes, Nassar (2003), Hanafy et al (2010), and the secondary data collected from 2007 to 2021 in this report revealed that cigarette demand is inelastic to price levels, and estimated at about -0.41, -0.47, -0.55 respectively. These results were confirmed by the semi-structured interviews. It is worth noting that the inelasticity of demand for cigarettes is due to Egyptian beliefs and habits of consumers who are addicted to the product, such that they will buy it no matter the price. Take into consideration smokers who have been smoking for years. Their price has surely gone up due to inflation or taxes, but it did not stop them from purchasing cigarettes even though they noticed the increase in price. So the demand for cigarettes changes by less than the proportion of the change in cigarette prices, and this suggests there is room for increasing taxes on cigarettes without compromising the tax revenue.

Although Hanafy et al. (2010) found that income elasticity is elastic, Nassar (2003), the semi-structured interviews, and the findings of the current study of the simple time-series model from 2007 to 2021 revealed that cigarette demand is inelastic to income and positive as cigarettes are normal necessary goods. Whereas, over time, when income rises, smokers will continue to smoke and buy cigarettes because it is a normal, necessary good, and they will not increase more than their consumption needs (demand increases with income but not much). Therefore, low-income smokers continue to smoke as their incomes rise over time, and their consumption does not keep pace with income increases over time.

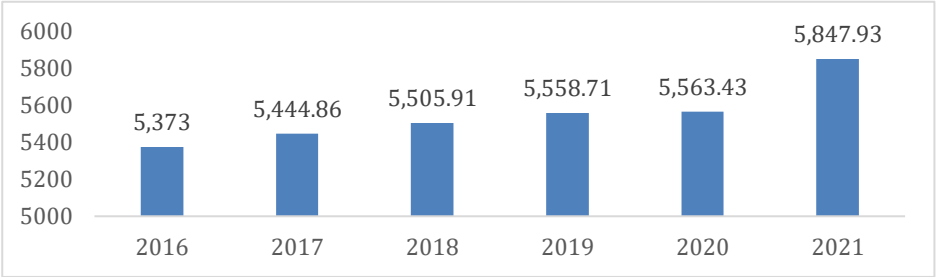
This finding is consistent with the results obtained from 2016 to 2021, which reflects that—although the expenditure on cigarettes per year per smoker increased from EGP 4,195.2 in 2016 to EGP 6,667.69 in 2021, as shown in Figure 8—the number of cigarettes per smoker per year increased by 474.93 cigarettes per smoker (8.8 percent), as shown in Figure 9, since inelastic income elasticity means smokers have low sensitivity to change in income per capita.

**Figure 8.** The expenditure on cigarettes per smoker in Egypt from 2016 to 2021



Source: Authors’ calculations (2022)

**Figure 9.** Number of cigarettes per smoker per year in Egypt, 2016 to 2021



Source: Authors’ calculations (2022)

All the above findings are summarized in Table 3.

**Table 3.** Comparing findings from existing evidence, additional findings from semi-structured interviews, and secondary data

	The existing evidence		Additional findings	
	Nassar (2003)	Hanafy et al. (2010)	Semi-structured interviews	Secondary data (2007–2016)
Price elasticity	-0.41	-0.47	Inelastic	-0.55
Income elasticity	Inelastic	1.60 (Elastic)	Inelastic	0.27 (Inelastic)

Source: Authors’ calculations

Finally, tobacco taxes are considered an effective method for increasing government revenue. According to Nassar (2003), and the semi-structured interviews as the demand for cigarettes is inelastic, with any tax hike, such a minor change in consumption will result in increased government revenue.

However, to maintain the desired impact, the real value of the tax increase should be maintained, and it should also be applied to all tobacco products to discourage substitution between the different products. The smuggling potential should be considered when implementing this strategy, as well as other policies such as media campaigns, education, and other public health activities (Chaloupka, 1998).<sup>4</sup> It is suggested that Egypt could sign the Protocol to Eliminate Illicit Trade in Tobacco Products or at least use it as a basic guide for how to address these broad challenges.

## **5. Tobacco Control in Egypt**

In addition to the significant public health cost imposed by tobacco, there is a compelling economic case for government intervention to curb tobacco use. This section examines market failures that give the economic rationale for government intervention to limit tobacco consumption and describes Egypt's tobacco control environment.

### ***5.1 Rationale for government intervention***

According to economic theory, consumers are aware of what is best for their own welfare. This idea is referred to as "consumer sovereignty." According to economists, allowing people to make their purchasing decisions in a free, competitive market is the best way to distribute society's limited resources. There is no basis for government intervention in the market if customers freely and voluntarily purchase and consume goods with full knowledge of the health repercussions and other consequences and if they also bear all the costs and rewards of their choices. With tobacco, however, the conditions envisioned by this ideological framework are not met, as the economic rationale for government intervention to limit harm from tobacco products stems from flaws in how the tobacco market functions (Scollo et al., 2020)

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In general, consumers have a limited understanding of the health and other implications of tobacco smoking. Many smokers are unaware of all the health dangers linked to tobacco use, and even those who are aware of the risks, in general, do not fully internalize them (Gruber J and Kőszegi, 2008) This is especially true in Egypt, where a vast number of people are largely ignorant about the negative effects of smoking (Euromonitor, 2008). In addition, despite mounting research on the negative effects of water pipe/shisha use on health, many Egyptians who use this kind of tobacco believe it to be less harmful than cigarette smoking (World Bank, 2006).

This incomplete information is worsened by the fact that most tobacco users begin using it when they are young. As mentioned above, hundreds of thousands of Egyptian teenagers start smoking by the age of 15, with many doing so as early as age 10. The limited capacity of children and adolescents to make fully informed, wise decisions that take the future into account necessitates government intervention in a few areas including voting, driving, and drinking alcohol. The issues with incomplete information are made even more difficult by tobacco's addictive nature, which is undervalued and poorly understood, especially among individuals who first start using it. Even among young smokers, addiction makes quitting smoking incredibly challenging (Centers for Disease Control and Prevention, 2010).

According to U.S. Department of Health and Human Services (2006) there are also negative effects of smoking. Non-users who are exposed to tobacco users' smoke develop a variety of cancers, heart and pulmonary problems, and other ailments. Furthermore, because the Egyptian government covers a sizable percentage of health care costs for employees, students, and pensioners, there are extra costly externalities that arise from publicly financed health care to address problems brought on by tobacco use (U.S. Department of Health and Human Services, 2006).

