

The International Tobacco Control Policy Evaluation Project

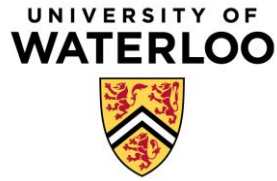
Tobacco Price and Taxation Policies in Bangladesh

Evidence of Effectiveness and Implications for Action

UNIVERSITY OF
WATERLOO



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Executive Summary

This report presents key findings from the International Tobacco Control Policy Evaluation Project (the ITC Project) Bangladesh Waves 1-3 (2009-2012) Survey in relation to tobacco price and taxation issues. The report evaluates the effectiveness of current price and tax policies for cigarettes and bidis. It also includes an overview of the undebated importance of price and tax policies in tobacco control and an overview of the guidelines and recommendations for Article 6 of the World Health Organization's (WHO) Framework Convention on Tobacco Control (FCTC): *Price and tax measures to reduce the demand for tobacco*.

The report describes the complex tax structure in Bangladesh including the differential tax rates based on retail price slabs across cigarette brands and tobacco products. It makes a case for product and brand tax harmonization using more uniform specific excise tax, in accordance with the WHO's recommendation of enhanced uniform specific excise taxes to increase price and reduce demand. These recommendations are particularly important in Bangladesh because Bangladesh currently has the third lowest retail price for a package of the most sold brand of cigarettes in the South-East Asia region.

Specifically, the report finds that increases in tariff values for supplementary duty (SD) on non-filtered and filtered bidis have not changed the real price of bidis during the three ITC Bangladesh Survey waves (2009-2012). Further, the significant price gaps between brands of cigarettes in different price categories creates greater incentives for smokers to switch to cheaper brands in response to price and tax increases. These gaps also create greater incentives for manufacturers to engage in tax avoidance and evasion (e.g., by positioning brands in the gaps between price slabs).

The report suggests the need for levying specific excise tax on both cigarettes and bidis and increasing the specific tax every year. Pursuant to this suggestion, current ITC data shows that there is considerable public support, including strong support among smokers, for tax increases on both products.

Based on economic modelling, the report cites that a 10% increase in the price of cigarettes is expected to lead to a 4.9% reduction in cigarette consumption. Economic modelling also indicates that a 10% increase in household income is expected to lead to a 2.3% growth in cigarette consumption. Because of the rapid growth of income in Bangladesh, any efforts to use tax policies to decrease tobacco consumption and prevalence will be weakened to a considerable extent by increases in the affordability of cigarettes unless mechanisms are put in place to adjust tax policies relative to income changes.

Key Findings from ITC Bangladesh Wave 1 to 3 Surveys (2009-2012)

Overall, the marginal cigarette and bidi tax increase in Bangladesh between 2009 and 2012 have not had a marked impact on increasing the real prices and decreasing the consumption of these tobacco products.

- Changes in cigarette and bidi prices from 2009 to 2012 were minimal – the increase in the average real price per pack of 10 cigarettes was 8.55 (2012) BDT (equivalent to just 0.09 to 0.11 USD in 2012 prices) and 1.51 (2012) BDT per pack of 20 bidis, and 1.92 (2012) BDT per pack of 25 bidis
- Income levels in Bangladesh have risen faster than cigarette prices from 2009 to 2012, and cigarettes have thus become more affordable (an average annual increase of 1.63% in the affordability index) over this time period.
- There was a slight decrease in the overall prevalence of cigarette smoking from 18.8% in 2009 to 16.7% in 2012, and a significant decrease in the overall prevalence of bidi smoking from 12.4% in 2009 to 5.7% in 2012. However, more than 96% of all current cigarette smokers and bidi smokers were daily users, and there were no significant changes in cigarette or bidi consumption among these daily smokers over time. The remarkable decrease in bidi smoking prevalence is attributable to the structural shift of smokers' preference from bidi to cigarettes. This shift comes from increased income growth and the resultant higher affordability of cigarettes that are considered better quality products than bidi.

The price of smoked tobacco products was not an important motivator for smoking cessation for the majority of tobacco users.

- In 2012, less than half of cigarette smokers (39%) and bidi smokers (47%) reported that the price of their respective smoked tobacco products led them to think about quitting.

There was strong support among Bangladeshi smokers for tax increases on smoked tobacco products.

- In 2012, nearly two-thirds of current cigarette smokers (65%) said that the government should increase the tax on cigarettes, and half of current bidi smokers (50%) said that the government should increase the tax on bidis.

The complex cigarette tax structure in Bangladesh minimizes the effectiveness of tax increases, and undermines quitting behaviour among current smokers.

- Economic analyses of data from the ITC Bangladesh Wave 1 to 2 Surveys showed that the tiered ad valorem cigarette tax structure in Bangladesh skews prices towards lower values, and increases variability in cigarette price distributions, which may then create more opportunities for smokers to switch down to cheaper brands rather than decrease consumption in response to tax increases.

Introduction to this Report and the ITC Bangladesh Survey

The ITC Project Surveys

The International Tobacco Control Policy Evaluation Project (the ITC Project) is the first-ever international cohort study of tobacco use. Its overall objective is to measure the psychosocial and behavioural impact of key national level policies of the WHO Framework Convention on Tobacco Control (FCTC). The ITC Project is a collaborative effort with international health organizations, researchers, and policymakers in more than 20 countries so far, inhabited by more than 50% of the world's population, 60% of the world's smokers, and 70% of the world's tobacco users. In each country, the ITC Project is conducting longitudinal cohort surveys to assess the impact and identify the determinants of effective tobacco control policies in each of the following areas:

- Health warning labels and pack descriptors
- Pricing and taxation of tobacco products
- Tobacco advertising and promotion
- Smoke-free legislation
- Education and support for cessation

All ITC surveys are developed using the same conceptual framework and methods, and the survey questions, which include more than 150 questions directly relating to policy impact, are designed to be identical or functionally equivalent across all ITC countries in order to allow strong cross-country comparisons. The ITC Project aims to provide an evidence base to guide policies enacted under the FCTC, and to systematically evaluate the effectiveness of these legislative efforts.

The ITC Bangladesh Surveys

In 2008, researchers from the Bureau of Economic Research (BER) and the Department of Economics at the University of Dhaka partnered with the ITC Project at the University of Waterloo in Canada to create the ITC Bangladesh Survey. The main

objectives of the ITC Bangladesh Survey are: (1) to examine patterns of opinions associated with tobacco use among adults in Bangladesh, (2) to examine the impact of specific tobacco control policies implemented in Bangladesh, and (3) to compare the behaviour of tobacco users and the impact of policies between Bangladesh and 21 other ITC countries.

The ITC Bangladesh Survey is a prospective longitudinal study of adult (15 years of age or older) tobacco users and non-users of tobacco. Wave 1 of the ITC Bangladesh Survey was conducted from February to May 2009, Wave 2 was conducted from March to June 2010, and Wave 3 was conducted from November 2011 to May 2012. Data at all three waves were collected through face-to-face surveys. This report presents findings from the ITC Bangladesh Wave 1 to 3 Surveys (2009-2012) that focus specifically on the impact of tobacco pricing and taxation policies in Bangladesh.

The Importance of Price and Tax Policies in Tobacco Control

Evidence of Impact of Price and Tax Policies

Raising taxes to increase the price of tobacco products is recognized as the single most effective population-based strategy to reduce tobacco consumption, and encourage tobacco users to quit.^{1 2} It is estimated that for each 10% increase in retail prices, consumption will decrease by about 2.5% to 5% in high-income countries and by 2% to 8% in low- and middle-income countries.^{2 3 4} Findings from numerous studies have also shown that increasing tobacco prices is particularly effective for reducing tobacco consumption and prevalence of tobacco use among price responsive groups such as youth, and persons of low socioeconomic status.^{5 6 7 8}

The World Health Organization Framework Convention on Tobacco Control was adopted by the World Health Assembly in 2003 and entered into force in 2005. It has become one of the United Nations' most readily embraced treaties. The FCTC draft guidelines and recommendations for Article 6 regarding tobacco price and tax measures to reduce tobacco consumption were established at the biennial Conference of the Parties (COP5) meeting in 2012 and are illustrated in Figure 1, on the following page.

