Raising Tobacco Taxes and Prices

for a healthy and prosperous Indonesia

World Health Organization
REGIONAL OFFICE FOR South-East Asia

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Executive Summary

During 2020–2024, the government of Indonesia is focused on improving the wellbeing of Indonesians by taking advantage of the demographic dividend for all-inclusive economic growth. And, recognizing the critical dual causality concept, human capital development has been declared a top priority for the government – specifically, improving the health of citizens to impact on productivity and growth.

Indonesia's health profile indicates a high and increasing disease burden from noncommunicable diseases (NCDs) with cardiovascular diseases (CVDs), chronic respiratory diseases and diabetes being prominent among the top 10 causes of long-term illnesses and early deaths. Three risk factors account for most of the disease burden: dietary risks, high blood pressure and tobacco use.

Tobacco consumption is a critical public health challenge for the country. Indonesia has one of the highest prevalence of smoking in the world, with 62.9% of adult males smoking. Tobacco use kills about 225 700 Indonesians every year. Further, contrary to global trends, tobacco use continues to be high and even on the rise among young people and deprives the country of 6 million disability-adjusted years of life annually.

As one of the major risk factors for NCDs, tobacco use impacts resources available for economic growth in Indonesia in two ways. First, the increasing cost of providing NCD-related curative care has been the underlying cause of the growing deficit in the national health insurance, which has spearheaded the country's efforts towards Universal Health Coverage (UHC) – increases in the health budget are simply drained off to meet this shortfall, jeopardizing the financial sustainability of the entire health system. Second, the premature morbidity and mortality caused by tobacco use directly impacts productivity of human capital including competitiveness and innovation – through both lower output and absenteeism due to ill health. Notably, this would apply to the entire workforce given the use of tobacco across all age groups (albeit lower for women).

Importantly, the health and human capital impact of tobacco use can be intergenerational. Two thirds of children in Indonesia are exposed to second-hand smoking at home and evidence suggests that this contributes to stunting and impedes childhood development. Tobacco use has implications for equity as well, with the poor suffering disproportionately from both the health and economic impact of tobacco use.

The most cost-effective and impactful way to reduce the health and economic impact of tobacco use is to implement an evidence-based tobacco tax policy. Higher tobacco taxes that reduce the affordability of tobacco products would reduce the prevalence of smoking among all population segments. As youth and lower-income groups are more price-sensitive, higher taxes will particularly decrease their consumption more than that of higher-income smokers. Therefore, a tobacco tax increase is a progressive tax policy that also supports the development of future human capital.

Indonesia has a complex, multi-tiered tobacco tax system. International experience suggests that such systems are administratively challenging, they allow tax avoidance and evasion, and undermine the public health benefit of higher tobacco taxes. However, Indonesia does have the requisite capacity to undertake necessary reforms to simplify the tax system and enforce it effectively to both decrease the prevalence of smoking and health costs on the one hand, and increase efficiency of tax collection and government revenue on the other.

Reforms in tobacco taxation to increase government revenue would bring a lasting impact on public health not only by curbing the direct health consequences of tobacco use but also by providing the opportunity to review allocations for health from the national budget.

The argument that the tobacco industry or its impact on the labour market balances the negative influence on economy is misleading. The contribution of the tobacco industry to the Indonesian economy is relatively small. Tobacco manufacturing generates 0.6% of the total employment and tobacco farmers represent only 1.6% of the workforce in the cultivation sector. Moreover, most households involved in tobacco farming and kretek rolling are on social assistance, implying social subsidization by the tobacco industry and further reducing its net economic contribution. Alternative cash crops can bring better returns for farmers and the economy. In fact, since any significant decline in tobacco use will be gradual, both the supply as well as demand side shall have sufficient time to adjust to the changes in the market. Studies carried out in Indonesia show that a reduced demand for tobacco products would increase spending on other products/services, fueling economic growth and job creation in other competitive sectors of the economy.

During his second term of 2020–2024, President Joko Widodo has shared his government's vision to maximize the human capital benefits of Indonesian youth as a competent and healthy future workforce. This vision is embodied in implementing the Sustainable Development Goals that include reducing premature mortality from NCDs by a third by 2030. Reducing the prevalence of tobacco is one of the key indicators to achieve reductions in premature mortality due to NCDs. Curbing the tobacco epidemic is one of the key health indicators specified in Indonesia's Med-term Development Plan (RPJMN) 2020–2024 [1].

This document is a compilation of evidence on the serious problem of tobacco use in Indonesia, and its negative consequences for public health, human capital and overall economic development. It also summarizes the evidence on the real contribution of the tobacco industry to the economy and shows how tobacco taxation can mitigate those damages while improving population health, human development indicators and the fiscal health of the economy.

Key messages from this review

- Improving human capital development and achieving UHC goals will require Indonesia to address the high prevalence of tobacco use.
- Indonesia's health profile indicates a high and increasing disease burden from NCDs; tobacco use is a leading risk factor for NCDs.
- Contrary to the global trends of reduction in tobacco use, the prevalence of smoking in Indonesia remains high, particularly among the youth.
- Excise taxes on tobacco products are low in Indonesia; as a result, cigarettes are becoming more affordable over the years. This contributes to the increasing prevalence of smoking especially among the youth.
- Tobacco use exacerbates disparities in income and levels of poverty. It also slows down progress towards UHC by increasing health-care costs.
- Health and economic costs of tobacco use surpass any perceived economic gains from the tobacco industry.
- Tobacco farmers are poor and constitute a small proportion of the labour force. Many of them can be supported and encouraged to consider alternative, more profitable crops.
- Employment in tobacco manufacturing is negligible in the context of the Indonesian economy. Kretek rollers are poorly paid and likely to be exploited by the tobacco industry.
- Both fiscal and non-fiscal measures are important to reduce the prevalence of smoking. Higher tobacco taxes are the most cost-effective and impactful way to achieve reduction in tobacco use; when combined with other tobacco control policies, the effect on tobacco use would be even stronger.
- Complex tobacco tax structures undermine the country's revenue generation and public health objectives and, at the same time, fail to protect a labour-intensive hand-rolled market, which is shrinking due to changing market preferences.
- Substantial and repeated tobacco tax increases in Indonesia will bring both public health improvement and fiscal policy benefits.
- Revenue from higher tobacco taxes can support programmes for alternative skills development of farmers and industry workers, and also adequately address public health needs of the population.

Key recommendations to reduce tobacco use epidemic in Indonesia through fiscal measures

- Indonesia needs to consider tobacco control as a multisectoral public health priority to save future generations from NCDs and to achieve effective human capital development.
- Effective tobacco control requires a comprehensive government approach. While multiple actions from various sectors are needed, increases in tobacco taxes is one of the most effective and proven measures to deter tobacco use.
- Given the current low prices of tobacco products in Indonesia, a regular and substantial increase in tobacco taxes, by at least 25% annually, would substantially increase the excise tax revenue and reduce affordability of tobacco products to curb tobacco use, particularly among young people.
- Simplifying the tax structure by applying uniform taxes on all tobacco products will improve administrative efficiency of tax collection as well as the effectiveness of tobacco tax as a public health measure. Indonesia's resolve to consider the 5-year simplification roadmap adopted in 2017 was a step in the right direction. This roadmap should be reintroduced to achieve the longer-term goal of reducing the tax tiers to two: one tier for machine-made cigarettes, and the other for hand-made cigarettes.
- Additional tax reforms need to be introduced including removal of the 57% maximum excise tax cap for effective periodic increases of tobacco taxes.
- The excise tax base needs to be expanded to other excisable products to reduce the dependence on tobacco tax revenue.
- To gain political support for these measures, it is proposed to use the existing mechanism for the redistribution of tobacco tax (2% tobacco excise revenue sharing and 10% local tobacco tax) using a part of those revenues to assist tobacco farmers, clove farmers and industry workers to transition to other crops/professions.
- Substantial revenue increases can be achieved with the above tax reform measures, which can facilitate more appropriate investments to improve UHC and lives of farmers and workers.
- The above fiscal policies on tobacco should be complemented with non-price measures such as implementing 100% smoke-free policies, ban on tobacco advertising, promotions and sponsorships, and larger-sized pictorial health warnings to reduce social acceptability of smoking to reduce tobacco use more significantly.
- There is a need to monitor the impact of the reforms on reducing the prevalence of smoking, improved health of people and human development.