## ***5.2 Tobacco control framework in Egypt***

There are large direct, indirect, and intangible costs associated with tobacco consumption that hamper economic development rather than promote it. Effective policies and interventions make a real difference in tobacco prevalence and consumption and associated health outcomes. The most effective way to reduce tobacco use is by implementing a comprehensive tobacco control framework, which Egypt

has already done. Egypt has adopted an institutional, policy, and legal framework to reduce tobacco (except for tobacco taxation, which is covered in the next section).

This has been done through an integrated framework formulated and executed by the major stakeholders, namely: the World Health Organization, the Egyptian Tax Authority, the Egyptian prime minister, the Egyptian Ministry of Health and Population, the State Ministry of Information, tobacco products manufacturers, health institutions, educational institutions, governmental institutions, public transport authorities, sport and social clubs, private business organizations, and the subnational jurisdictions.

### *5.2.1 Tobacco institutional framework in Egypt*

With 50 percent of Egyptians exposed to second-hand smoke in their own homes and 24.4 percent of Egyptians currently using tobacco products, tobacco control in Egypt is a significant concern. The use of tobacco by young women is likewise on the rise, as is the usage of shisha. In Egypt, tobacco use is a major contributing factor in the prevalence of chronic diseases such as lung disease, lung cancer, ischemic heart disease, and stroke. Egypt signed the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) in 2003 and ratified it in June 2005. Since then, Egypt has made significant advancements in tobacco control, including the inclusion of health-related images in pictorial form on tobacco products and higher tobacco taxes (World health organization- EMRO, 2023).

### *5.2.2 Tobacco policy framework in Egypt*

According to best practices and evidence-based policies stated in the FCTC, WHO supports the implementation of effective tobacco control policies in Egypt, which lies in the following:

#### ***Tobacco advertising, promotion, and sponsorship***

According to Egyptian law, any advertising for tobacco goods in any media that aims to boost sales of a product, a brand for a tobacco product, or a tobacco product's trademark is prohibited. Direct advertising, accidental advertising, covert advertising, unconscious advertising, coverage, and enhanced sales are also prohibited. The Ministry of Health announced in November 2018 that the prohibition on



all forms of tobacco product advertising and promotion would go into full effect, including penalties for noncompliance (Tobacco control laws, 2022)

### ***Tobacco packaging and labeling***

Egypt started imposing pictorial health warnings of smoking's effects on cigarette labels on 1 August 2008: one of a dying man wearing an oxygen mask and one of a coughing child. The law stipulates that there must be two text warnings, along with a picture (of a heart, lung, or pregnancy) and additional pertinent text. Every six months, the image and text should be rotated. The law also stipulates that 50 percent of the front and back major display areas must be taken up by warnings. The terms "light," "low tar," and "extremely low tar" are not allowed to be used on tobacco product packaging. Additionally, each pack of cigarettes or tobacco, whether domestically made or imported, must list the amount of nicotine and tar, as well as the other ingredients, the manufacturing date, and the expiration date (Tobacco control laws, 2022)

#### *5.2.3 Tobacco legal framework in Egypt*

**The tobacco legal framework in Egypt has been illustrated in the Egyptian laws as follows:**

**Law No. 52 of 1981** concerning the prevention of the adverse effects of tobacco provides the foundation upon which subsequent tobacco legislation rests. The law touches upon, although briefly, smoke-free policies; advertising, promotion, and sponsorship; packaging and labeling; and penalties. There are many laws from 1981 to 2021 that all alter and/or build on the extensive tobacco control legislation included in Law No. 52 of 1981, including the following (Tobacco control laws, 2022):

- **Law No. 4 of 1994** defines key terms related to smoke-free policies. It also prohibits smoking in public transit and requires the manager of an establishment to take steps to prevent smoking in public locations. The law provides penalties for violating the ban. Only excerpted portions of the law are available here.
- **Law No. 85 of 2002** amends several provisions of Law No. 52 of 1981. First, the law updates the health warning to be displayed on the packaging. Second, Law No. 85 of 2002 supplies new language prohibiting various types of tobacco advertising, promotion, and sponsorship. Third, the law amends the penalties

outlined in Law No. 52 of 1981. Finally, Law No. 85 of 2002 repeals two articles addressing tobacco advertising, sponsorship, and promotion.

- **Law No. 154 of 2007** amends several provisions of Law No. 52 of 1981. First, the law updates the health warning to be displayed on packaging, requiring that it occupies at least one half of the packaging, and granting the Ministry of Health the authority to issue additional warnings and pictures. The law also announces new smoke-free policies, pricing and taxation policies, and the establishment of both a Higher Committee for Tobacco Control and a special jurisdiction and status of judicial police related to tobacco control.

Law No. 154 of 2007 was passed to protect people from the negative effects of smoking. Article 3 on adhering to the guidelines in the anti-tobacco framework agreement prohibits the use of any appealing slogans that encourage smoking and mandates the placement of a warning label that reads, “Beware, Smoking Damages Health and Leads to Death,” along with a publicized image that highlights those negative effects. By a decree by the Minister of Health, Article 2 of the law also forbids smoking of any kind in any health, educational, or government institution as well as sports clubs and other places. The management in charge of these places is required to implement anti-smoking measures. Any violation of this obligation results in a fine.

Additionally, according to Article 6 of the law, the government must take the required steps to enact pricing and taxing policies that raise tobacco prices as a practical way to reduce consumption. The increased outcome ought to be devoted to maintaining the health care system. Additionally, a high anti-tobacco committee was established to develop anti-tobacco policies, coordinate efforts among ministries and authorities to monitor the implementation of such policies and establish a specialized department at the Ministry of Health to combat the negative effects of smoking (KENAWY, 2018). **Decree No. 443 of 2008** amends Article 4 of the Executive Regulations of Law No. 52 of 1981 (Ministerial Decree No. 1 of 1982). The amended text requires that the amount of nicotine and tar is stated in Arabic clearly and legibly on every pack of cigarettes or tobacco produced locally or imported, and the amount of tar per cigarette must not exceed 15 milligrams. Every pack of cigarettes must also have the phrase “Caution! Smoking is harmful to health and causes death” written on it using that exact wording in clear and legible type. This warning must occupy at least half of the front and back panels of the package.

In addition, pictures that illustrate the risks of smoking to the heart and lungs and to unborn children must also appear accompanied by phrases explaining the pictures. For example, “He has heart disease caused by smoking,” and “He has lung cancer caused by smoking.” The expression “The harmful effects of smoking affect smokers and non-smokers” must be written below the phrase “Caution! Smoking is harmful to health and causes death.” And to raise awareness of the meaning of low-tar cigarettes, in 2010 there were health warnings on smoked tobacco products in the form of four images and accompanying text to be displayed as part of the health warnings required on tobacco product packaging.