*Figure 1- WHO FCTC Article 6: Price and tax measures to reduce the demand for tobacco*⁹

WHO FCTC Article 6: Guiding Principles and Recommendations from COP5

Guiding Principles of Article 6

- Determining tobacco taxation policies is a sovereign right of the Parties
- Effective tobacco taxes significantly reduce tobacco consumption and prevalence
- Effective tobacco taxes are an important source of revenue
- Tobacco taxes are economically efficient and reduce health inequalities
- Tobacco tax systems and administration should be efficient and effective
- Tobacco tax policies should be protected from vested interests

Recommendations for Adoption and Implementation of Article 6

- When establishing or increasing their national levels of taxation Parties should take into account...both price elasticity and income elasticity of demand, as well as inflation and changes in household income, to make tobacco products less affordable...Parties should consider having regular adjustment processes...
- Parties should implement the simplest and most efficient system that meets their public health and fiscal needs...Parties should consider implementing specific or mixed excise systems with a minimum specific tax floor...
- Parties should establish coherent long-term policies on their tobacco taxation structure...to achieve their public health and fiscal objectives...tax rates should be monitored, increased or adjusted on a regular basis, potentially annually, taking into account inflation and income growth developments...
- All tobacco products should be taxed in a comparable way as appropriate...in a way that minimizes the incentive for users to shift to cheaper products or product categories...the tax burden should be regularly reviewed...and increased.
- Parties should ensure that transparent license or equivalent approval or control systems are in place.
- Parties are urged to adopt and implement measures and systems of storage and production warehouses...excise taxes should be imposed at the point of manufacture, importation or release for consumption from the storage...warehouses. Tax payments should be required by law to be remitted at fixed intervals...and should ideally include reporting of production and/ or sales volumes...Tax authorities should allow for the public disclosure of the information...
- In anticipation of tax increases Parties should consider imposing effective anti-forestalling measures.
- Where appropriate, Parties should consider requiring the application of fiscal markings to increase compliance with tax laws.
- Parties should clearly designate and grant appropriate powers to tax enforcement authorities. Parties should also provide for information sharing...and an appropriate range of penalties.
- Parties should consider...dedicating revenue to tobacco control programmes...and financing of appropriate structures for tobacco control.
- Parties should consider prohibiting or restricting the sale to and/or importation by international travellers, of tax-free or duty-free tobacco products.

Types of Tobacco Taxes

The two most common forms of domestic taxation that are levied on tobacco products by governments worldwide are tobacco excise taxes and Value Added Taxes (VATs). VATs are consumption taxes that are applied to many products, levied as a percentage of the value (e.g. wholesale or retail price). Excise taxes are applied to selected goods that are produced within a country or imported and sold in that country.¹⁰ There are two main types of excise taxes – specific and ad valorem.

Specific excise taxes are based on quantity or weight (e.g., per a pack of 20 cigarettes or per gram of tobacco) and add a fixed monetary tax to every cigarette, regardless of baseline price.¹⁰ Ad valorem excise taxes are based on the value of the product (e.g., a specific percentage of the manufacturer's price or the retail price).¹⁰ The ad valorem type of tax tends to widen price differences between cigarette brands, while a specific excise tax reduces price differentials between brands.¹¹ Ad valorem taxes are attractive because they automatically increase with industry price increases and are implicitly linked to inflation.¹¹ However, ad valorem excise taxes also allow industry to control tax levels by keeping prices low (e.g., companies could lower their prices in response to a tax increase, reducing the impact of the tax increase), which lowers the associated public health benefit.¹²

Price Elasticity and Tobacco Consumption in Bangladesh

The price elasticity of demand is used to measure the percentage of change in cigarette consumption that would result from a 1% increase in the price of cigarettes.¹³ In Bangladesh, at the time of the Wave 1 (2009) Survey, the SD applied to the retail price per pack of 10 cigarettes ranged from 32% in the low price tier to 57% in the premium price tier. At the time of Wave 2 (2010) Survey, the price slabs for the four tiers of cigarettes prices were increased and the SD for each tier was raised by one percentage point (ranged from 33% in the low price tier to 58% in the premium price tier). Estimates showed that tax increases between 2009 and 2010 only had a minimal impact on increasing cigarette prices, and no impact on daily cigarette consumption. From 2009 to 2010, the average SD per pack of 10 cigarettes increased from 38% to 45% of the retail price. Although there was an increase in the average real price per pack of 10 cigarettes from 17.4 (2009) BDT in 2009 to 19.3 (2010) BDT in 2010, there was virtually no change in the average number of cigarettes smoked per day (CPD) during this time period (10.2 CPD in 2009 vs. 10.5 CPD in 2010).

Findings from a study by Nargis et al. (2014)¹⁴ showed that the total price elasticity of demand for cigarettes in Bangladesh was -0.49, which suggests that a 10% increase in the price of cigarettes is expected to lead to a 4.9% reduction in cigarette consumption. Estimates also showed that the total income elasticity was 0.23, which implies that a 10% increase in household income is expected to lead to a 2.3% growth in cigarette consumption (see Table 1).

Table 1. The estimates of price and income elasticity of demand for cigarettes in Bangladesh

| Factor | Price Elasticity | | | | Income Elasticity | | | |
|-----------------------------------|------------------|-------|--------|-------|-------------------|------|--------|------|
| | All | Low | Medium | High | All | Low | Medium | High |
| Smoking prevalence: Probit (A) | 0.04 | 0.01 | -0.00 | 0.13 | 0.09 | 0.13 | 0.08 | 0.07 |
| Smoking prevalence: IV Probit (B) | -0.29 | -0.50 | -0.31 | -0.15 | 0.13 | 0.14 | 0.10 | 0.09 |
| Conditional demand: OLS (C) | -0.21 | -0.43 | -0.07 | -0.14 | 0.08 | 0.17 | 0.04 | 0.03 |
| Conditional demand: 2SLS (D) | -0.20 | -0.25 | -0.09 | -0.21 | 0.10 | 0.18 | 0.04 | 0.09 |
| Total (B+D) | -0.49 | -0.75 | -0.40 | -0.36 | 0.23 | 0.33 | 0.15 | 0.18 |

'Low', 'Medium' and 'High' refers to the socioeconomic status of respondents based on housing index. The total price elasticity is obtained by summing the IV probit estimates in row B and the 2SLS estimates in row D.

OLS, ordinary least squares; 2SLS, two-stage least squares.

Source: Nargis, N., Ruthbah, U.H., Ghulam Hussain, A.K.M., Fong, G.T., Huq, I., & Ashiquzzaman, S.M. (2014). The price sensitivity of cigarette consumption in Bangladesh: Evidence from the International Tobacco Control (ITC) Bangladesh Wave 1 (2009) and Wave 2 (2010) Surveys. *Tob Control* 23:i39-i47.

The greater price sensitivity of cigarette consumption among poorer people in Bangladesh leads us to conclude that the poor would benefit more from a given cigarette price increase, because it would result in a reduction in the inequities of the burden of tobacco consumption. These findings suggest that raising cigarette prices through increased taxation can lead to a win-win-win situation: it will reduce cigarette consumption, increase tobacco tax revenue, and potentially decrease socioeconomic inequities.¹⁴

Prevalence of Tobacco Use in Bangladesh

Bangladesh is one of the largest tobacco consuming countries in the world, where an estimated 46.3 million adults are users of smoked and/or smokeless tobacco products.¹⁵ Tobacco consumption leads to more than 57,000 deaths and about 1.2 million cases of tobacco-related illnesses in Bangladesh each year.^{16 17}

In 2009, the WHO conducted the Global Adult Tobacco Survey Bangladesh (GATS Bangladesh)¹⁷ a national study of adult tobacco use and the overall impact of tobacco control measures in Bangladesh. GATS Bangladesh (2009) found that 43.3% of adults

(aged 15 years and older) use some form of tobacco, with a higher prevalence of tobacco use among males (58.0%) than females (28.7%). In Bangladesh, tobacco is consumed in a variety of smoked (e.g., cigarettes, bidis) and smokeless (e.g., betel quid with tobacco, gul, sada pata, khaini) forms. Estimates from GATS Bangladesh showed that 23.0% of adults use smoked tobacco, and that 27.2% of adults use smokeless tobacco. Findings also showed that while the prevalence of smoked tobacco use was much higher among males (44.7%) than females (1.5%), prevalence of smokeless tobacco use was similar among males (26.4%) and females (27.9%). Overall, the prevalence of both smoked and smokeless tobacco use was higher in rural areas than in urban areas.