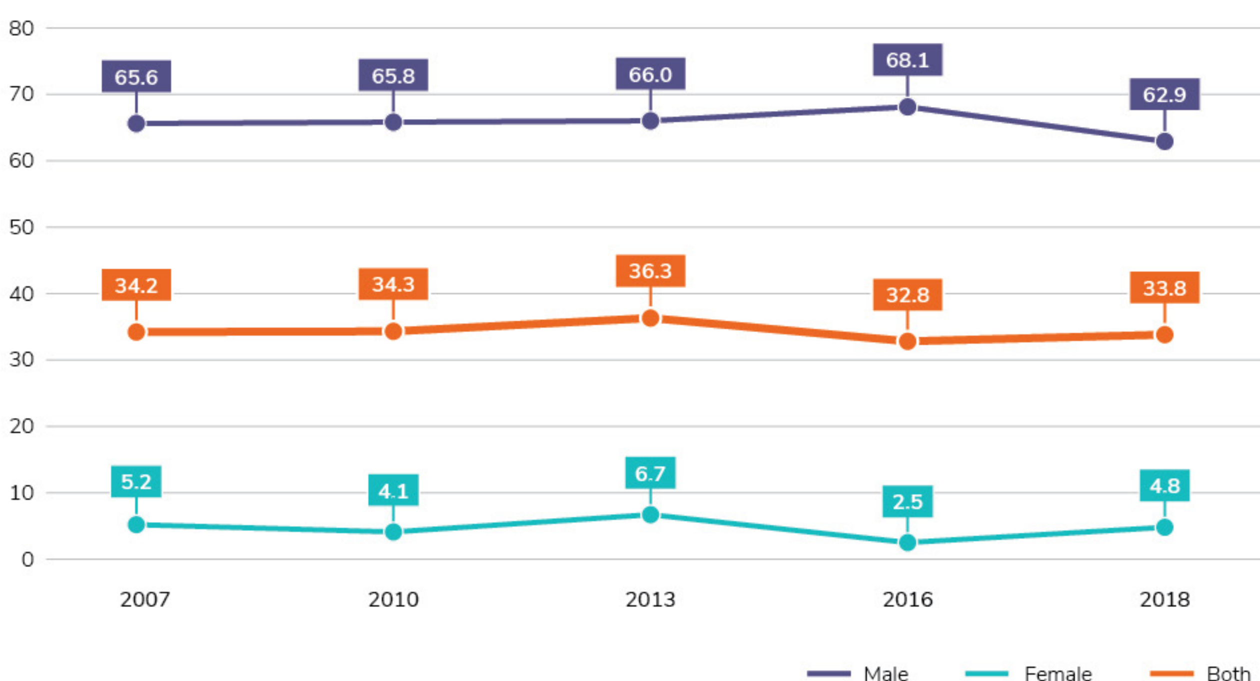
I. High prevalence of tobacco use poses a challenge for Indonesia

Adult tobacco consumption in Indonesia continues to be high

Indonesia is home to 60.8 million adult male smokers and 3.7 million adult female smokers [2]. The 2018 national health survey revealed that 62.9% of males and 4.8% of females aged 15 years and above use tobacco [3]. Especially among males, tobacco use continues to be high in all surveys during the last decade, with almost every two out of three adult males smoking (Fig. 1). These statistics put Indonesia among the countries having the highest rates of tobacco use in the world.

FIGURE 1

Prevalence (%) of current tobacco use among adults (15 years and above), 2007–2018



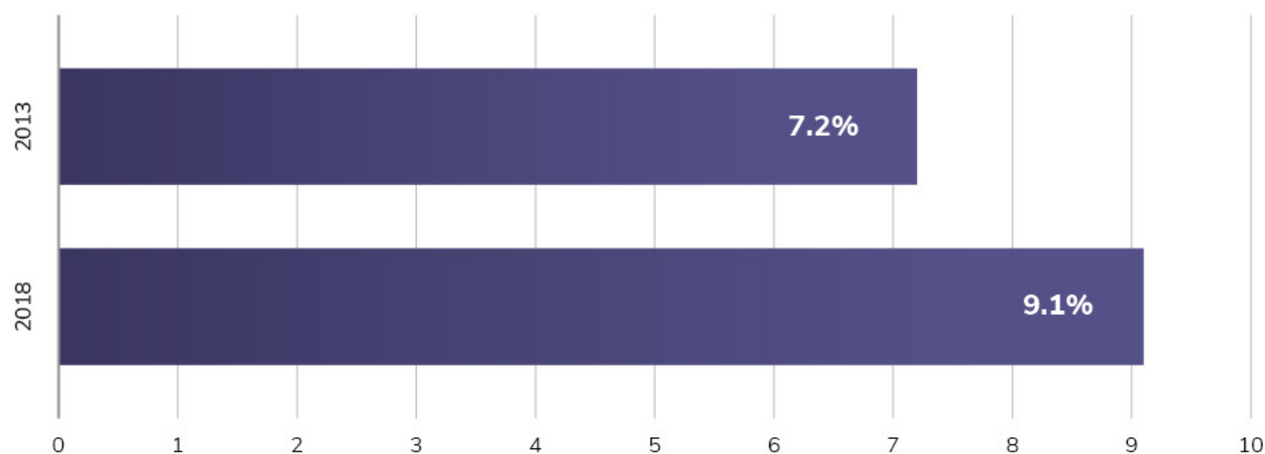
Sources: Indonesia national health surveys; RISKESDAS (2007, 2010, 2013, 2018), SIRKESNAS (2016)

Tobacco use among youth in Indonesia has been on the rise

Surveys across various age groups in Indonesia over the years have consistently shown the rising trends of tobacco use among the Indonesian young population. The 2018 national health survey showed that the prevalence of smoking among adolescents aged 10–19 years jumped from 7.2% in 2013 to 9.1% in 2018, almost 20% higher than the prevalence five years earlier (Fig. 2) [3]. The 2014 Global Youth Tobacco Survey among 13–15 years old also showed that 20.3% of all students, 36.2% of boys and 4.3% of girls currently use tobacco [4]. The data of past 10 years for younger adults aged 20–24 years show that the prevalence of smoking has almost doubled, from 17.3% in 2007 to 33.2% in 2018 [2,5]. Having one in every five young smokers is a matter of concern as these youngsters tend to become lifetime smokers, adding to the number of future adult smokers. To reap the demographic dividend from Indonesia's young and future generation population, it is imperative to reverse the prevalence of high tobacco use among youth and prevent further initiation.

FIGURE 2

Prevalence (%) of current tobacco use among youth (10–18 years old), 2013–2018



Source: Indonesia national health survey (RISKESDAS 2013 and 2018)