- **Executive Bylaw of Law No. 52 of 1981 was issued by the Minister of Health in 2010** to implement provisions of Law No. 52 of 1981. The bylaw builds upon the provisions contained in Law No. 52 concerning topics such as health warning labels; advertising, promotion, and sponsorship; restrictions on public smoking; and enforcement authorities, among others.
- **Ministry of Trade and Industry Decree No. 101 of 2019** adopts Standard No. 8205-1/2018 (General Requirements for Traditional Cigarette Alternatives Part 1 - Electronic Cigarettes - E-Liquid) as obligatory for manufacturers and importers. This law obliges producers and importers of electronic cigarettes and e-liquids to produce or import in accordance with Egyptian requirements and measurements, with the aim of limiting the import/production of these commodities as technical barriers to trade. And according to **Decree No. 443 of 2008**, the amount of nicotine and tar must be stated in Arabic clearly and legibly on every pack of cigarettes or tobacco produced locally or imported, and the amount of tar per cigarette must not exceed 15 milligrams.
- **Ministry of Health and Population Decree No. 79 of 2021 amends Executive Bylaw of Law No. 52 of 1981** on Prevention of the Harms of Smoking. In particular, the amendments insert definitions of e-cigarettes and heated tobacco products and provide that the provisions of Art. 3 of Law No. 52 (on health warnings) apply to these products.
- **Ministry of Health and Population Decree No. 365 of 2021** establishes the health warning required to appear on the packaging of e-cigarettes and heated tobacco products.

As detailed above, there are many laws from 1981 to 2021 that all alter and/or build upon the extensive tobacco control legislation included in Law No. 52 of 1981. These are summarized in the following tables 4–6.

**Table 4. Bans on tobacco advertising, promotion, and sponsorship**

Domestic TV and radio	Yes	Promotional discounts	Yes
Domestic magazines and newspapers	Yes	Non-tobacco products or services with tobacco brand names	Yes
Outdoor advertising	Yes	Tobacco products with non-tobacco brand names	Yes
Point-of-sale advertising	Yes	Paid placement in media	Yes
Retail product display	Uncertain	Financial sponsorship, including corporate social responsibility	No
Internet advertising	Yes	Publicity of sponsorships	No
Free distribution		Yes	

Source: Tobacco control laws (2022)

**Table 5. Health warnings on smoked tobacco products**

Text warnings describe health impacts	Yes	Number of published warnings at any given time	4
Warnings include a picture or graphic	Yes	Warnings required to rotate	Yes
% of principal display areas covered (front and back)	50%	Warnings are written in the principal language(s)	Yes
Front	50%	Ban on misleading packaging and labeling	No
Back	50%	Health warnings on smokeless tobacco products	Yes

Source: Tobacco control laws (2022)

**Table 6. Smoke-free environment – complete smoking ban**

Health care facilities	Yes	Private offices	No
Primary and secondary schools	Yes	Public transport	Yes
Universities	Yes	Restaurants	No
Governmental facilities	Yes	Bars and pubs	No
Can subnational jurisdictions enact more stringent smoking restrictions?	No		

Source: Tobacco control laws (2022)

The government's anti-tobacco initiatives in Egypt are up against several obstacles, including lax enforcement of laws prohibiting the sale of tobacco to minors, insufficient efforts to raise public awareness of the dangers of tobacco use, and a lack of funding for these initiatives (Ministry of Health and Population in Egypt, 2014).

### ***5.3 Trends in tobacco taxes***

#### *5.3.1 Tax structure*

##### ***History of tobacco tax structure***

During the years 2003/2004 to 2007/2008, cigarettes were subject to a specific sales tax that was levied on each pack of cigarettes based on their factory price. Due to the high rate of inflation and the absence of cigarette tax increases at that time, it was relatively low in addition to being gradual. The tax ranged from 83 piasters (the lowest price segment) to 175 piasters (the highest price segment) per pack of cigarettes, which allowed variation in the price of cigarettes according to price segments (Sarhan, 2014).

Cigarette taxes increased to 108 piasters per pack of cigarettes (the lowest price segment) and up to 325 piasters per pack of cigarettes (the highest price segment) in May 2008. As a result, the specific tax increased for all cigarette price segments at rates ranging from 30.1 percent to 85.7 percent in comparison to the prices in the period from 2003/2004 to 2007/2008. The ability to purchase cigarettes decreased due to the rise in price, but some smokers moved to less expensive brands (belonging to a lower price segment (Sarhan, 2014).

The cigarette tax was reformed in July 2010 to replace the graded specific tax based on pricing tiers with a single tax made up of:

- a specific tax, regardless of the price segment to which it belongs: the value of 125 piasters per pack of cigarettes (a defined amount); and
- an ad valorem tax, levied at a rate equal to 40 percent of the retail price of a pack of cigarettes.

The price of cigarettes has gone through other successive hikes because of higher taxes on them. The general tax on the sale of cigarettes was increased in June 2011 by 125 piasters for each pack of cigarettes, regardless of the price segment to which it belongs, and by 50 percent of the consumer price for each pack. The tax on cigarettes was supposed to increase in December 2012 by 50 percent of the retail price to the consumer plus 200 piasters for each pack, but it did not work out that way and was undone (Sarhan, 2014).

In 2014, three tiers of specific excise tax based on the retail price of a pack were presented. Ad valorem tax stayed at a uniform 50 percent of the market price of cigarettes. The amount of excise tax on each tier and the price definition of each tier have been increased regularly (WHO, 2020).

While the cigarette tax structure during the years 2003/2004 to 2007/2008 was a graded specific sales tax that was levied on each pack of cigarettes based on their factory price, in July 2010 the cigarette tax was reformed to replace the graded specific tax based on pricing tiers with a single tax made up of a specific tax, regardless of the price range to which it belongs, besides ad valorem tax. In 2014, three tiers of specific excise tax based on the retail price of a pack were introduced while the ad valorem tax remained the same. The next section discusses the current tobacco tax structure compared to the previous tax structure illustrated in this section.