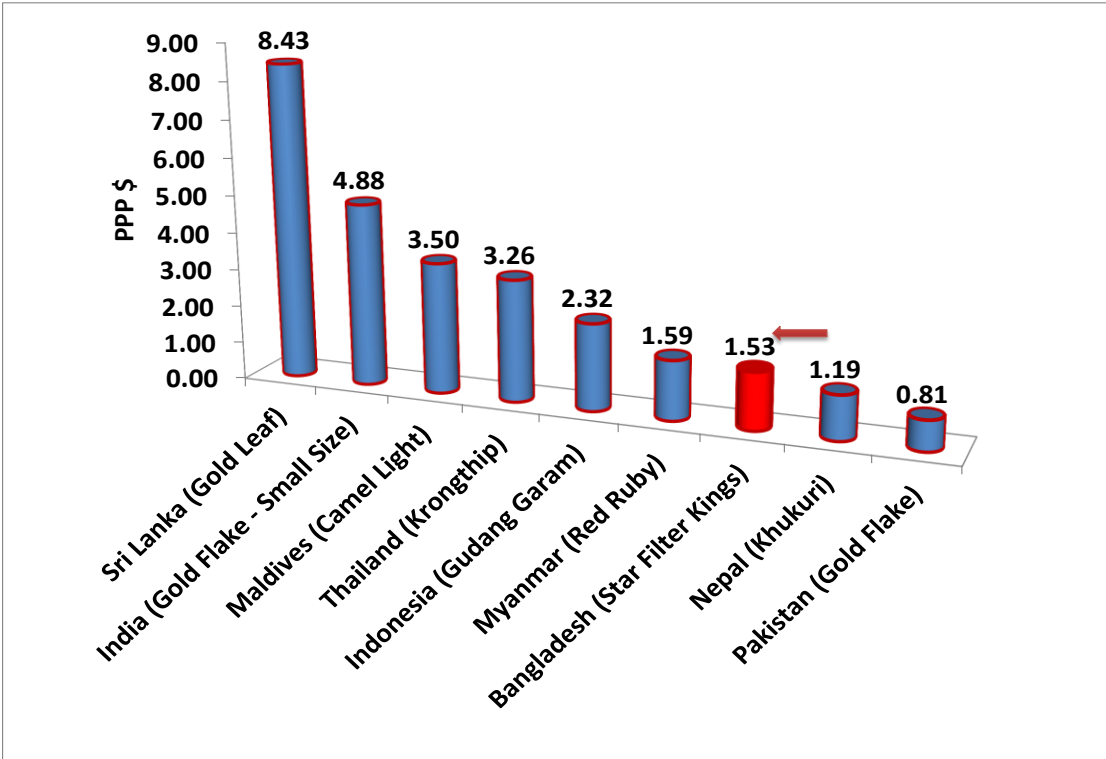
The ITC Bangladesh Wave 3 Survey, which was conducted in 2011-2012, provides the most current estimates of adult tobacco use in Bangladesh. The ITC Bangladesh Wave 3 Survey found that 36.5% of adults (aged 15 years and older) use some form of tobacco, with a higher prevalence of tobacco use among males (47.4%) than females (25.0%). Findings also showed that 19.7% and 22.0% of adults use smoked and smokeless tobacco, respectively. Although the prevalence of smoked tobacco use was much higher among males (37.4%) than females (0.9%), the gender difference for smokeless tobacco use was not as pronounced (19.6% for males vs. 24.6% for females). The prevalence estimates for exclusive use of a specific tobacco product ranged from 1.9% to 16.9% as follows: 1.9% for exclusive bidi use, 10.6% for exclusive cigarette use, and 16.9% for smokeless only use. In addition, findings showed that 5.1% of adults are mixed tobacco users (users of both smoked and smokeless tobacco products), and that 1.8% of adults are dual users (smokers of both cigarettes and bidis).

Tobacco Price and Tax Policies in Bangladesh

Cigarette Price and Tax Policies

The price of cigarettes in Bangladesh is one of the lowest in the South-East Asia Region, indicating that tax on cigarettes needs to be higher to raise the price to the average regional level. Figure 2 presents the prices of the most sold brand of cigarettes in nine countries in the WHO South-East Asia Region. Bangladesh's most sold brand of cigarettes (Star Filter Kings) is the third least expensive brand (in purchasing power parity international dollars) among these nine countries. As of 2012, the average price per pack of 20 cigarettes was 28 BDT (equivalent to 0.35 USD in 2012 prices) for the lowest-cost brand, and 50 BDT (equivalent to 0.63 USD in 2012 prices) for the most sold brand.¹⁸ The low level of prices suggests the need for increasing taxes significantly to increase price and reduce demand.

Figure 2: Prices of the most sold brand of cigarettes in the World Health Organization Region of South-East Asian countries, 2012.



Source: World Health Organization. (2013). WHO Report of the global tobacco epidemic. Geneva: World Health Organization.

The tobacco tax structure in Bangladesh is very complex. Bangladesh uses a tiered cigarette tax structure that imposes different ad valorem tax rates known as supplementary duty (SD) based on retail price slabs. In addition, there is a Value Added tax (VAT) of 15% of the retail price. Between 2009 and 2014, there was a steady increase in the cigarette price bands for each of the four retail price slabs, but increases in the SD for each price slab were marginal (see Table 2). It should also be noted that because the ranges of price bands are not continuous, there are significant price gaps between brands in different price categories. This gap not only allows smokers to switch to cheaper brands in response to price and tax increases, but also creates incentives for tax avoidance and evasion among manufacturers (e.g., positioning brands in the gaps between price slabs, thereby paying lower taxes because the provision for penalties for selling beyond the maximum price in the slab is not currently being enforced).

Table 2. Cigarette tariff values and excise taxes (SD) from 2009 to 2014

| Price Band | 2009-10 | | 2010-11 | | 2011-12 | |
|------------|---|------------------------|---|------------------------|---|------------------------|
| | Price Slab (Taka per pack of 10 cigarettes) | SD (% of retail price) | Price Slab (Taka per pack of 10 cigarettes) | SD (% of retail price) | Price Slab (Taka per pack of 10 cigarettes) | SD (% of retail price) |
| Low | 7.25-8.75 | 32% | 8.40-9.15 | 33% | 11.00-11.30 | 36% |
| Medium | 16.25-17.25 | 52% | 18.40-19.00 | 53% | 22.50-23.00 | 55% |
| High | 23.25-29.25 | 55% | 27.00-32.00 | 56% | 32.00-36.00 | 58% |
| Premium | 46.25+ | 57% | 52.00+ | 58% | 60.00+ | 60% |

| Price Band | 2012-13 | | 2013-14 | |
|------------|---|------------------------|---|------------------------|
| | Price Slab (Taka per pack of 10 cigarettes) | SD (% of retail price) | Price Slab (Taka per pack of 10 cigarettes) | SD (% of retail price) |
| Low | 12.10-12.30 | 39% | 13.69-13.91 | 39% |
| Medium | 24.75-25.25 | 56% | 28.00-30.00 | 56% |
| High | 35.20-39.50 | 59% | 42.00-45.00 | 59% |
| Premium | 66.00+ | 61% | 80.00+ | 61% |

Source: National Board of Revenue, Government of Bangladesh

Bidi Price and Tax Policies

Bidis are inexpensive hand-rolled cigarettes that are popular among the poor in Bangladesh, and account for 75% by volume of the cigarettes sold in the country.¹⁸ Based on estimates from GATS Bangladesh, the average price per pack of 25 bidi sticks is 6.2 BDT (equivalent to 0.09 USD in 2009 prices), and price of a single bidi is about one-sixth the price of a cigarette.¹⁷

In Bangladesh, bidis are taxed at an even lower rate than cigarettes. It is also important to note that bidis are taxed based on a single “tariff value” set by the government, which is approximately half the actual retail price. Bidis are available in packs of 20 sticks or less, but are most commonly sold in packs of 25 non-filtered bidi sticks in Bangladesh.^{15 18 19} Between 2008 and 2013, an SD of 20% and a VAT of 15% were applied to a tariff value of 3.1579 BDT per pack of 25 non-filtered bidi sticks. In 2013-2014, the tariff value per pack of 25 non-filtered bidi sticks was increased to 3.88 BDT (see Table 3).