II. Tobacco consumption is having a significant impact on health of Indonesians

High tobacco use is causing premature diseases and deaths

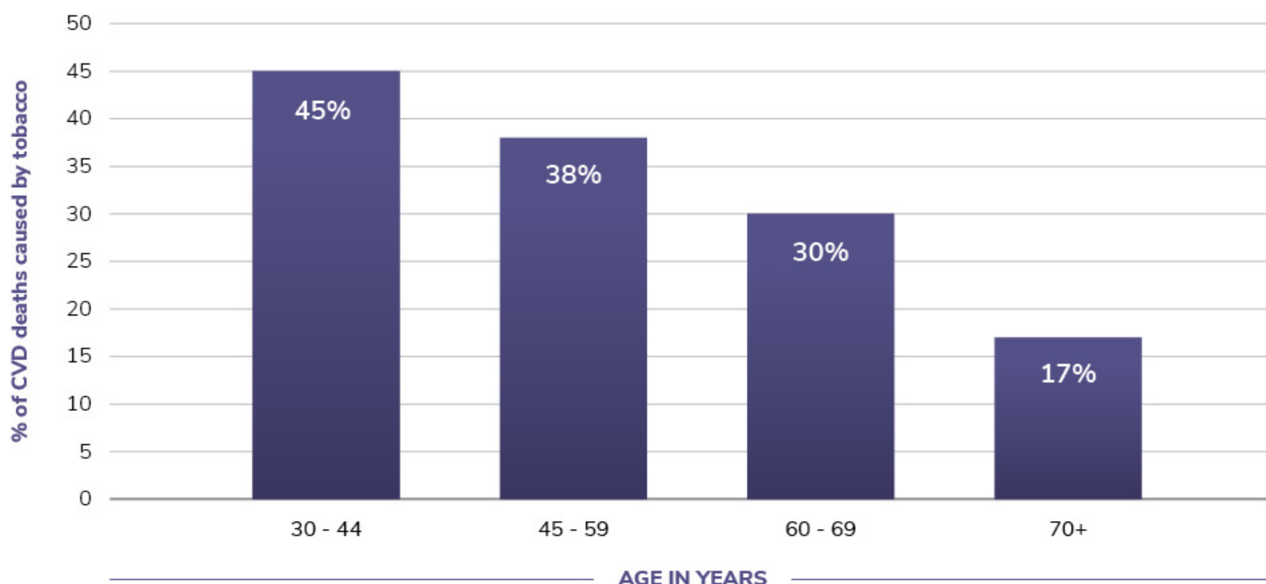
Tobacco use is having a significant impact on health of Indonesians, leading to the development of chronic diseases at productive ages and in turn causing high morbidity and premature mortality. The main causes of tobacco-attributable mortality in Indonesia are heart diseases, stroke, cancers and respiratory illnesses, particularly chronic obstructive pulmonary disease. Estimates suggest that tobacco use in Indonesia is the biggest cause of death among smokers, responsible for approximately 225 700 premature deaths[1] every year (almost 15% of all deaths) [6]. Most of these adults are in their productive age groups who are sole earners for their families and children. Indonesian women, despite having a relatively low prevalence of smoking, are also dying prematurely due to both tobacco use and exposure to second-hand smoke. Tobacco use is linked to 7% of all female deaths [7]. Many of these women are mothers and wives taking care of families, and their death imposes a huge social, psychological and, in many cases, financial burden on the affected families.

In younger people, these diseases are more likely to be caused by tobacco use. The younger the smoker, the higher the likelihood that a CVD linked to smoking is going to kill them (Fig. 3) [6].

[1] Premature death is death that occurs before the average age of death in a certain population.

FIGURE 3

Cardiovascular diseases linked to tobacco use causing premature deaths at a younger age



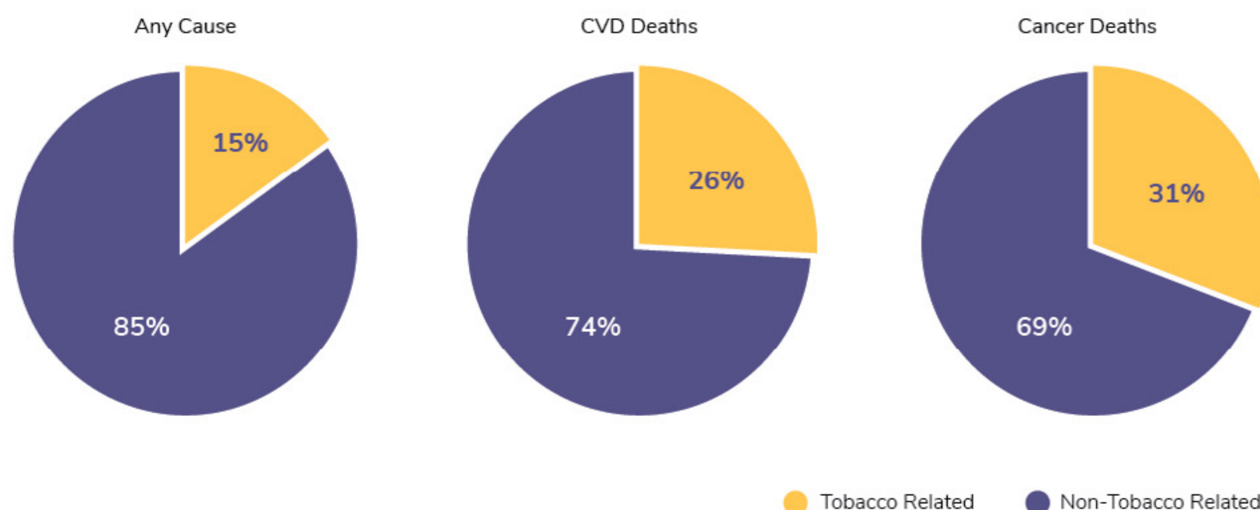
Source: World Health Organization Regional Office for South-East Asia [6]

The tobacco-related disease burden is very high and is adversely affecting the national goals to achieve UHC

The Global Burden of Disease (GBD) estimates from Indonesia suggest that tobacco use remains one of the most important risk factors causing premature death and disability [8]. CVDs are the number one cause of death and premature death in Indonesia, causing an estimated 558 736 deaths each year (36.3% of all deaths). A significant proportion of cancer and CVDs-related deaths in Indonesia can be attributed to tobacco use (Fig. 4). This increased burden of NCDs due to tobacco use is one of the major stress factors on the national health system, thereby threatening the progress of Indonesia towards UHC.

FIGURE 4

Contribution of tobacco use to deaths due to major chronic diseases in Indonesia



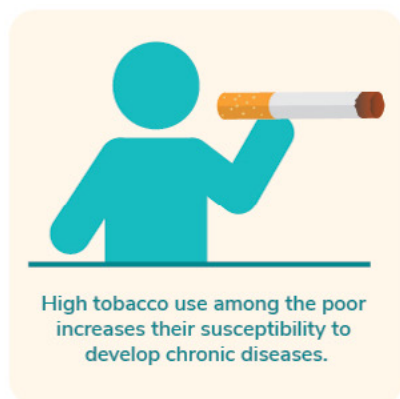
Source: Mboi et al. [8]; Kristina et al. [9]

Tobacco use is increasingly burdening Indonesia's national health insurance programme (JKN)

Smokers are more prone to get sick, and thus to exhibit a higher demand for health care. In Indonesia, this excess demand represents 6% of total health-care expenditures (IDR 15 trillion) [10].

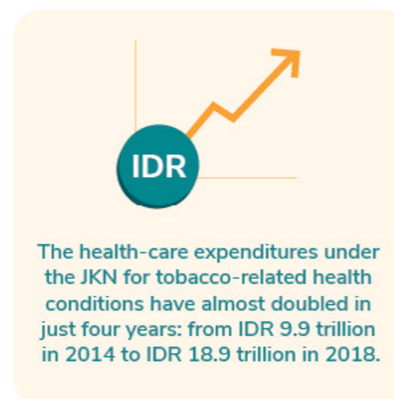
The government covers the cost of insurance premiums for the poor and the near-poor under the national health insurance programme (Jaminan Kesehatan Nasional, or JKN). High tobacco use among the poor increases their susceptibility to develop chronic diseases, posing catastrophic costs to the JKN that often depletes the additional national budget. Smoking indirectly increases the demand for health care by reducing resources that could be invested in better health if people redirected their current tobacco expenditures towards improving nutrition and preventive health-care services.

The costs of tobacco use in Indonesia are growing exponentially. Tobacco use is associated with chronic diseases in Indonesia, including cancer, lung disease and CVDs; thus, increasing costs to the health sector and claims to the national health insurance [11]. The health-care expenditures under the JKN for tobacco-related health conditions such as cancers, cardiac, cerebrovascular and kidney diseases have almost doubled in just four years: from IDR 9.9 trillion in 2014 to IDR 18.9 trillion in 2018 [12]. These expenses represent approximately one fifth of the total medical expenses of the JKN, and contribute to the growing JKN deficit, which compelled the Indonesian government to fund an additional sum of IDR 25.7 trillion to the JKN over the past four years [12]. This means that the pressure on the JKN and its budgetary requirements to cater to tobacco-related diseases will continue to increase if action is not taken to reduce the trends in consumption.



High tobacco use among the poor increases their susceptibility to develop chronic diseases.

This poses catastrophic costs to the JKN that often depletes the additional national budget.



The health-care expenditures under the JKN for tobacco-related health conditions have almost doubled in just four years: from IDR 9.9 trillion in 2014 to IDR 18.9 trillion in 2018.