### ***Current tobacco tax structure***

#### **a) Cigarettes**

In Egypt, value-added tax (VAT) law was considered and adopted by the Egyptian Parliament on 31 August 2016, and it was then published in the Official Gazette and went into effect on 8 September 2016. It replaced the General Sales Tax (GST) Law No. (11) Of 1991 (PWC, 2016). One of the taxes stipulated by the VAT law is a “schedule tax.” Scheduled taxes are applied once, unless the products are altered or amended in some way (where repackaging, purification, grinding, refinement, and packing of commodities are not transformations) (Riad and Riad, 2020).

Cigarettes are subject to the schedule tax. There are two fundamental forms of schedule taxes. The purpose of both forms of taxes is to provide governments with tax revenue and encourage consumers to avoid purchasing cigarettes (Economics online, 2020). The two forms are:

1. **Tiered specific taxes** – At the beginning of 2020, there were amendments as the Council agreed to raise the tax prices for cigarettes. These amendments include increasing the tiered specific taxes on cigarettes sold in the local market and raising the price ceiling for all segments to keep up with the foreseeable price rises brought on by the proposed tax hike (Youssef, 2021).
  - The first tranche would be raised by 50 piasters, which means an increase to **EGP 4 from EGP 3.50** for cigarette brands sold in shops at less than EGP 24, (where the previous price ceiling used to be less than EGP 18).
  - The second tranche would be raised by 100 piasters, which means an increase to **EGP 6.50 from EGP 5.50** for brands with prices ranging from EGP 24–35, (where the previous price range used to be from EGP 18–30).
  - The third tranche would be raised by 50 piasters, which means an increase to **EGP 7 from EGP 6.50** for brands sold at more than EGP 35, (where the previous price range used to be more than EGP 30) (Enterprise,2020).
  - **Ad valorem taxes** (assessed as a percentage of price) (Hanafy et al, 2010) – Ad valorem taxes represent 50 percent of the selling price to the consumer for every 20 cigarettes and other packages with the same rate. This percentage remained the same (Enterprise, 2020).

## **b) Water pipe**

There is no specific excise tax on water pipe tobacco in Egypt. The excise ad valorem tax is tiered between domestic and imported tobacco (WHO, 2020). The schedule tax on domestic mu`assel is 165 percent, and the schedule tax on imported mu`assel is 200 percent (Ministry of finance, 2020). In addition, there is an import tariff of EGP 9 per kilogram of imported mu`assel (Issuance of custom tariff, 2022). This means that in the case of imported mu`assel there is both a schedule tax of 200 percent and an import tariff of EGP 9 per kilogram. Additionally, mu`assel is considered a complementary product for water pipes, so

the prices of water pipes would also increase. Furthermore, most people smoke water pipe in a cafe where there is value-added tax of about 14 percent and a service tax of 12 percent, essentially creating an additional 26-percent indirect tax on water pipes.

### c) Custom duties on imports of tobacco products

Since there is no tobacco cultivation in Egypt, raw tobacco is imported from other countries along with other tobacco products, which include import duties imposed on them. In the last amendments for 2020, in the case of raw or unprocessed tobacco, tobacco waste is divided into three categories as shown in Table 7.

<b>Table 7. Raw tobacco customs tariff and VAT</b>		
<b>Product</b>	<b>Customs tariff</b>	<b>VAT</b>
Tobacco with its stems and veins	EGP 9 per kilogram	75% with a minimum of EGP 30 per net kilogram <b>In addition to,</b> <ul style="list-style-type: none"> <li>● 1% commercial and industrial profits</li> <li>● 0.5% tobacco chamber</li> <li>● 1.5% development fee</li> </ul>
Tobacco without stalks and veins, totally or partially	EGP 9 per kilogram	
Tobacco waste	EGP 6.1 per kilogram	

Source: (Ministry of Finance, 2020; Egyptian Custom Authority, 2022)

Imports of ordinary rolled cigarettes containing tobacco are charged as shown in Table 8.

<b>Table 8. Taxes and tariffs on imported cigarettes</b>		
<b>Product</b>	<b>Customs tariff</b>	<b>VAT</b>
Ordinary rolls (cigarettes) containing tobacco	100 EGP per kilogram	<ul style="list-style-type: none"> <li>● 50% of the selling price to the consumer</li> </ul> <b>In addition to,</b> <ul style="list-style-type: none"> <li>● The fixed rate for cigarette brands sold in shops at less than EGP 24 (EGP 4)</li> <li>● The fixed rate for cigarette brands sold in shops for brands priced EGP 24–35 (EGP 6.5)</li> <li>● The fixed rate for cigarette brands sold in shops for more than EGP 35 (EGP 7)</li> </ul>



		<p><b>In addition to,</b></p> <ul style="list-style-type: none"> <li>● 1% Commercial profits</li> </ul> <p><b>In addition to,</b></p> <ul style="list-style-type: none"> <li>● 10 piasters for health insurance</li> </ul>
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Source: (Ministry of Finance, 2020; Egyptian Custom Authority, 2022)

Some of the custom duties and taxes on other imported tobacco products are shown in Table 9.

<b>Table 9. Custom duties on tobacco products 2022</b>	
<ul style="list-style-type: none"> <li>● Clause: 2402.20</li> <li>● Item text: Cigarettes from tobacco substitutes</li> <li>● Taxes: <ul style="list-style-type: none"> <li>○ Custom tax: EGP 100 per kilogram, net</li> <li>○ Ministry of Health (health insurance): EGP 0.1 for every twenty cigarettes</li> <li>○ VAT: 14% (of the value plus customs duties and taxes)</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>● Clause: 2402.10</li> <li>● Item text: Thick rolls [cigars] of all kinds and small rolls [cigar ellas], cigarillo, from tobacco substitutes, except for Tuscan cigars</li> <li>● Taxes: <ul style="list-style-type: none"> <li>○ Custom tax: EGP 150 per kilogram, net</li> <li>○ Ministry of Health (health insurance): 10%</li> <li>○ VAT: 200% (of the value plus customs duties and taxes)</li> <li>○ VAT: a minimum of EGP 50 per kilogram of manufactured tobacco products</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>● Clause: 2402.10</li> <li>● Item text: Tuscan cigars from tobacco substitutes [cigars used in the manufacture of black smoke]</li> <li>● Taxes: <ul style="list-style-type: none"> <li>○ Custom tax: EGP 150 per kilogram, net</li> <li>○ Ministry of Health (health insurance): 10%</li> <li>○ VAT: 200% (of the value plus customs duties and taxes)</li> <li>○ VAT: a minimum of EGP 35 per kilogram of manufactured tobacco products</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>● Clause: 2404</li> <li>● Item text: Products containing tobacco substitutes, intended for inhalation without combustion</li> <li>● Taxes: <ul style="list-style-type: none"> <li>○ Custom tax: 20%</li> <li>○ Ministry of Health (health insurance): 10%</li> <li>○ VAT: 14% (of the value plus customs duties and taxes)</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>● Clause: 8478</li> <li>● Item text: Machines and apparatus for preparing or manufacturing tobacco, not mentioned or included elsewhere in this chapter</li> <li>● Taxes:</li> </ul>	