Table 3. Bidis tariff values and excise taxes (SD) from 2008 to 2014

| Category (number of bidi sticks per pack) | 2008/09-2010/11 | | | | 2011/12-2012/13 | | | | 2013/14 | | | |
|--|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|
| | Non-filtered | | Filtered | | Non-filtered | | Filtered | | Non-filtered | | Filtered | |
| | Tariff value (Taka) | SD (%) | Tariff value (Taka) | SD (%) | Tariff value (Taka) | SD (%) | Tariff value (Taka) | SD (%) | Tariff value (Taka) | SD (%) | Tariff value (Taka) | SD (%) |
| 25 | 3.1579 | 20% | | | 3.1579 | 20% | | | 3.88 | 20% | | |
| 20 | | | 3.43 | 25% | | | 3.43 | 25% | | | 4.22 | 25% |
| 12 | | | | | 1.5158 | 20% | | | 1.86 | 20% | | |
| 10 | | | | | | | 1.7175 | 25% | | | 2.11 | 25% |
| 8 | | | | | 1.0105 | 20% | | | 1.24 | 20% | | |

Source: National Board of Revenue, Government of Bangladesh

Smokeless Tobacco Price and Tax Policies

In 2008, for the first time, smokeless tobacco products were brought under the purview of taxation. A 15% VAT was imposed on zarda and gul, the two most popular smokeless tobacco products in Bangladesh. In 2009, an SD was introduced on zarda and gul at the rate of 10% of the ex-factory price. In 2010, zarda and gul were no longer considered cottage industry and were required to pay corporate taxes. The SD on chewing tobacco was raised from 10% to 20% of the ex-factory price in 2010-2011, and further increased to 30% of the ex-factory price in 2011-2012.

It is noteworthy that the tobacco tax system in Bangladesh is burdened with a multiplicity of differential tax rates by brand of the same product as well as by the type of

tobacco product. The simplification and harmonization of the tobacco tax structure is essential for two major reasons:

1. The differential tax rates give rise to large price differentials across brands and tobacco products. This induces downward switching behaviour in the event of tax and price increases, undermining quitting behaviour and the expected public health gain.
2. This large price differential provides the opportunity for the tobacco industry to use various tax avoidance and evasive behaviours that result in revenue loss to the government.

Evidence of Effectiveness of Price and Tax Policies in Bangladesh

Findings from the ITC Bangladesh Wave 1 to 3 Surveys (2009-2012)

Under Article 6 of the FCTC, Parties are encouraged to adopt taxation and pricing measures in order to reduce tobacco consumption. Cigarette and bidi prices in Bangladesh are very low. Excise taxes on cigarettes and bidis are well below the recommended percentage of at least 70% excise tax of the retail price set out by the WHO.¹⁰ On average, cigarette excise taxes account for just over half of retail prices, while bidi excise taxes account for approximately 10% of the retail price.¹⁵ Tobacco excise taxes also vary widely by product type (different tax rates for cigarettes vs. bidis), and by brand (more expensive cigarette brands are taxed at higher rates vs. less expensive brands).

The Bangladesh government implemented several cigarette price and tax increases during the period of time between each wave of the ITC Bangladesh Wave 1 to 3 Surveys (2009-2012). Between the Wave 1 and Wave 2 Surveys, there was an increase in cigarette prices (per pack of 10 cigarettes) at each of the four retail price slabs, and the SD was increased by 1% at each price slab. Between the Wave 2 and Wave 3 Surveys, there was another increase in cigarette prices at each of the four retail price slabs, and the SD was increased by 2% (at the medium, high, and premium price tiers) to 3% (at the lowest price tier). At the time of the ITC Bangladesh Wave 1 to 3 Surveys, bidi taxes were applied to tariff values per pack of 25 non-filtered bidis, and per pack of 20 filtered bidis. There were no changes to these bidi tariff values and taxes during the three survey waves.

The ITC Bangladesh Wave 1 to 3 Surveys (2009-2012) measured the use of smoked tobacco products (cigarettes and/or bidis) among all current cigarette smokers, bidi smokers, and dual users.ⁱ In addition, the Surveys collected information on source of and price paid for last tobacco purchase, and included measures to assess the importance of brand selection as a reason to quit. The Surveys also included measures to assess the perceptions of the price of cigarettes and/or bidis among current users, as well as support for tax increases on smoked tobacco products among tobacco users and non-users. This section presents results among adults aged 15 and older surveyed in the ITC Bangladesh Survey.

Prevalence of Smoked Tobacco Use

Household enumeration data from the ITC Bangladesh Wave 1 to 3 Surveys was used to examine changes in the prevalence of smoked tobacco use in Bangladesh over time. Findings showed a slight decrease in the overall prevalence of cigarette smoking from 18.8% at Wave 1 to 16.7% at Wave 3. At both waves, the prevalence of cigarette smoking was much higher among males (36.1% at Wave 1, 32.1% at Wave 3) than females (0.9% at Wave 1, 0.4% at Wave 3). Results also showed a substantial decrease in the overall prevalence of bidi smoking from 12.4% at Wave 1 to 5.7% at Wave 3. The prevalence of and reduction in bidi smoking over time was also much higher among males (23.1% at Wave 1 vs. 10.5% at Wave 3) than females (1.4% at Wave 1 vs. 0.6% at Wave 3).

The dramatic reduction in the prevalence of bidi smoking over time is reflective of the rapid decline of the bidi industry in Bangladesh, where a growing number of bidi factories have closed down in recent years.²⁰ The structural shift of smokers' preference from bidi to cigarette also comes along with income growth and increased affordability of cigarettes that are deemed better quality products than bidi.

Findings also indicated that changes in the patterns of smoked tobacco use over time varied by product type. The prevalence of cigarette smoking among exclusive cigarette smokers increased from 7.2% at Wave 1 to 10.6% at Wave 3, while there was no change in the prevalence of bidi smoking among exclusive bidi smokers during this time period (2.0% at Wave 1 vs. 1.9% at Wave 3). In contrast, the prevalence of smoking among dual users decreased from 4.6% at Wave 1 to 1.8% at Wave 3. Taken together, these results suggest that it is likely that dual users are switching to exclusive cigarette smoking.

ⁱ Current cigarette smokers include exclusive cigarette smokers; current bidi smokers include exclusive bidi smokers; and dual users include users of both cigarettes and bidis.

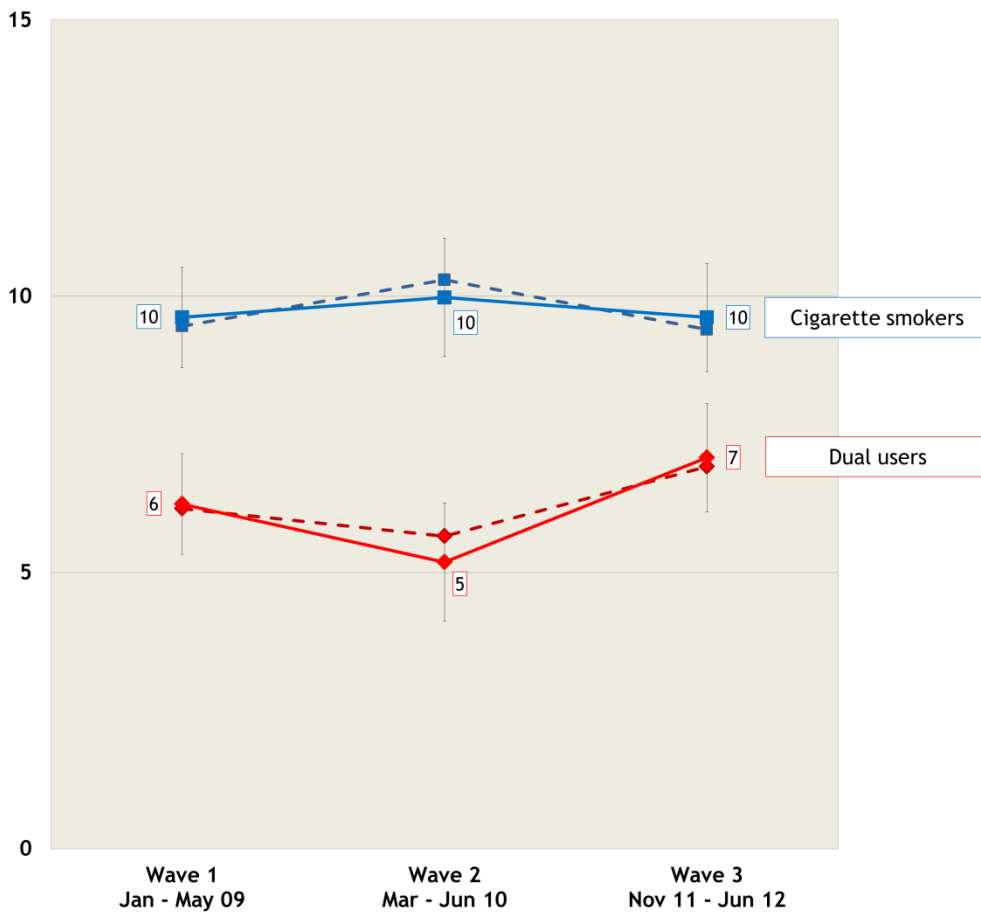
Consumption of Smoked Tobacco Products

Nearly all smokers in Bangladesh are daily smokers. At all three waves, more than 96% of all current cigarette smokers, bidi smokers, and dual users reported that they used their respective smoked tobacco products on a daily basis, with no significantⁱⁱ changes in the prevalence of daily smoking over time.