III. Tobacco use in Indonesia is jeopardizing its human capital development

Tobacco-related death and disease greatly contribute to human productivity loss among workers in the productive age group

Estimates drawn by the Ministry of Health of Indonesia in 2017 suggest that the country loses close to IDR 374 trillion in human productivity losses every year associated with tobacco use [13]. Other costs are even harder to quantify. For example, buildings occupied by smokers need more maintenance and are subject to a higher risk of fires [14]. These costs, besides pain and suffering by the families, pose an additional burden on individuals and society. The direct and indirect effects of loss of productivity affects not only the Indonesian economy in the short term but also the families and children in the long term, leading to transgenerational loss of a productive and healthy workforce.

Tobacco use among parents harms children, contributes to stunting and impedes childhood development

Children are often the most affected by tobacco use among their parents and other family members. Evidence suggests that about two thirds of children in Indonesia are exposed to second-hand smoke at home [7]. Studies reviewed by the World Bank in 2018 have found household smoking associated with decreased growth and weight in children, contributing to the stunting epidemic in Indonesia. The review also found that tobacco is the second highest expenditure in the household after rice, with 22% of weekly expenditure spent on tobacco in households where the father was a smoker. As a result, lesser money was available for other food items. Many cases of chronic child malnutrition have been linked to tobacco expenditures that shift household spending away from nutritious foods for children [15].

Children suffering from stunting may never grow to their full height and their brains may not achieve their full cognitive potential. Tobacco use by parents also adversely affects the future human development potential of children, with girls being disproportionately affected. Research in 2017 revealed that levels of educational achievement were decreased in Indonesian children due to parental illness resulting from tobacco use. The data also showed that parental illness affected girls disproportionately, with girls achieving less educational attainment compared to boys by four months [16]. Another study showed that children living in a household with an active smoker tend to have a lower health status and educational attainment compared to those living in non-smoking households [17].

A review commissioned by the World Bank also suggests that it is urgent to reverse high tobacco use among youth and to stop further initiation, to reap the demographic dividend from Indonesia's young and future generation [18].

IV. Low prices of tobacco in Indonesia are a major cause of high tobacco consumption

Cigarettes in Indonesia are cheap and affordable

Indonesia stands among the Asia Pacific countries having lowest prices of cigarettes (Fig. 5) [19]. The World Bank data from Indonesia and the rest of the world indicate that lower prices of cigarettes lead to a higher consumption [18]. Low-priced cigarettes are affordable to all economic segments of society and are more likely to encourage initiation of smoking and are a deterrent to cessation [5]. In addition, many poor and youth purchase cigarettes as single sticks from street vendors, making cigarettes even more accessible.

Low-priced cigarettes are affordable to all economic segments of society, are more likely to encourage initiation of smoking and are a deterrent to cessation

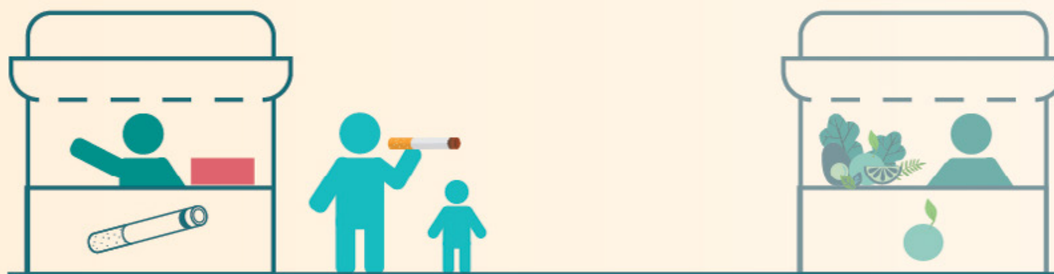
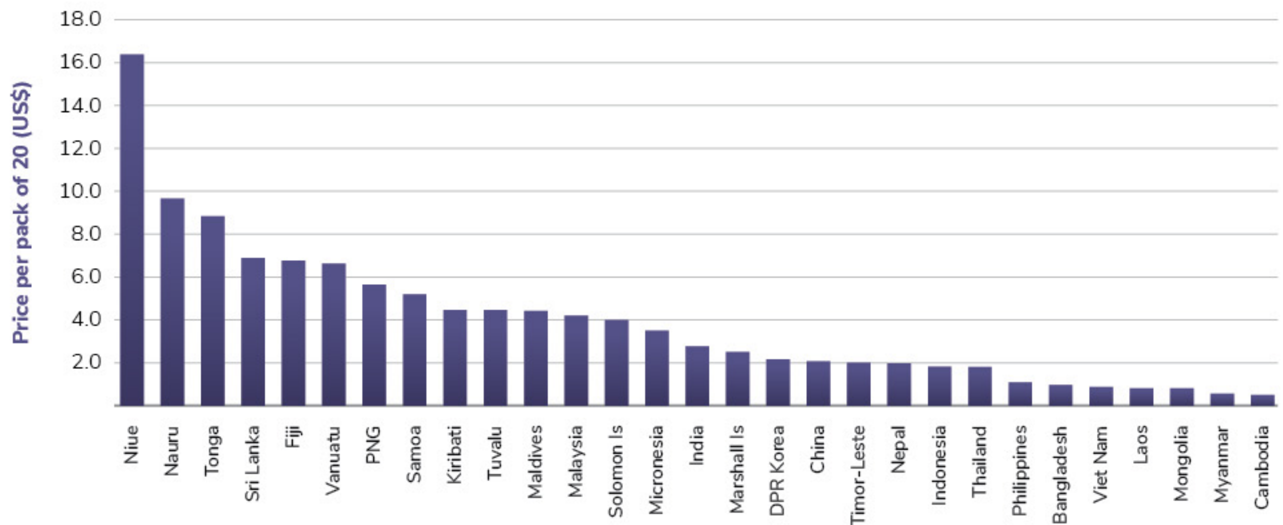


FIGURE 5

Comparison of retail prices of the most popular cigarette brands in US$ in low- and middle-income countries of the Asia Pacific region, 2018



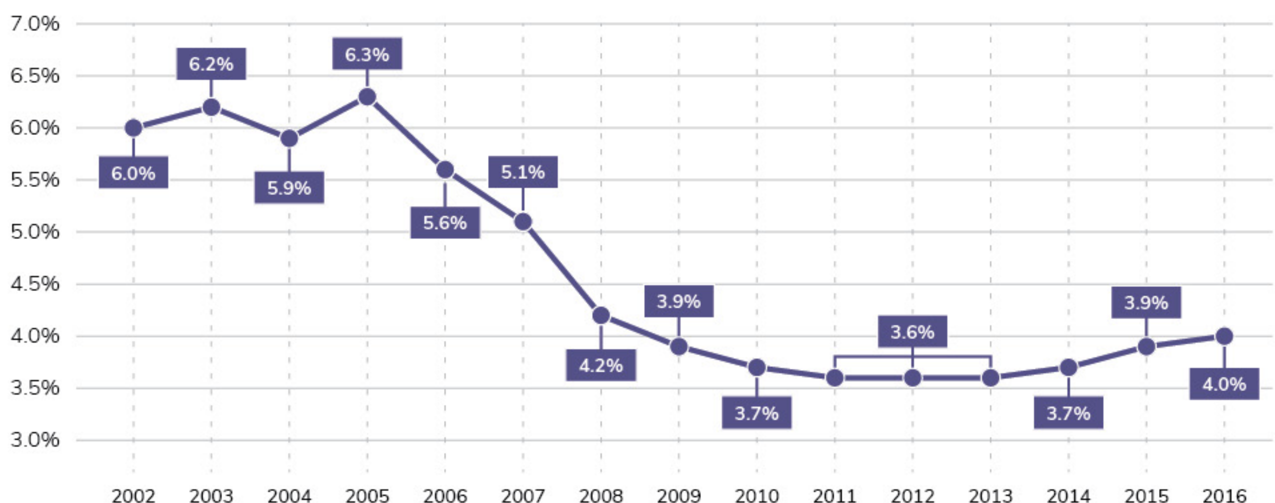
Source: WHO report on the global tobacco epidemic, 2019.