- |  |
|--|
| <ul style="list-style-type: none"><li>○ Custom tax: 5%</li><li>○ VAT: 14% (of the value plus customs duties and taxes)</li></ul> |
|--|

Source: (Egyptian Customs, 2022)

### 5.3.2 Prices

Eastern Tobacco Company (ETC), a state-owned tobacco company in Egypt, announced an EGP 2 price hike for most of its local brands of cigarettes in 2022. This increase was due to tax modifications, rising production costs, and the depreciating value of the pound against the dollar in Egypt. For local cigarettes in 2022, this was the second price hike. When the pound fell by 16 percent against the dollar in March, Egypt's leading cigarette maker announced an EGP 1 hike for three of its local brands. The new prices after the increase were (Ahramonline, 2022):

- Cleopatra Soft Queen pack now EGP 21 (up from EGP 19),
- Cleopatra Box now EGP 22 (up from EGP 20),
- Boston/Belmont cigarettes pack now EGP 22 (up from EGP 19.50),
- Cleopatra Super cigarettes pack now EGP 23 (up from EGP 21),
- Mondial cigarettes pack now EGP 23 (up from EGP 21), and
- Cleopatra Black and Matossian remain at their previous price of EGP 24.

As for imported cigarettes, depending on the type, the prices increased between 1–3 pounds for each pack, with (Sayed, 2022):<sup>2 5</sup>

- Merit cigarettes now EGP 52 (up from EGP 49),
- Marlboro cigarettes now EGP 48 (up from EGP 46), and
- L&M cigarettes now EGP 35 (up from EGP 34).

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<sup>2</sup> The average exchange rate over the years from 2/1/2019 to 29/9/2022, as follows: Average exchange rate in 2019: buy= 16.7595, sell= 16.8583. Average exchange rate in 2020: buy= 15.7562, sell= 15.85616. Average exchange rate in 2021: buy= 15.6457, sell= 15.7443. Average exchange rate in 2022 till 29/9/2022: buy= 17.8383, sell= 17.9255

### 5.3.3 Affordability

Based on Gordon et al. (2020), the review of previous research indicated that to prevent tobacco from becoming more inexpensive, taxes must raise costs more than any corresponding income increase. Researchers have suggested tobacco affordability benchmarks may be more successful than tax incidence benchmarks. If tobacco taxes do not increase in response to increases in income, rising income could erode the high levels of taxation that were already in place (Gordon et al., 2020).

This report uses the relative income price method (RIP) to define cigarette affordability. The RIP method offers several significant advantages over other affordability measurement techniques and is therefore very popular. The GDP per capita is a reliable measure of the standard of living and income, and is widely accessible, making it simpler to determine the affordability of cigarettes (Blecher et al., 2004). Also, the GDP per capita is determined annually in every nation using the same approach, allowing for cross-national comparisons of cigarette affordability. The WHO has adopted the RIP technique to determine the affordability of cigarettes for all nations where statistics are available. The percentage of GDP needed per capita to purchase 100 packs of cigarettes is how the RIP method determines if cigarettes are affordable or not. The RIP computation formula is given in equation (2). The higher the RIP, the less affordable cigarettes are (Zheng et al., 2018)

$$RIP = \frac{100 * P}{GDP \text{ per capita}} \quad (2)$$

Where RIP represents the relative income price of cigarettes, and P is the retail price of a pack of cigarettes with 20 individual pieces.

Average cigarette affordability is calculated using GDP per capita and the average price of cigarettes over the 2016–2021 period, as shown in Table 10. The objectives are: (i) to estimate the levels of cigarette affordability in each year and (ii) to present the trends of cigarette affordability throughout the observed period.

**Table 10.** Cigarette affordability from 2016 to 2021 – RIP average

Year	GDP (current)/ capita in EGP	Average affordability (Euromonitor)	
		Average price EGP/20 sticks of cigarettes	RIP average as %

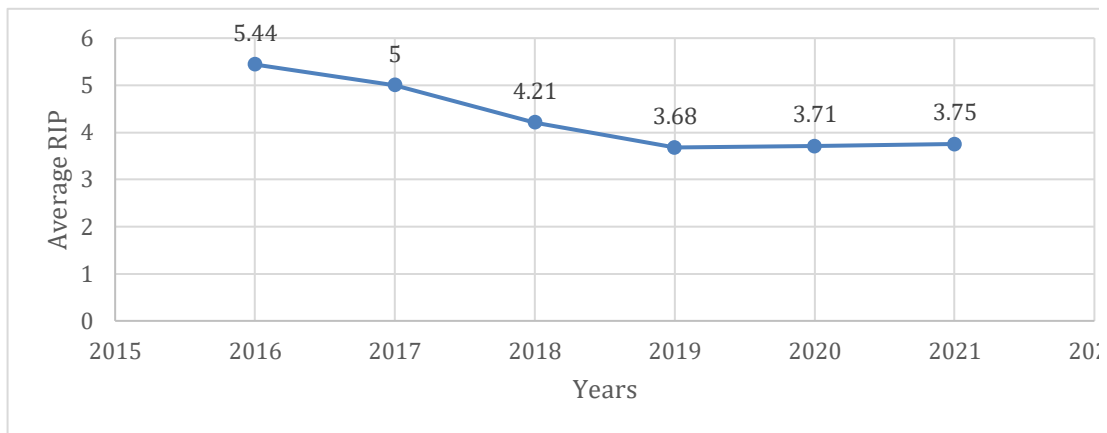
2016	28,687	15.62	5.44
2017	35,980	18	5
2018	45,085	18.98	4.21
2019	53,015	19.49	3.68
2020	57,214	21.24	3.71
2021	60,820	22.80	3.75

**Source:** GDP per capita (2016–2021) is sourced from the World Bank by dividing real GDP over the population in Egypt (in Egyptian pounds). Cigarettes’ average price per pack of 20 sticks is sourced from Euromonitor International by multiplying the average price per stick (which is calculated by dividing sales value by sales volume for each year between 2016 and 2021) by 20.