Overall, findings from the ITC Bangladesh Wave 1 to 3 Surveys showed no significant changes in tobacco consumption among daily smokers over time. Cigarette smokers reported that they smoked an average of 10 cigarettes per day from Wave 1 to Wave 3, and there were no significant changes in average daily consumption over time. Among dual users, the average number of cigarettes smoked per day ranged from 5 to 7 cigarettes per day, with no significant changes in average daily consumption over time. At all three waves, the average number of cigarettes smoked per day was significantly higher among current cigarette smokers than dual users (see Figure 3).

ⁱⁱ In this report, the term “significant” means “statistically significant” ($p < .05$).

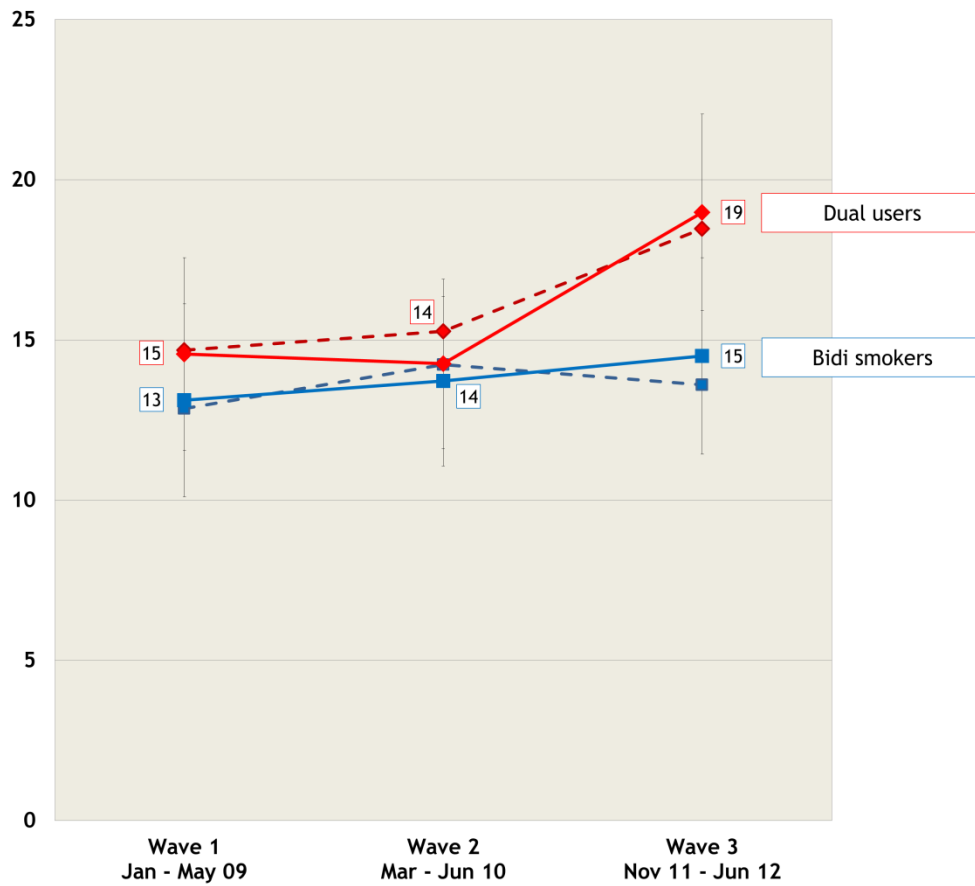
Figure 3. Mean number of cigarettes smoked per day among daily cigarette smokers and dual users, by wave*



* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

Results also showed no significant changes in bidi consumption over time. Current bidi smokers reported that they smoked an average of 13 to 15 bidis per day from Wave 1 to Wave 3, with no significant changes over time. Dual users reported that they smoked an average of 14 to 19 bidis per day from Wave 1 to Wave 3, and there was no significant change in bidi consumption over time. Although the average number of bidis smoked per day was significantly higher among current dual users (19 bidis per day) than bidi smokers (15 bidis per day) at Wave 3, there were no other significant differences in average daily consumption at each of the other two survey waves (see Figure 4).

Figure 4. Mean number of bidis smoked per day among daily bidi smokers and dual users, by wave*



* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

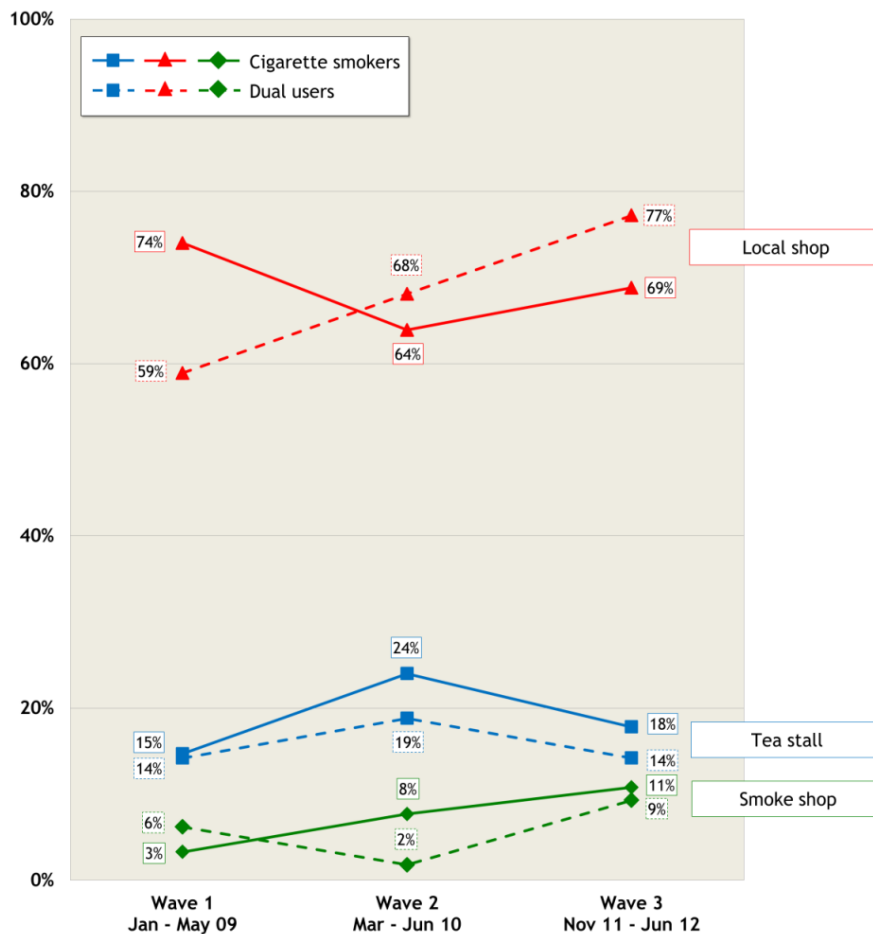
Source of Last Smoked Tobacco Product Purchase

Cigarettes

Across all three waves, local shops were identified by all current cigarette smokers and dual users as the most common source for their last purchase of cigarettes, followed by tea stalls, and smoke shops.

There were no significant changes in the percentage of cigarette smokers or dual users who reported that they last purchased cigarettes from local shops or tea stalls from Wave 1 to Wave 3 (18% increase in dual users purchasing from local shops was not statistically significant). There was a significant increase in the percentage of cigarette users who purchased cigarettes from local shops from Wave 1 (3%) to Wave 3 (11%), but no significant change in the percentage of dual users who purchased cigarettes from smoke shops over time (see Figure 5).