Indonesia's low tobacco tax rates have kept cigarettes affordable

Taxes on tobacco in Indonesia are low. While taxes and prices have increased periodically (by about 10% annually), tobacco products have become more affordable over the years as the increase in prices have still remained well below the levels of inflation and rising income levels of the population [20]. An analysis of trends of tobacco prices in Indonesia indicated that affordability of tobacco products increased by 50% during the period 2002–2016. Analyses also indicated that the share of the gross domestic product (GDP) needed to buy 100 cigarette packs declined from 6% in 2002 to 4% in 2016, making cigarettes more affordable for the common man (Fig. 6) [18].

FIGURE 6

Change in the pattern of affordability of cigarettes in Indonesia from 2002 to 2016



Note: RIP: relative income price (share of per capita GDP to buy 100 cigarette packs) – a lower value means increased affordability
Source: Zheng et al. [18]

A complex tax structure is keeping prices affordable and defeats the public health objective of reducing tobacco consumption

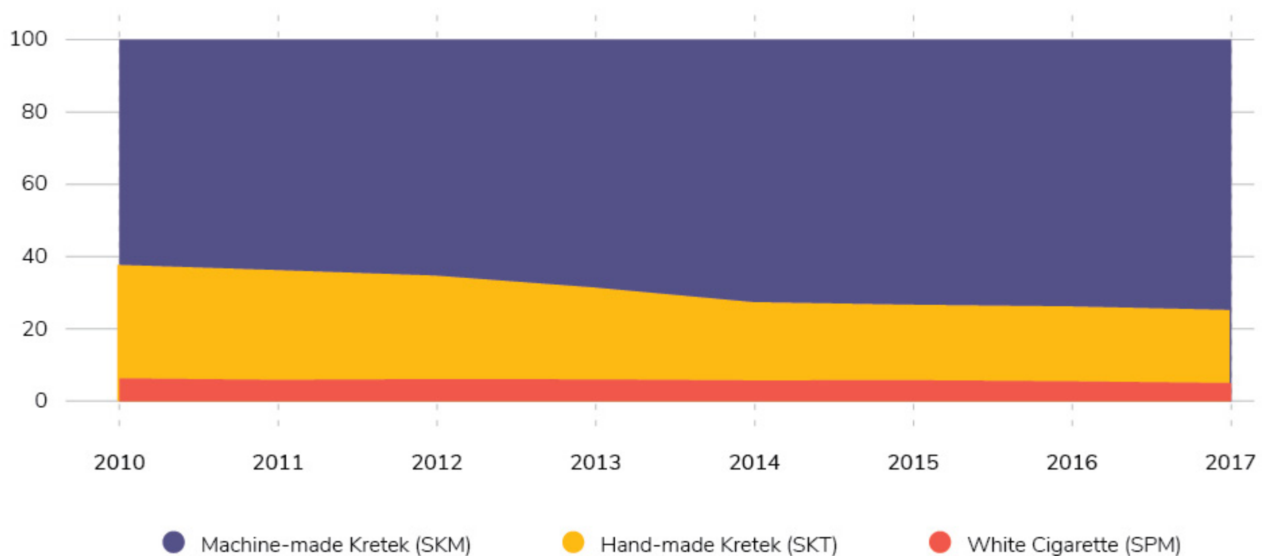
Indonesia has a multi-tiered tax structure that was designed to support small producers. Complex tax structures favour expansion of tobacco products in the market, invite tax avoidance and evasion, and undermine the public health benefits of higher tobacco taxes since they create options to switch to cheaper tobacco products. The multi-tiered structure has also been used by larger companies to reduce their tax liability by using lower tax brackets, keeping cigarette prices more affordable [21,22].

The existing tax structure is not achieving its objectives

The Indonesian multi-tiered tax structure was designed to support the small producers and, at the same time, to regulate the production of cigarettes. Despite this, market data show that this structure has not been able to achieve its objective of protecting small producers. The market for hand-rolled kreteks has been shrinking due to changes in market demand despite lower tax rates (Fig. 7) [23]. The multi-tiered structure has deprived the government of much needed revenue that could be used to help those working in the shrinking tobacco industry to switch to an alternative sector.

FIGURE 7

Market share by type of cigarette, Indonesia (2010–2017)



	2010	2011	2012	2013	2014	2015	2016	2017
Machine-made Kretek (SKM)	62.31	63.75	65.29	68.58	72.62	73.35	73.82	74.79
Hand-made Kretek (SKT)	31.41	30.37	28.63	25.43	21.67	20.88	20.72	20.23
White Cigarette (SPM)	6.28	5.87	6.08	5.99	5.71	5.77	5.47	4.98

Source: World Bank [23]

V. The economic burden of tobacco consumption is enormous

The apparent positive contribution of the tobacco industry to the Indonesian economy needs to be carefully examined, especially when the costs due to impact on health and productivity of human capital are considered. A 2017 report by the Ministry of Health of Indonesia estimated that the total direct and indirect health costs of smoking amounted to nearly IDR 440 trillion (US$ 34 billion) in 2015 [13]. These costs were 3-times the amount generated by the tobacco tax in the same year. These costs are equivalent to around 3.8% of the GDP.[2] Add to it the effects of second-hand smoke and the opportunity cost of expense on tobacco (i.e. expenditures that could be used to buy other commodities such as food), the overall economic burden of the tobacco business becomes many times higher than the perceived contribution of tobacco taxes.

The poorer segments face effects of tobacco more due to higher consumption

Tobacco has always remained an affordable commodity in Indonesia keeping it within the reach of all, especially the poorer segments of the population. A survey conducted in Indonesia in 2016 found that the poor in rural areas are 3-times more likely to smoke compared to the rich. In urban areas, the poor are 1.7-times more likely to smoke than the rich [24]. An international study published in 2018 also reported twice the number of smokers in the lowest 20% income bracket compared to the highest income bracket in Indonesia. Since the poor are more likely to smoke, tobacco use makes them much more vulnerable when they must deal with dire financial consequences of tobacco-related treatments and sick leaves [25].

Tobacco use exacerbates poverty and income disparities that continue across generations

Not only the poor consume more tobacco, its use increases poverty by hitting the low-income group the hardest [25]. It is the poor who carry most of the burden of tobacco-related illness and death because they lack resources for health care when they are sick. Tobacco use also increases health and income disparities among the poor segments of society. The medical costs associated with treating tobacco-related illnesses such as heart disease and cancer impoverish many households [26,27]. A premature death of a breadwinner has far-reaching consequences for the entire family, particularly children. With financial resources spent on chronic illnesses, the effects of impoverishment impact the quality of life and productivity across generations.

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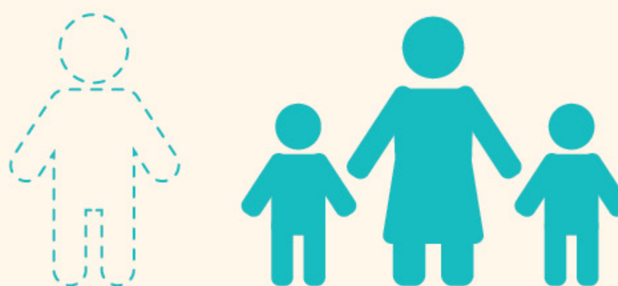


With financial resources spent on chronic illnesses, the effects of impoverishment impact the quality of life and productivity across generations.

[2] Calculations are based on the World Bank World Development Indicators; GDP estimate of 2015 for Indonesia: IDR 11 526 trillion

VI. Tobacco's contribution to the economy through the industry, farming and employment sectors is overstated

Employment opportunities in the tobacco sector are shrinking due to automation and change in market demand

It is a common misconception that tobacco is essential to Indonesia's economy because it creates jobs and contributes to the GDP. However, the health and economic consequences of tobacco consumption outweigh the overall contribution of the tobacco business.

The tobacco business in Indonesia generally creates low-paid jobs. Given that the workers are from poorer segments of society, the industry uses their status to lure the governments to create a complex tax system in the name of protecting workers and ask for lower taxes to protect their livelihood. However, the existing market of cigarettes in Indonesia itself counters these claims. The market of cigarettes is dominated by machine-made cigarettes signifying more automation and changing market demands. Tobacco companies are investing more on automation than on the workforce. The shrinking size of the hand-made cigarette market would mean lesser requirement of workforce in the coming years.