**(i) The levels of cigarette affordability in each year**

Based on the above analysis, Figure 10 presents the affordability results, which cover the years 2016–2021. During the whole period, cigarettes were most affordable in 2019 and least affordable in 2016. In 2021 cigarettes were 1.45 times more affordable than in 2016. The 2021 RIP (3.75 percent) remains well below the value in 2016, the year of lowest affordability, when the RIP stood at 5.44 percent.

**Figure 10.** Cigarette affordability, Egypt (2016–2021)



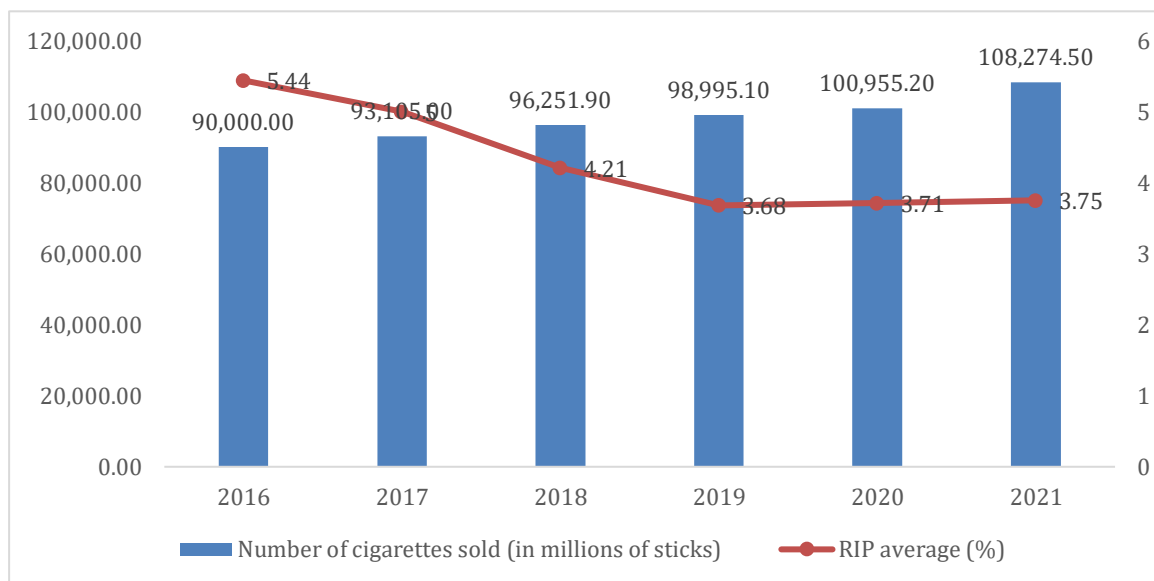
Source: Authors’ calculations

## (ii) The trends of cigarette affordability throughout the observed period

Figure 11 describes the correlation between cigarette consumption and affordability. From 2016 to 2021, cigarette consumption steadily increased, in association with an increase in affordability (decreased average RIP).

It is worth mentioning that during the period 2019–2021, cigarette affordability presented a modest descending trend (increasing RIP), which did not lead to a reduction in the consumption of cigarettes. The volume of cigarette sales continued to increase until it reached 108.27 billion cigarettes in 2021. It is possible to explain this increase in consumption of cigarettes during the period 2019–2021 with COVID-19 and other variables than changes in affordability. As Maloney et al. (2021) and Carreras et al. (2022) found, adult cigarette smokers smoked more during COVID-19 to stay calm and deal with negative feelings and social impacts related to the pandemic. Also, smokers made efforts to ensure their cigarette supply, even though some were facing financial difficulties. However, in general, during the period 2016–2021, cigarette consumption increased as affordability increased.

**Figure 11.** Relating affordability to consumption of cigarettes, Egypt (2016–2021)



Source: Authors' calculations

### 5.3.4 Tax share

The tax share for cigarettes sold in the Egyptian market is calculated based on the tax share calculation formula (the amount of taxes divided by the total price) for the three tranches of cigarettes in the Egyptian market classified by price range as shown in Table 11. (See the section titled Current tobacco tax structure: Cigarettes.)

**Table 11.** Tax share for the three tranches of cigarettes in the Egyptian market classified by price range

Tranches	Average price in EGP	Ad valorem taxes	Fixed taxes	Average tax share
First tranche (cigarettes sold for less than EGP 24)	22	50%	4	68%
Second tranche (cigarettes sold ranging from EGP 24–35)	29.5	50%	6.5	72 %
Third tranche (cigarettes sold for more than EGP 35)	50	50%	7	64%

Source: Authors' calculations

According to the results, the tax share in Egypt for cigarettes is, on average, around 70 percent of retail price.

### Prices

Table 12 presents the producer price and tax share for each brand with an average tax share of 70 percent and an average producer price of 30 percent.

**Table 12.** The producer price and tax share for each brand

Cigarettes brand	Consumer price in EGP	Ad valorem taxes	Tiered specific taxes in EGP	Producer prices in EGP	Producer prices as % of consumer price	Tax share
Cleopatra Soft Queen	21	50%	4	6.5	30%	70%
Cleopatra Box	22	50%	4	7	32%	68%
Boston/Belmont	22	50%	4	7	32%	68%
Mondial	23	50%	4	7.5	33%	67%
Cleopatra Super	23	50%	4	7.5	33%	67%

Cleopatra Black	24	50%	6.50	5.5	23%	77%
Matossian	24	50%	6.50	5.5	23%	77%
L&M	35	50%	6.50	11	31%	69%
Merit	52	50%	7	19	37%	63%
Marlboro	48	50%	7	17	35%	65%
<b>Average</b>					<b>30%</b>	<b>70%</b>

Producer price is calculated based on the equation: Producer Price = Consumer Price - Tax

Source: Authors' calculations

#### ***5.4 Tax revenue as a percentage of total excise tax revenue, total tax revenue, and GDP***

In return for taxes on all tobacco products, the government anticipates receiving more than EGP 86 billion in the 2022–2023 fiscal year, which began on 1 July, and will see an increase of EGP seven billion and up to nine percent from the fiscal year that will finish by the end of June. The Ministry of Finance intends to collect value-added taxes and customs duties on cigarettes, tobacco, and mu'assel totaling around EGP 86 billion for the new fiscal year 2022–2023, up from EGP 79 billion during the current fiscal year 2021–2022, according to the state's proposed general budget.