Figure 5. Source of last purchase of cigarettes among cigarette smokers and dual users, by wave

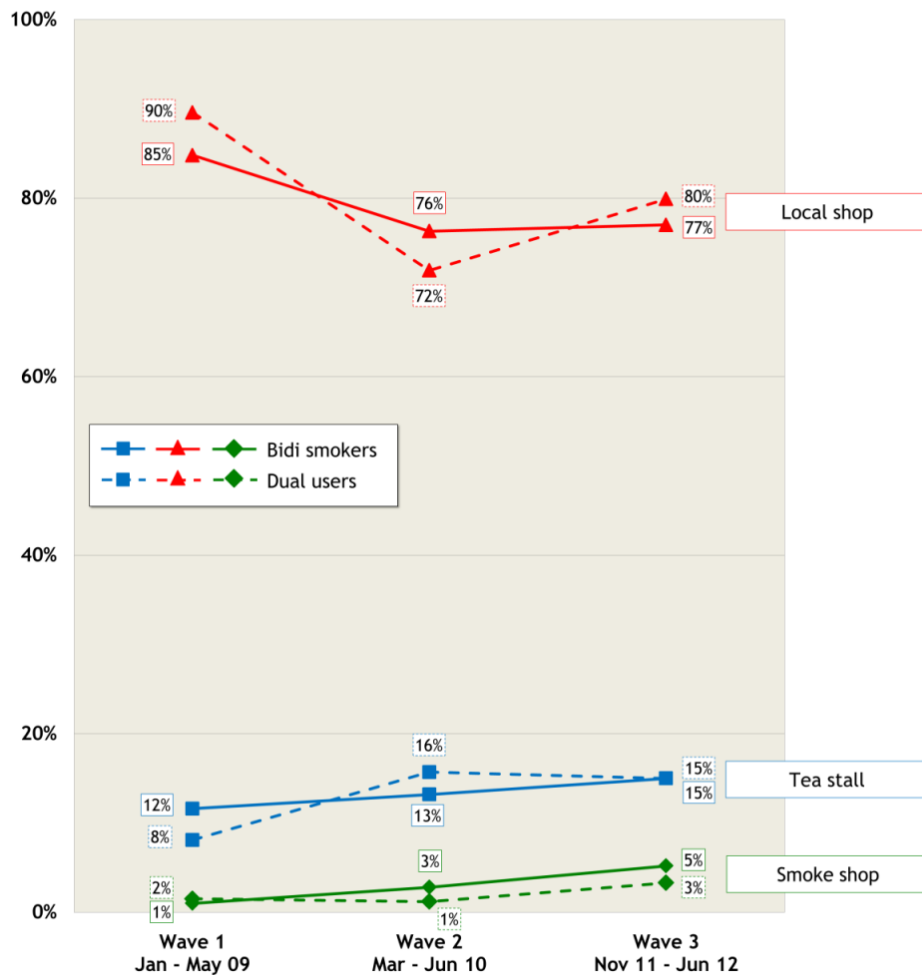


Bidis

Across all three waves, local shops were also identified by all current bidi smokers and dual users as the most common source for their last purchase of bidis, followed by tea stalls, and smoke shops.

There was no significant change in the percentage of bidi smokers who reported that they last purchased bidis from local shops, tea stalls, or smoke shops from Wave 1 to Wave 3. There was a significant decrease in the percentage of dual users who reported that they last purchased bidis from local shops from 90% at Wave 1 to 72% at Wave 2, but no significant change in the percentage of dual users who last purchased bidis in tea stalls or smoke shops over time (see Figure 6).

Figure 6. Source of last purchase of bidis among bidi smokers and dual users, by wave

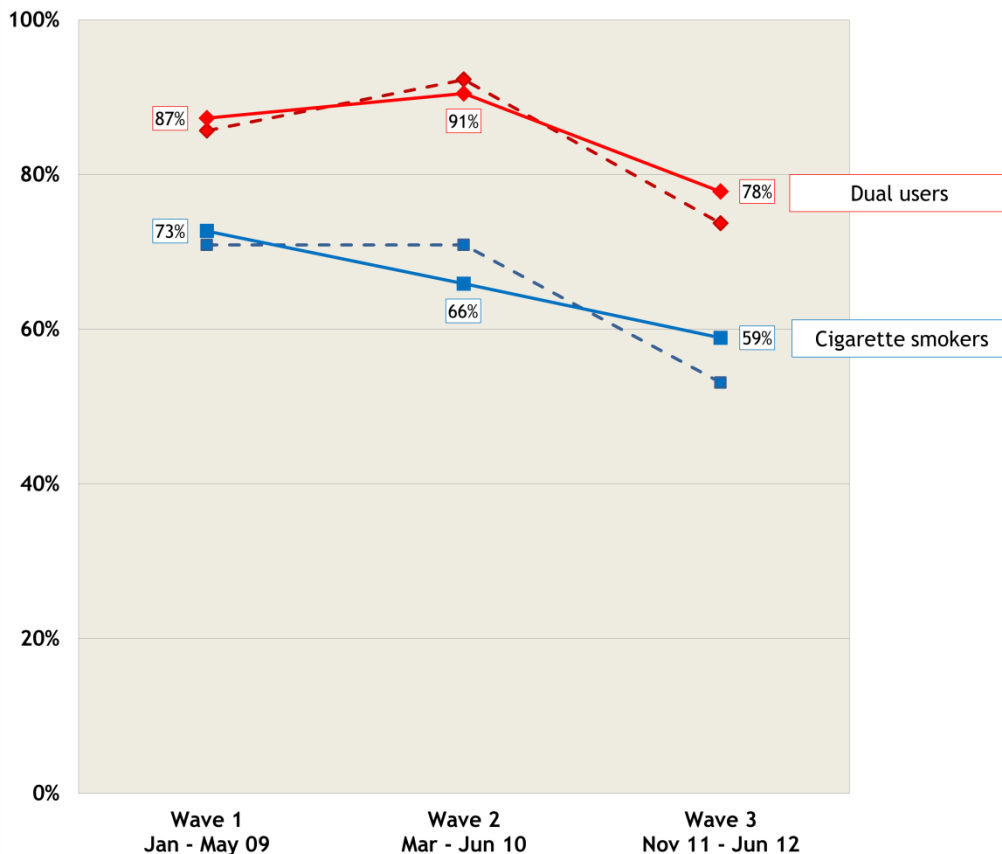


Last Reported Purchase Type, Stick or Pack

Cigarettes

A large portion of smokers (two-thirds or above) reported purchasing in sticks as opposed to packs. However, across all three Waves there was a significant decline in cigarette smokers reporting stick purchase as last purchase type. This decline was 7% between each wave and 14% total decline from Wave 1 to Wave 3. The overall percentages of cigarette smokers reporting purchasing sticks across all 3 Waves were lower than dual users, by an approximate average of 19%. There was also a significant decline in dual users reporting purchasing stick cigarettes over time. From Waves 1 to 2 dual users reported a slight increase of 4% in stick purchases, but this declined again from Waves 2 to 3 by 13% (see Figure 7).

Figure 7. Percentage of cigarette smokers and dual users who bought stick cigarettes, by wave*

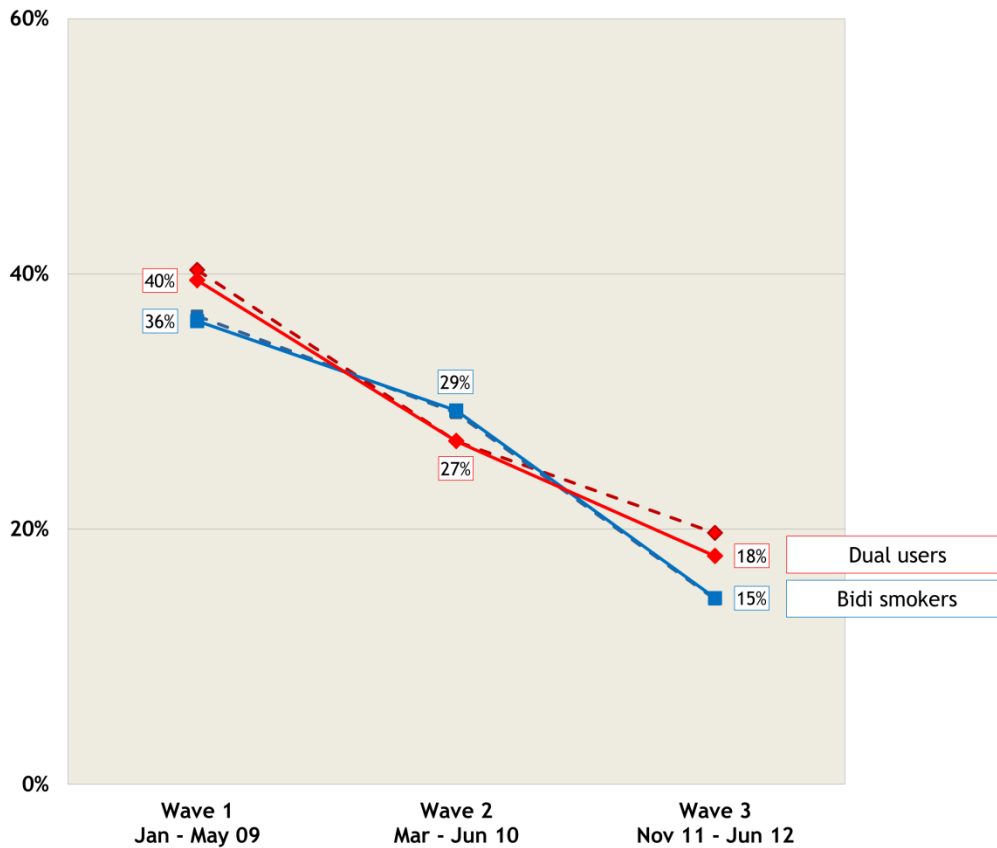


* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

Bidis

Compared to cigarettes, a relatively lesser percentage of bidi smokers reported purchasing in the form of sticks. Moreover, across all three Waves there was a significant decline in bidi smokers reporting stick purchases. There was a 7% decline between Wave 1 and Wave 2, a 14% decline between Waves 2 and 3, and an overall 21% decline from Waves 1 to 3. There was also a significant decline in dual users reporting stick purchases over across all three Waves, with a 13% decline between Waves 1 and 2, a 9% decline between Waves 2 and 3, and an overall decline of 22% from Waves 1 to 3 (See Figure 8).