Employment in tobacco manufacturing is negligible in the context of the Indonesian economy

Since 2000, the relative importance of tobacco manufacturing employment has decreased significantly [28]. The current tobacco sector in Indonesia represents 5.3% of employment opportunities within the manufacturing sector, accounting for 0.6% of the total national workforce. This is lesser compared to other key manufacturing sectors, including the food (27.4%), garments (11.4%) and textile industry (7.9%). Moreover, the productivity of workers in tobacco manufacturing is also low compared to the productivity of workers in other comparable sectors [29].

Kretek rollers represent a small proportion of the labour market

Hand-rolled kreteks represent just a fifth of the total kretek manufacturing where 93% of the kretek workforce is absorbed [30]. There were approximately 0.3 million kretek workers in Indonesia in 2014 [31]. This represents a small and diminishing sector of the tobacco industry. Families of kretek rollers are only partially dependent on earnings from rolling. A 2018 survey involving 720 kretek workers' households from two large kretek-producing districts, Kudus and Malang, shows that while kretek rolling is the primary occupation for nearly 50% of workers, less than 2% of kretek rollers' households depend solely on kretek rolling as their main occupation [30].

About two thirds of kretek workers do not have a written contract for their employment. This is particularly problematic since the majority of kretek workers are women. These women often have very low levels of education and have an average earning of IDR 40 000 per day. About 61% of kretek households receive some form of social benefit from the government, as a subsidy to the kretek-rolling industry [30].

Tobacco farmers constitute a small proportion of the labour force

Tobacco in Indonesia is cultivated mainly in East and Central Java. Tobacco is cultivated on merely 0.37% of the total cultivated land in Indonesia, with farmers constituting 1.6% of the workforce involved in cultivation [32,33]. A survey conducted by the World Bank in 2017 validates that most farmers are only partially dependent on the tobacco market. About three quarters of tobacco-farming households derive less than half of their income from tobacco cultivation, while the dependence on tobacco for the remaining 25% of tobacco-farming households is limited [34].

Most of the tobacco farmers in Indonesia are poor and likely to remain so

Recent research reveals that tobacco farmers do not view tobacco farming as a profitable venture. This is partly because tobacco farming depends heavily on unpredictable factors (such as weather), but mainly because it forces dependence on the tobacco industry, which dictates the prices and the quantity of leaves it is willing to buy each year [35,36]. The World Bank assessed that among many tobacco farmers, gross margins (revenues after direct costs) are minimal and are at times prone to a loss if even a small additional value is incorporated for household labour [34]. Due to the global nature of the tobacco leaf market and the

disappearance of trade barriers, Indonesian farmers are competing with the rest of the world, often against countries with cheaper land and/or labour and/or higher productivity [36]. As a result, tobacco farmers remain poor; more than two thirds of tobacco and a third of clove farmers were classified as poor in 2017 [34]. The widespread poverty among these farmers means they primarily rely on family support, which encourages child labour – often during school hours [37]. Food security is also a widespread issue with more than 60% of farmers reporting insufficient food to feed their household at some point in a given year [34].

Most tobacco-farming households are on social assistance, meaning that the government and all taxpayers are subsidizing the production of tobacco leaves. Moreover, many tobacco farmers suffer from the symptoms of green tobacco sickness, which is acute poisoning caused from absorbing nicotine through the handling of tobacco leaves [34]. This has motivated some local governments to issue decrees prioritizing the production of other crops over tobacco [36].

Farmers are shifting to other crops for greater profits

A growing number of tobacco farmers are progressively shifting to more profitable alternative crops and livelihoods [35]. Indonesian farmers are often cultivating fertile land under favourable climatic conditions and therefore have many genuine alternatives to tobacco growing [34]. Ex-tobacco farmers are typically shifting to grains, vegetables, fruits and others crops, which are much more profitable than tobacco. In Malang District, tobacco farmers shifted to local priority crops such as rice, corn, soybeans, onions and chili [36]. The annual income of ex-tobacco farmers increased by 69% after they shifted to other crops [38].

The tobacco industry's preference for imported tobacco leaves is affecting tobacco farmers

Given that the industry is increasingly relying on imported tobacco leaves, and with decreasing incomes, farmers are willing to shift to other economic alternatives. The expected decline in tobacco use would be gradual over many years and will not directly affect farmers in the short term; however, the industry's preference for imported tobacco leaves is one of the threats faced by local farmers.

Clove farmers' income is partially dependent on clove crop

Clove crop is grown on around 500 000 hectares of land in Indonesia. While tobacco absorbs more than 90% of local clove crop, growing cloves contributes partially to the household income [39]. Only a fourth of farmers earn more than 50% of household income from clove, whereas over half of the farmers generate less than 20% of their household income from cloves. Research also suggests that clove-farming households are poorer than average Indonesian households. They can be encouraged to consider more lucrative and viable alternate options [40].

Most tobacco farmers cannot rely on tobacco alone. Some even decide to switch to other crops which are more profitable.

IDR Tobacco

IDR Other Crops

Tobacco farmersa concentrate in Central and East Java

Tobacco is cultivated on 0.37% of the total cultivated land in Indonesia

Most households involved in the tobacco industry are dependent on social assistance, meaning society is indirectly subsidising the tobacco industry

IDR

VII. Increasing tax and simplifying tobacco tax structure is the most effective way to reduce tobacco use and improve health outcomes

The most cost-effective and impactful way to reduce the health and economic burden of tobacco use is to implement evidence-based tobacco tax policies. High tobacco taxes that lead to price increases reduce the affordability of tobacco products, which in turn would reduce the prevalence of smoking among all population segments [41]. As youth and lower-income groups are more price-sensitive, higher taxes will decrease their consumption more than that by higher-income smokers. Therefore, a tobacco tax increase is a progressive tax policy that also supports the development of future human capital.

Estimates suggest that a 10% increase in prices of cigarettes through taxes would likely reduce overall cigarette consumption by 3–6% [42]. While tobacco use would decline across all age groups, higher prices would primarily influence the youth and those with lower incomes, as these population segments are more price-sensitive, hence more likely to reduce consumption. Also, higher taxes would reduce affordability, deter the poor population from tobacco use, and encourage them to quit. Financial savings from tobacco would then be spent on food and other household items, improving the health and living status of families.

Indonesia's complex tax system can be simplified to achieve both fiscal and public health benefits

An analysis performed on Indonesia's current tax system strongly suggests restructuring the tax system to achieve both fiscal and health policy benefits. Regular increases in tobacco excise tax and simplifying the tax structure would decrease administrative complexities, increase revenue generation, and would also reduce the prevalence of smoking and curtail health-care costs [43].

The prices of tobacco products in Indonesia are still low even with an average 10% annual increase over the past few years, which have not supported reductions in consumption. Simulations made for the period 2019–2022 suggest that increasing taxes annually by 25% while ensuring simplification in the tax structure would be a better policy option than just a 10% annual increase. Higher tax rates will not only reduce twice the number of smokers and save more than a million deaths by 2022, but also provide additional revenues amounting to IDR 102.8 trillion by 2022 (Fig. 8) [44].

FIGURE 8

Comparison between a 10% and 25% increase in tax with tax tiers reduced to five

	Reduction in number of smokers in Indonesia	Premature deaths averted	Additional excise tax revenue between 2019 and 2022	Total excise revenue in 2022
Increasing excise tax by 10–11% yearly with 5 tiers by 2022	2.4 million smokers reduced	> 0.5 million deaths averted	IDR 39.5 trillion	IDR 191.4 trillion
Increasing excise tax by 25% yearly with 5 tiers by 2022	4.8 million smokers reduced	> 1 million deaths averted	IDR 102.8 trillion	IDR 254.8 trillion

Source: WHO internal simulations [44]