The government targets tax collections of EGP 1.6 trillion in the new state budget, an increase of about EGP 185 billion, while the Ministry of Finance projects EGP 983 billion in tax income for the current fiscal year 2021–2022, which ends at the end of next June. The tax proceeds are divided between EGP 590 billion expected value-added tax revenues in the following fiscal year, an increase of EGP 92 billion over the target to be achieved by June 30, and EGP 497 billion in taxes, estimated to be collected during the current fiscal year 2021–2022, which is equivalent to more than six percent of GDP (Elgamal, 2022). The tax revenue from tobacco products as a proportion of the government's targeted tax collection represents 5.375 percent.

## **6. Recommendations**

Tobacco and smoking are considered some of the biggest health, educational, social, environmental, and economic challenges facing countries across the world, and Egypt is no exception. In addition, issues with

incomplete information are made even more difficult by tobacco's addictive nature, which is undervalued and poorly understood, especially among individuals who first start using it. Even among young smokers, addiction makes quitting smoking incredibly challenging. These factors led to the government's intervention in Egypt by imposing taxes on tobacco products to achieve the following three main goals:

**1. Generate revenue.**

The Egyptian government can potentially raise a great deal of revenue through tobacco taxation. The existing tax mechanism in Egypt is a good one, as the demand for cigarettes is inelastic (-0.55), and new taxes will result in a gain in government revenues. The seller can pass the tax burden to consumers in the form of higher prices without significantly lowering the equilibrium quantity and without facing objection from Egyptian smokers given people's knowledge that it is a harmful good. Taxes from tobacco products already represent 5.375 percent of the overall tax revenue in Egypt.

**2. Correct for negative externalities.**

Cigarette taxes, without a doubt, are one of the most efficient and cost-efficient techniques for reducing the harmful health effects of tobacco smoking. The Egyptian government decided to internalize negative externalities generated by the consumer by collecting more revenue to address social and medical costs related to tobacco smoking. To this end, the Customs Authority collects 75 piasters from the value of each pack of cigarettes sold in the local market starting from September 2022, whether local or foreign, provided that this value will be increased every three years by another 25 piasters until it reaches 150 piasters.

**3. Discourage consumption.**

Unfortunately, the existing taxation mechanism in Egypt has not succeeded in reducing cigarette consumption, as the current study reveals that the price elasticity of demand for cigarettes is inelastic (-0.55), which means imposing taxes and raising prices of cigarettes will decrease consumption of cigarettes, but not by a great amount. This is due to consumer behavior, which considers smoking a habit and tobacco products as a necessary commodity. Additionally, as revealed in Figure 11, during the period



2016–2021, cigarette consumption steadily increased in association with an increase in affordability (decreased average RIP). This means that the taxes currently imposed (70 percent) have not succeeded in reducing cigarette consumption, and therefore it is necessary to increase taxes to the level at which the desired reduction in cigarette consumption in Egypt can be achieved.

Based on secondary data through published research articles, different models computed by the authors, and primary data through semi-structured expert interviews, the following four main pillars for tobacco control reforms are proposed and recommended.

### ***6.1 Tax regime***

- **Increase cigarette taxes** to reduce the consumption of cigarettes by a significant amount. This will have a significant influence on tax revenue, and on public health while also reducing the economic burden associated with smoking in Egypt.
- **Impose a uniform specific tax on all types of cigarettes** to reduce significant price differences between highly expensive brands and low-priced brands.
- **Adjust tobacco tax rates on a yearly basis** to ensure that price increases for tobacco products are at least as significant as—or preferably greater than—income growth. This will also ensure that the tiered rates maintain their real value over time, even if the government does not implement the proposed change to make the structure a uniform specific tax. Both prior studies and new data presented in this study conclusively demonstrate that the demand for cigarettes in Egypt increases as income rises. In recent years, cigarettes have become significantly more inexpensive and affordable in Egypt because of the combination of decreasing real cigarette prices and rising incomes. In addition to increasing taxes to counteract the impacts of inflation, additional increases in cigarette taxes that diminish the affordability of tobacco products are required to promote public health by lowering tobacco use.
- **Increase taxes on water pipe tobacco/shisha and other smokeless tobacco products** to discourage their usage. This can reduce their usage and reduce the likelihood that smokers will switch to these goods because of the high cost of cigarettes. Additionally, this will further increase tax revenue for the Egyptian government.

- **Take the appropriate steps to combat tobacco smuggling.** It is suggested that Egypt could sign the Protocol to Eliminate Illicit Trade in Tobacco Products or, at the minimum, use it as a basic guide for how to address these broad challenges.

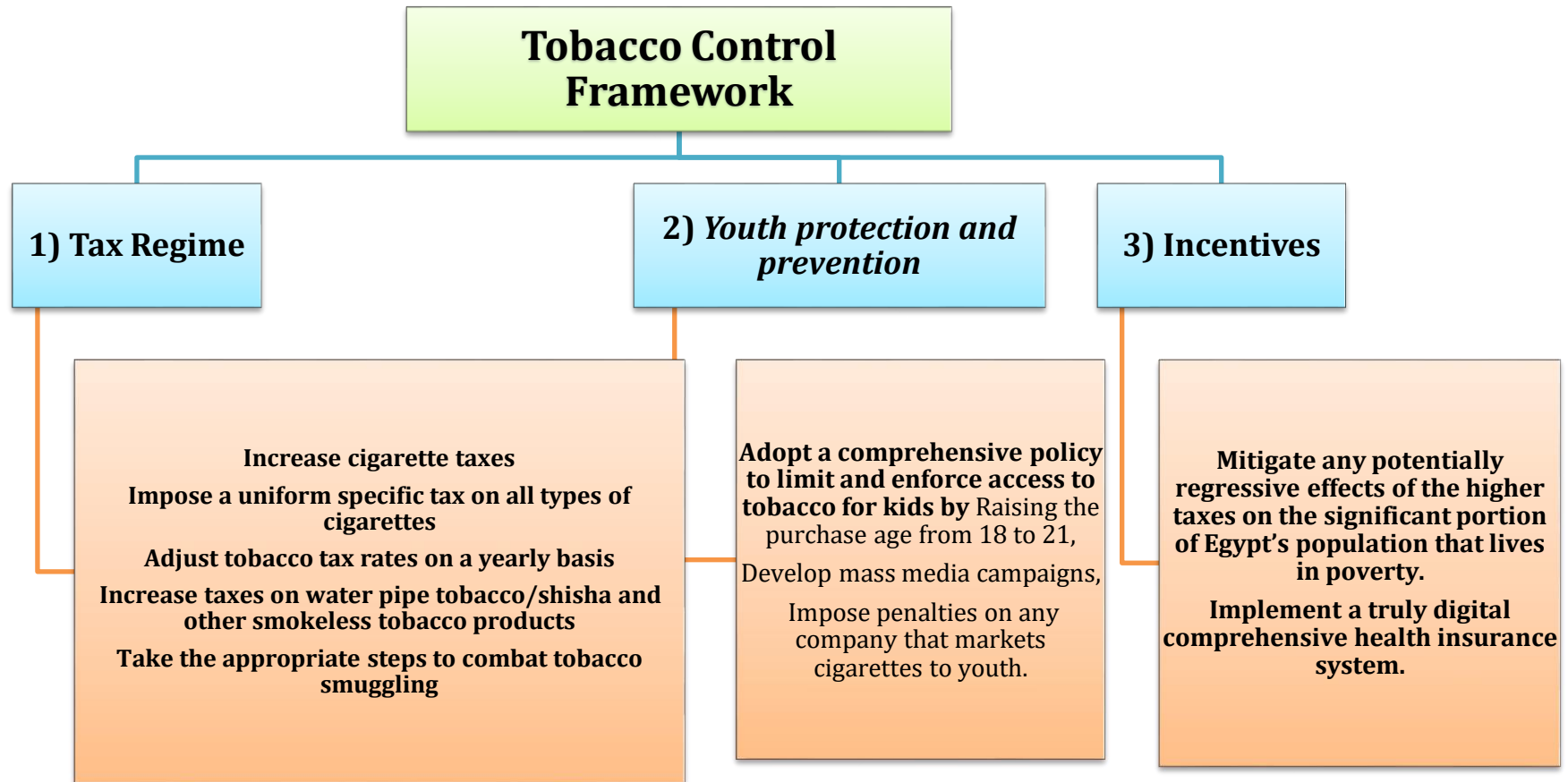
### ***6.2 Youth protection and prevention***