Figure 8. Percentage of bidi smokers and dual users who bought stick bidis, by wave*



* The solid lines represent percentages adjusted age, sex, area, and daily bidi use, while the dashed lines represent the corresponding unadjusted percentages.

Average Price Paid for Last Smoked Tobacco Product Purchase

Cigarettes

The ITC Bangladesh Wave 1 to 3 Surveys asked all current cigarette smokers and dual users to report on the quantity of cigarettes they bought at their last purchase. This data was then used to calculate the average price per stick (in BDT), and the average price per pack of 10 cigarettes (in BDT). The following section presents findings on both the nominal price and the real price (in 2012 inflation-adjusted prices) expenditure per stick and per pack by all current cigarette smokers and dual users.ⁱⁱⁱ

Generally, findings indicated that the cigarette price and tax policies (per pack of 10 cigarettes) implemented between each wave of the ITC Bangladesh Wave 1 to 3 Surveys had a limited impact on changing the average price of cigarettes in Bangladesh.

Overall, findings showed small but significant increases in the nominal price paid per stick by cigarette smokers from Wave 1 to Wave 3. The nominal price paid per stick increased from 1.56 BDT at Wave 1, to 1.97 BDT at Wave 2, and to 2.77 BDT at Wave 3. Results based on the real price paid per stick by cigarette users showed a similar pattern - there was a significant increase in the real price paid per stick by cigarette smokers from 2.03 (2012) BDT at Wave 1, to 2.35 (2012) BDT at Wave 2, and to 2.89 (2012) BDT at Wave 3 (see Table 4).

Among dual users, there was no significant change in the nominal price paid per stick from Wave 1 to Wave 2, but results showed a significant increase in the nominal price paid per stick from 1.64 BDT at Wave 1 to 2.51 BDT at Wave 3. Similarly, there was no significant change in the real price paid per stick by dual users from Wave 1 to Wave 2. Findings based on the real price paid per stick by dual users showed no significant change from Wave 1 to Wave 3 (see Table 4).^{iv}

Findings also showed a significant increase in the nominal price paid per pack of 10 cigarettes over time. The nominal price paid per pack by cigarette smokers increased from 15.64 BDT at Wave 1, to 19.72 BDT at Wave 2, and to 27.73 BDT at Wave 3. Results using the real price paid per pack by cigarette smokers also showed a significant increase from 20.27 (2012) BDT at Wave 1, to 23.35 (2012) BDT at Wave 2, and to 28.82 (2012) BDT at Wave 3 (see Table 4). Among dual users, there was no

ⁱⁱⁱ A straightforward calculation converts the nominal price (the actual price paid by an individual at a particular moment in time of a commodity) to the equivalent price in a later year to take account of inflation (real price). The required data are the price of 200 cigarettes for each year of interest, and the rate of all-items inflation over the years.

http://www.nsraadnf.ca/cms/file/files/pdf/Total_price_vs_per_capita_consumption.pdf

^{iv} Note that real prices are quoted in 2012 BDT currency values.

significant change in the nominal price paid per pack from Wave 1 to Wave 2, but there was a significant increase from 16.40 BDT at Wave 1 to 25.09 BDT at Wave 3. Results using the real price paid per pack by dual users also showed no significant change from Wave 1 to Wave 2. In contrast to the results based on the nominal price paid per pack by dual users, however, findings using the real price paid per pack showed no significant change from Wave 1 to Wave 3 (see Table 4).

Table 4. Average nominal and real price paid (in 2012 Taka) per cigarette stick, and per pack of 10 cigarettes at last purchase among cigarette smokers and dual users, by wave

| | Wave 1 (2009) | | Wave 2 (2010) | | Wave 3 (2011-2012) | |
|-------------------|--|---------------------------|-------------------------|---------------------------|-------------------------|--|
| | Per cigarette stick | | | | | |
| | Nominal price (in Taka) | Real price (in 2012 Taka) | Nominal price (in Taka) | Real price (in 2012 Taka) | Nominal price (in Taka) | Real price (in 2012 Taka) ^a |
| Cigarette smokers | 1.56 | 2.03 | 1.97 | 2.35 | 2.77 | 2.89 |
| Dual users | 1.64 | 2.09 | 1.62 | 1.94 | 2.51 | 2.63 |
| | Per pack of 10 cigarettes ^b | | | | | |
| Cigarette smokers | 15.64 | 20.27 | 19.72 | 23.35 | 27.73 | 28.82 |
| Dual users | 16.40 | 20.86 | 16.22 | 19.18 | 25.09 | 26.25 |

^a The nominal and real prices for both users types and by stick or pack are different because In Wave 3 part of the data were collected in 2011 and part in 2012, and the prices reported for data collected in 2011 were adjusted while those for 2012 were not.

^b Between the ITC Bangladesh Wave 1 and Wave 2 Surveys, cigarette price slabs for SD were raised, and the SD on cigarettes increased by 1% in the four price slabs. Between the ITC Bangladesh Wave 2 and Wave 3 Surveys, cigarette price slabs for SD were raised, and the SD on cigarettes increased by 2% at each price in the top three tiers, and by 3% in the bottom tier.

The ITC Bangladesh Wave 1 to 3 Surveys asked all current cigarette smokers and dual users to report on the type of cigarette purchase they made at last purchase, either stick or pack. This data was then used to calculate the average price per stick (in BDT), and the average price per pack of 10 cigarettes (in BDT). The following section presents findings on both the nominal price and the real price (in 2012 inflation-adjusted prices) expenditure per stick and per pack by all current cigarette smokers and dual users (see Table 5).

Table 5. Average nominal and real price paid (in 2012 Taka) per cigarette stick, and per cigarette stick in pack at last purchase type by user type, by wave

| | Wave 1 (2009) | | Wave 2 (2010) | | Wave 3 (2011-2012) | |
|-------------------|---------------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
| | Per cigarette stick in stick purchase | | | | | |
| | Average Nominal price (in Taka) | Average Real price (in 2012 Taka) | Average Nominal price (in Taka) | Average Real price (in 2012 Taka) | Average Nominal price (in Taka) | Average Real price (in 2012 Taka) ^a |
| Cigarette smokers | 1.75 | 2.26 | 2.33 | 2.78 | 3.32 | 3.45 |
| Dual users | 1.78 | 2.24 | 1.27 | 1.53 | 2.11 | 2.19 |
| | Price per stick in pack purchase | | | | | |
| Cigarette smokers | 1.29 | 1.66 | 1.52 | 1.82 | 2.2 | 2.3 |
| Dual users | 1.08 | 1.37 | 0.92 | 1.13 | 1.42 | 1.45 |

^a The nominal and real prices for both user types and by stick or pack are different because in Wave 3 part of the data were collected in 2011 and part in 2012, and the prices reported for data collected in 2011 were adjusted while those for 2012 were not.

Comparing the price per stick from stick purchase with the price per stick from pack purchase, it appears that smokers pay a higher price when they purchase in sticks than in packs (see Table 5). The price in stick purchase is 35%-65% higher than in pack purchase for exclusive cigarette and dual smokers in various waves. Table 5 data indicates that nearly two-thirds of the smokers reporting stick purchases paid much higher prices than their counterparts making pack purchases. The stick purchasers are also economically worse off than the pack purchasers as they cannot afford to buy a pack at one time. As a consequence, the economic burden of purchasing cigarettes is significantly heavier on the relatively poorer segment of the smokers.

On the other hand, the high prevalence of stick purchase results in the selling of cigarettes at higher prices than the declared prices to the government for assessing tax liability. While producers and distributors are making higher profits by selling products at higher than declared prices, the government is being deprived of revenue from that margin. Unfortunately, it is also not feasible for the government to monitor every store in the country to prevent such practice and enforce the declared price. To offset these issues, the government could ensure a steadier and more predictable revenue flow by imposing specific excise taxes instead of the existing ad valorem excise taxes.