Higher tobacco taxes and prices would lead to reduced medical costs

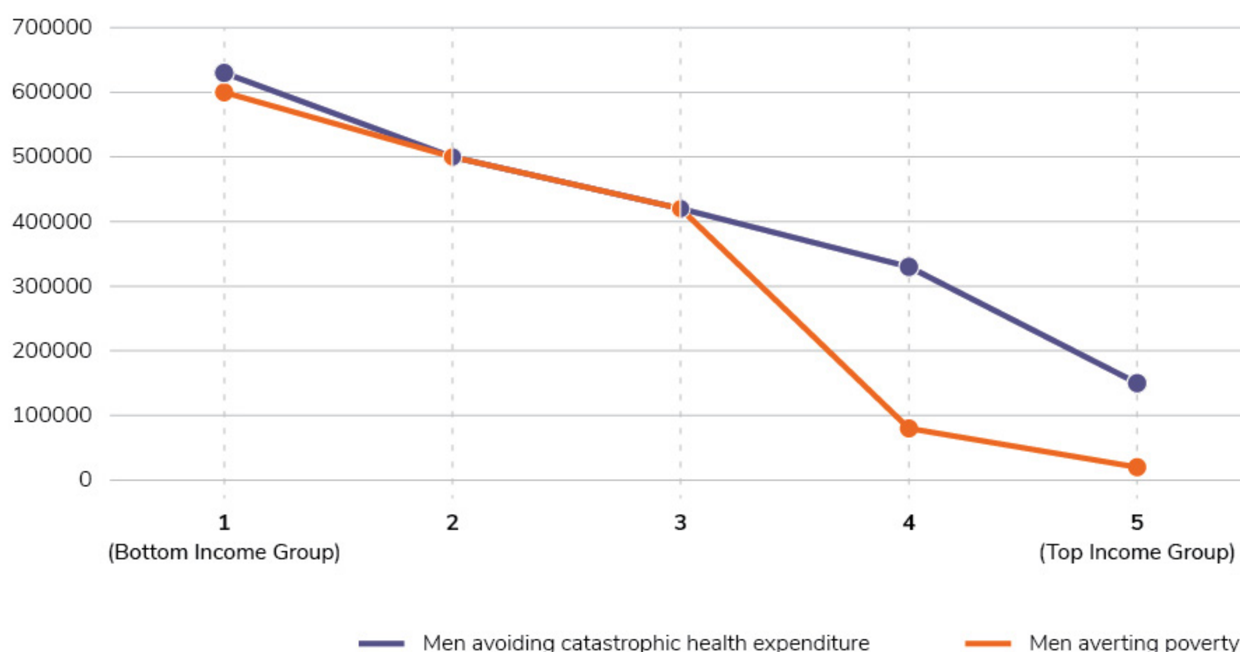
There is a direct link between higher tobacco taxes and medical costs. A World Bank study predicts a reduction in medical costs in Indonesia because of a tax increase due to a change in purchasing behaviour. The relative savings would be highest among families in the lowest-income groups. At the same time, low-income groups would also experience the largest income gain due to higher productivity after quitting tobacco [45].

Higher cigarette prices would reduce catastrophic health expenditure, particularly among the poor

Simulations have also shown long-term benefits of successive tax increases on reducing health expenditure. Figure 9 shows the effects on reduction on catastrophic health expenditure with a 50% increase in the market price of cigarettes. The largest beneficiaries would be the Indonesian poor, since over 0.6 million men in the bottom income quintile would avoid catastrophic health expenditure and a similar number would escape extreme poverty [25].

FIGURE 9

Averting catastrophic health expenditure and impoverishment following a 50% cigarette price increase in Indonesia (in million)



Source: Global Tobacco Economics Consortium [25]

Only substantial and repeated tobacco tax increases will bring long-term public health benefits

While any tax increase will be beneficial, only substantial and repeated tobacco tax increases will make tobacco products less affordable and will deter the purchase of tobacco products in the long run. A recent study revealed that a third of Indonesian smokers would want to quit if cigarette prices increased by 100%. On the other hand, a 50% increase in cigarette prices would motivate only 12% of smokers to quit smoking [46].

Large tax increases will not reduce revenues

The tobacco industry argues that increasing taxes substantially will reduce revenues because of large reductions in consumption. However, as mentioned earlier, the demand for tobacco products is not very sensitive to price increases because of people's addiction to tobacco use. Consequently, as prices increase following a tax increase, tobacco use will decrease but in a smaller proportion leading to an increase in government revenues. This has been seen all over the world, even in countries where prices and taxes are

already high and where the prevalence of tobacco use is on the decline [41]. In the case of Indonesia specifically, during 2018, the excise tax revenue increased above expectations, from IDR 147.7 trillion to IDR 152.9 trillion after the 10.4% excise rate increase despite a decline in cigarette production by 1.17% [47].

Revenue from higher tobacco taxes can fund the expansion of health services and vocational programmes for farmers and industry workers

Pro-health tobacco tax policy that increases rates and adopts tax simplification will save lives, reduce poverty and increase a country's domestic resources for financing human development [41]. For example, newly generated revenue could be used to allocate more resources to health, improve the performance of health systems and reduce the burden on the national health insurance programme (JKN). Additional tax revenue could also fund programmes to help tobacco farmers and kretek workers switch to more secure and profitable alternative employment.

Higher tobacco taxes provide direct and indirect benefits to all economic strata of society

Evidence from around the world as well in Indonesia suggests that higher tobacco taxes are a "pro-poor" policy, negating the claims of the industry that higher tobacco taxes will hurt the poor [48,49]. This is because poorer households are more responsive to changes in prices [42]. In addition, a comprehensive approach that yields benefits through lower medical expenses and an increase in productivity adds positively to the living conditions of the poor, particularly for low-income populations [45,50].

Restructuring tobacco taxes in Indonesia would improve tax administration and increase revenues

All types of cigarettes are harmful and should be taxed uniformly

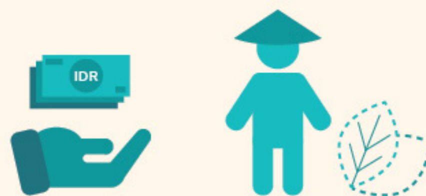
Empirical research globally has clearly established that every cigarette, including kretek, causes harm and that there is no safe level of smoking [28,51].

The international best practice in tobacco taxation calls for a single-tiered (uniform) specific tax system on all types of tobacco products (adjusted regularly to account for inflation and income growth). Such a system is administratively easier to implement; it reduces chances of tax evasion and reduces consumers' motivation for switching to cheaper alternatives instead of quitting tobacco. Differential taxation on tobacco products as currently applied in Indonesia does not support economic or public health objectives, since all cigarettes are harmful, regardless of being hand-rolled or machine-made, place of manufacture and price. Thus, all types of cigarettes should be taxed uniformly [52].

During the past decade, the Government of Indonesia has adopted several schemes to simplify the tobacco tax structure. It changed the purely ad valorem system (based on value) to a mixed system in 2007 applying both ad valorem and a specific tax per stick. The current multi-tier specific tax system was introduced in 2009 with 19 tiers [53]. Between 2009 and 2015, the number of excise tax tiers decreased from 19 to 12 and an updated 2018–2021 roadmap was promulgated by the Finance Minister in 2017, which aimed to further simplify the tax structure to five tiers. However, this plan was repealed in 2018.

Newly generated revenue could be used to allocate more resources to health and reduce the burden on the national health insurance programme (JKN).

Additional tax revenue could also fund programmes to help tobacco farmers and kretek workers switch to more secure and profitable alternative employment.



Tobacco tax increases are not driving illicit trade in tobacco products

The challenge of illicit trade is often used as one of the key arguments against large tax increases. Research conducted in numerous countries, including Indonesia, shows that countries can effectively increase taxes while ensuring effective enforcement and tax administration measures [23]. Good tax administration to curb illicit trade coupled with a policy of raising taxes to curb