- **Adopt a comprehensive policy to limit and enforce access to tobacco for kids.**
  - Raise the purchase age from 18 to 21, as many other countries have done, since many adults became smokers when they were children.
  - Develop mass media campaigns to educate kids and their parents about the dangers of tobacco use.
  - Impose penalties on any company that markets cigarettes to youth.

### ***6.3 Incentives***

- **Mitigate any potentially regressive effects of the higher taxes on the significant portion of Egypt's population that lives in poverty** by setting aside a portion of the additional revenue brought in by the higher taxes on cigarettes and other tobacco products for initiatives and programs that assist current tobacco users, particularly the poor, with quitting and reduce poverty, preventing tobacco use, and promoting health among those who are poor.
- **Implement a truly digital comprehensive health insurance system.** Encourage smoking cessation with the identification of smokers and non-smokers and provide indirect incentives to non-smokers by requiring them to pay a lower insurance amount than smokers. Meanwhile smokers, who are more likely to get sick, pay a comprehensive insurance amount (a higher insurance amount than non-smokers).

Figure 12. Proposed recommendations for the future of tobacco control in Egypt



Source: by the Authors

## 7. Future Work

This report focuses on The Economics of Tobacco and Tobacco Taxation in Egypt and provides proposed recommendations to curb consumption and achieve revenue growth for the Egyptian government. It is proposed that further research can use the same methodology in this report to:

- understand the tobacco industry **pricing strategy** and how it undermines tobacco tax policy;
- study tobacco **health risk awareness** among socially disadvantaged people as a crucial tool for smoking cessation;
- explore **incentives** for smoking cessation, such as through a digital comprehensive health insurance system; and
- strengthen **supply chain risk management** of tobacco as a commodity.

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## **Appendix: Interview protocols**

### ***Title***

Assess the current tobacco taxation system in Egypt and its implication on prices, cigarettes consumption, and tax revenues

### ***Purpose***

Conduct interviews to:

- gain a deep understanding of the Egyptian tobacco industry's production process including employment levels, significant players, sales prices, and types of goods produced and to identify the various methods through which tobacco products are distributed;
- justify government interference in the cigarette sector, along with other control measures put in place by the Egyptian government; and
- track how tobacco taxes have changed historically, as well as the effectiveness of the current system, while gaining insights into how tobacco taxes affect costs, demand, and tax collection.

### ***Participants***

**Interviews will be conducted with stakeholders including:**

- Egyptian economists
- Manufacturing companies
- Distributors
- Importing companies
- Experts from the governmental sector
- Stakeholders from chamber of commerce

- Experts from the private sector

## **Questions**

### **1. The demand for tobacco products in Egypt**

- What are the effects of raising taxes, increasing incomes, and prices on the demand for tobacco products in Egypt?

### **2. Rationale for government intervention**

- Can we rely on the principle of consumer independence in the tobacco market?
- What is the reason behind government intervention in the tobacco products market?

### **3. Tobacco control policy in Egypt**

- What programs and policies are in place for tobacco control? Have the desired proportions and effects of these policies been achieved?
- What types of restrictions does Egypt impose on cigarette manufacturers?
- What restrictions apply to cigarette consumers?
- What are the latest initiatives taken by Egypt?

### **4. Cigarette prices and taxes in Egypt**

- What developments have taken place in tobacco tax policy over the past years? What is the rationale for the tobacco tax and the arguments against it?
- The structure of tobacco taxation is based on quality or value. What is the best type, since each type of tax has strengths and weaknesses, in terms of tax administration and its impacts on public health and revenue?
  - Tiered specific taxes

- Ad valorem taxes (taxes that are estimated as a percentage of the price)
- From your point of view, what are the current legislative restrictions applied to the sale of tobacco products in Egypt?
- What are the implications of raising taxes on cigarettes in Egypt?
- What are the groups affected by raising cigarette taxes in Egypt?
- What categories benefit from raising cigarette taxes in Egypt?
- Can the percentages of harm vary according to the level of income?
- What is the relationship between raising cigarette taxes and illegal trade?
- What is the relationship between raising cigarette taxes and the level of employment?
- In your opinion, what would be the effect of increased taxes on tobacco products on its affordability among consumers?

## **5. Recommendations**

- What are the proposed recommendations for the future of tobacco in Egypt to curb its consumption and achieve revenue for the Egyptian government?

## ***Methodology***

Semi-structured interviews will be conducted with semi-structured questions. The questions asked of different stakeholders are selected from the abovementioned questions according to their field of experience, their background, and their specialization.

## ***Conclusion***

What I have heard you saying was....., did I summaries your words correctly? Is there anything you would like to add or amend?

Thank you for your attendance and participation.