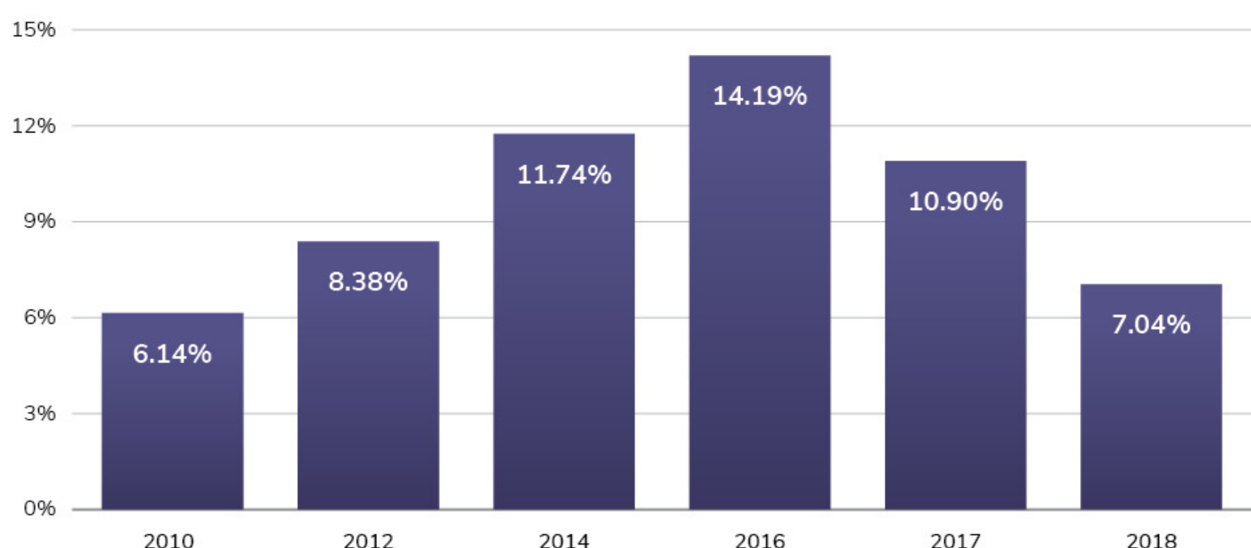
unhealthy behaviour is an economically correct response to promote healthy living. Indonesia is a good example of a country that has a strong tax administration and has already been implementing effective enforcement measures.

Currently, Indonesia is using excise stamps as fiscal markers for both domestically produced and imported tobacco products. These stamps have several security features to prevent forgery. As part of the Customs and Excise Strengthening Reform Program, the Directorate General of Customs and Excise (DGCE) implemented the High-Risk Excise Control Program in 2016. Enforcement operations carried out by the regional and central DGCE offices and supported by the police and the army are focusing on production facilities and distribution channels for illegal cigarettes [54].

These tax administration and enforcement measures in Indonesia managed to reduce the share of illegal cigarettes on the market by half, from about 14% in 2016 to 7% in 2018 (Fig. 10) [54]. During the same period, the government increased the tobacco excise tax annually at a rate higher than inflation. This provides further evidence that increasing tobacco tax is not necessarily a significant factor in illicit trade in tobacco products. Comprehensive and concerted tax administration and enforcement measures are the key to controlling illicit trade in tobacco products [54].

FIGURE 10

Estimated market share of illegal cigarettes in Indonesia (2010–2018)



Source: Ahsan [54]

The national law on excise tax is limiting significant increases in tobacco taxes

To create a pathway for long-term effective tax increases in Indonesia, the current 57% cap on the tobacco tax rate needs to be abolished. This measure is contrary to taxation policies observed across other countries. Instead of setting upper limits on tax rates, countries apply lower limits to guarantee minimum revenues from tax (e.g. countries of the European Union; many middle-income countries such as Turkey and Thailand) [19]. Such provisions also allow the Ministry of Finance to increase the excise tax as much and as regularly as possible in line with the national needs.

The excise tax increase adopted for 2020 is a step in the right direction

The regulation of the Ministry of Finance adopted in October 2019 (Number 152/PMK.010 /2019) sets a new precedent of effective increases in tobacco taxes and prices. The ministerial regulation increased excise taxes on tobacco products on an average by 24% with an increase of the minimum prices by 35%. This is an encouraging development and it is expected to reduce consumption and, at the same time, increase revenues. However, future tax increases would require moving towards simplification of tiers as well as review of the national excise tax law to ensure sustainability and effectiveness of the public health approach, while reaping benefits of revenue increases in the coming years.

Conclusion & Recommendations

Increasing excise tax by 10-11% a year with 5 tax tiers by 2022.	2.4 Million smokers reduced	>0.5 Million premature deaths averted	IDR 39.5 trillion additional tax revenue between 2019 and 2022	IDR 191.4 trillion tax revenue in 2022
Increasing excise tax by 25% a year with 5 tax tiers by 2022.	4.8 Million smokers reduced	>1 Million premature deaths averted	IDR 102.8 trillion additional tax revenue between 2019 and 2022	IDR 254.8 trillion tax revenue in 2022

High tobacco consumption is affecting the Indonesian population and its economy. Contrary to declining trends of tobacco use globally, the rates of smoking in Indonesia continue to remain high, particularly among adult males. There is a rising trend of tobacco use among young people, jeopardizing the future human capital. The current tobacco control policy in Indonesia is not consistent with government priorities, particularly its human capital development plans. If best practices in tobacco control and especially in tobacco taxation are adopted, tobacco use in the country will decline. This will improve the overall health of current and future generations, increase labour productivity, encourage foreign direct investment (thus creating more economically viable alternatives for tobacco farmers and workers), and generate additional resources for much needed programmes such as UHC. Therefore, reduced tobacco use will improve health of the population, decrease health-care costs, enhance societal productivity, contribute to human capital development (particularly of the younger generation) and allow Indonesia to fully benefit from its demographic dividend as suggested by the 2018 National Health Sector Review [55].

Indonesia's dependence on the tobacco industry needs to be reviewed rationally given that the sector supports a minor proportion of the country's workforce. Realigning this reliance would enable money currently spent on tobacco to be spent on other products/services, fuelling economic growth and job creation in other competitive sectors of the economy. This would create a healthier labour force and brighten the investment climate in Indonesia.

Globally, the tobacco industry is shrinking due to the declining prevalence of smoking [19,56]. Creating an artificially protected anti-competitive environment for the tobacco industry in the form of favourable tax treatment will only discourage business competition and slow the pace of human capital development. It is against the principles of a market-driven economy to keep workers artificially tied to the tobacco sector instead of fostering an environment that will help them move to more sustainable, better-paid jobs. Most countries do not support small-scale tobacco enterprises, and those that used to do so, such as Brazil or the Philippines, discontinued the programmes as they were found to be ineffective [57].

If best practices in tobacco control and especially in tobacco taxation are adopted, tobacco use in Indonesia will decline. At the same time, the country would generate additional resources to support the important initiatives such as the JKN and economically viable alternatives for tobacco farmers and workers. Importantly, a healthier workforce would mean higher labour productivity, which would attract foreign direct investment contributing further to economic development of the country. Taking this path, the Government of Indonesia will prioritize the health and prosperity of its people above the interests of a declining tobacco sector.

Key Recommendations

- Indonesia needs to consider tobacco control as a multisectoral public health priority to save future generations from NCDs and to achieve effective human capital development.
- Effective tobacco control requires a comprehensive government approach. While multiple actions from various sectors are needed, periodical increases in tobacco tax is one of the most effective and proven measures to deter tobacco use.
- Given the current low prices of tobacco products in Indonesia, a regular and substantial increase in tobacco taxes, by at least 25% annually, would substantially increase the excise tax revenue and reduce affordability of tobacco products to curb tobacco use, particularly among young people.
- Simplifying the tax structure by applying uniform taxes on all tobacco products improves administrative efficiency of tax collection as well as the effectiveness of tobacco tax as a public health measure. Indonesia's resolve to consider the 5-year simplification roadmap adopted in 2017 was a step in the right direction. This roadmap should be reintroduced to achieve the longer-term goal of reducing the tax tiers to two: one tier for machine-made cigarettes, and the other for hand-made cigarettes.
- Additional tax reforms need to be introduced including removal of 57% maximum excise tax cap for effective periodic increases of tobacco taxes.
- The excise tax base needs to be expanded to other excisable products to reduce the dependence on tobacco tax revenue.
- To gain political support for these measures, it is proposed to use the existing mechanism for the redistribution of tobacco tax (2% tobacco excise revenue sharing and 10% local tobacco tax) and using a part of those revenues to assist tobacco farmers, clove farmers and industry workers to transition to other crops/professions.
- Substantial revenue increases can be achieved with the above tax reform measures, which can facilitate more appropriate investments to improve UHC and lives of farmers and workers.
- The above fiscal policies on tobacco should be complemented with non-fiscal measures such as implementing 100% smoke-free policies, ban on tobacco advertising, promotions and sponsorships, and larger-sized pictorial health warnings to reduce social acceptability of smoking to reduce tobacco use more significantly.
- There is a need to monitor the impact of the reforms on reducing the prevalence of smoking, improved health of people and of human development.

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