In summary, findings from the ITC Bangladesh Wave 1 to 3 Surveys showed small but significant increases in nominal cigarette prices over time. However, it is important to note that these price increases were not as high when using real prices that were adjusted for inflation. Specifically, there was an increase of 1.21 BDT in the average price paid per stick by cigarette smokers from Wave 1 to Wave 3 when using nominal

prices versus 0.86 (2012) BDT when using real prices. Similarly, the average price paid per pack of 10 cigarettes by cigarette smokers increased by 12.09 BDT from Wave 1 to Wave 3 when using nominal prices versus 8.55 (2012) BDT when using real prices. In addition, results based on real prices showed no significant changes in the price paid per stick or price paid per pack of 10 cigarettes by dual users from Wave 1 to Wave 3.

Bidis

The ITC Bangladesh Wave 1 to 3 Surveys asked all current bidi smokers and dual users to report on the quantity of bidis they bought at their last purchase. These data were then used to calculate the average price per stick (in BDT), and the average price per pack of 25 bidi sticks and 20 bidi sticks (in BDT). The following section presents findings on both the nominal price and the real price (in 2012 inflation-adjusted prices) expenditure per stick and per pack by all current bidi smokers and dual users.

There were no changes in bidi price and tax policies (per pack of 25 and 20 bidi sticks) during the time period of the ITC Bangladesh Wave 1 to 3 Surveys. As such, there was no tax-induced price increase for bidis. However, findings showed a significant increase in the nominal price paid per stick by bidi smokers from 0.21 BDT at Wave 2 to 0.41 BDT at Wave 3. Similarly, there was a significant increase in the real price paid per stick by bidi smokers from 0.25 (2012) BDT at Wave 2 to 0.44 (2012) BDT at Wave 3 (see Table 6). Among dual users, there was also a significant increase in the nominal price paid per stick from 0.22 BDT at Wave 2 to 0.39 BDT at Wave 3. However, findings based on the real price paid per stick among dual users showed no significant changes across any of the three survey waves (see Table 6).

Findings also showed a significant increase in the nominal price paid per pack of 20 bidi sticks by bidi smokers from 4.13 BDT at Wave 2 to 8.28 BDT at Wave 3. Similarly, findings based on the real price paid per pack of 20 sticks by bidi smokers showed a significant increase from 4.98 (2012) BDT at Wave 2 to 8.53 (2012) BDT at Wave 3 (see Table 6). Among dual users, results based on the nominal price paid per pack of 20 sticks showed a significant increase from 4.36 BDT at Wave 2 to 7.72 BDT at Wave 3, but no significant changes across any of the three survey waves when using the real price paid per pack of 20 sticks (see Table 6).

Finally, there was a significant increase in the nominal price paid per pack of 25 sticks by bidi smokers from 5.17 BDT at Wave 2 to 10.35 BDT at Wave 3. Findings based on the real price paid per pack of 25 sticks by bidi smokers also showed a significant increase from 6.27 (2012) BDT at Wave 2 to 10.68 (2012) BDT at Wave 3 (see Table 6). Results also showed a significant increase in the nominal price paid per pack of 25 sticks by dual users from 5.45 BDT at Wave 2 to 9.65 BDT at Wave 3, but no significant changes in the real price paid per pack over time (see Table 6). It should be noted that

there was no change in the tariff value that serves as the base for bidi taxes from Waves 1 to 3. As such, the significant increase in nominal bidi prices increased the profit margin to the bidi manufacturers, but lowered the tax share in bidi prices and government tax revenue.

Table 6. Average nominal and real price paid (in 2012 Taka) per bidis stick, and per pack of 20 and 25 bidis at last purchase among bidis smokers and dual users, by wave

| | Wave 1 (2009) | | Wave 2 (2010) | | Wave 3 (2011-2012) | |
|--------------|---|--|--|--|--|--|
| | Per bidi stick | | | | | |
| | Average Nominal price (in Taka) | Average Real price (in 2012 Taka) | Average Nominal price (in Taka) | Average Real price (in 2012 Taka) | Average Nominal price (in Taka) | Average Real price^a (in 2012 Taka) |
| Bidi smokers | 0.27 | 0.36 | 0.21 | 0.25 | 0.41 | 0.44 |
| Dual users | 0.30 | 0.41 | 0.22 | 0.27 | 0.39 | 0.40 |
| | Per pack of 20 bidis^b | | | | | |
| Bidi smokers | 5.30 | 7.02 | 4.13 | 4.98 | 8.28 | 8.53 |
| Dual users | 6.04 | 7.95 | 4.36 | 5.25 | 7.72 | 7.83 |
| | Per pack of 25 bidis^b | | | | | |
| Bidi smokers | 6.63 | 8.76 | 5.17 | 6.27 | 10.35 | 10.68 |
| Dual users | 7.55 | 9.92 | 5.45 | 6.61 | 9.65 | 9.80 |

^a The nominal and real prices for both user types and by stick or pack are different because in Wave 3 part of the data were collected in 2011 and part in 2012, and the prices reported for data collected in 2011 were adjusted while those for 2012 were not.

^b Between the ITC Bangladesh Wave 1 and Wave 2 Surveys, cigarette price slabs for SD were raised, and the SD on cigarettes increased by 1% in the four price slabs. Between the ITC Bangladesh Wave 2 and Wave 3 Surveys, cigarette price slabs for SD were raised, and the SD on cigarettes increased by 2% at each price in the top three tiers, and by 3% in the bottom tier.

The ITC Bangladesh Wave 1 to 3 Surveys asked all current bidis smokers and dual users to report on the type of bidi purchase they made at last purchase, either stick or pack. This data was then used to calculate the average price per stick (in BDT), and the average price per pack of 25 bidis (in BDT). The following section presents findings on both the nominal price and the real price (in 2012 inflation-adjusted prices) expenditure per stick and per stick in pack by all current bidis smokers and dual users (see Table 7).

Table 7. Average nominal and real price paid (in 2012 Taka) per bidis stick, and per bidis stick in pack at last purchase type by user type, by wave

| | Wave 1 (2009) | | Wave 2 (2010) | | Wave 3 (2011-2012) | |
|--------------|----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|--|
| | Per bidi stick in stick purchase | | | | | |
| | Average Nominal price (in Taka) | Average Real price (in 2012 Taka) | Average Nominal price (in Taka) | Average Real price (in 2012 Taka) | Average Nominal price (in Taka) | Average Real ^a price (in 2012 Taka) |
| Bidi smokers | 0.46 | 0.61 | 0.26 | 0.31 | 0.66 | 0.67 |
| Dual users | 0.46 | 0.61 | 0.26 | 0.31 | 0.66 | 0.67 |
| | Per bidi stick in pack purchase | | | | | |
| Bidi smokers | 0.18 | 0.27 | 0.21 | 0.26 | 0.34 | 0.35 |
| Dual users | 0.18 | 0.27 | 0.21 | 0.26 | 0.34 | 0.35 |

^a The nominal and real prices for both user types and by stick or pack are different because in Wave 3 part of the data were collected in 2011 and part in 2012, and the prices reported for data collected in 2011 were adjusted while those for 2012 were not.

As seen in cigarette purchases, the per-stick cost of purchasing bidi is significantly higher in stick purchase than in pack purchase. The same implications for cigarette purchases follow with respect to the economic burden of purchasing bidi on relatively poor smokers and the deprivation of government revenue due to the tying of the tax per pack based on the tariff value of a pack. Once again, the government can improve revenue performance from bidi tax by changing the system from the existing ad valorem excise based on tariff value to a specific excise system.

In summary, findings from the ITC Bangladesh Wave 1 to 3 Surveys showed that although there were no changes to bidi price and tax policies during this time period, there was a small increase in bidi prices from Wave 2 to Wave 3. A study by Nargis et al. (2011)²¹ used data from the ITC Bangladesh Wave 1 to 2 Surveys (2009-2010) to show that there is ample room for the Bangladesh government to implement stronger pricing and taxation measures to reduce bidi consumption and prevalence. There was no change to the 20% SD applied per pack of 25 non-filtered bidi sticks during the time period of the Wave 1 and Wave 2 Surveys. Thus, it is not surprising that there was no upward adjustment in the real price of bidis over time. In fact, findings showed a decrease in the average real price per pack of 25 non-filtered bidi sticks from 6.0 (2012)

BDT in 2009 to 5.7 (2012) BDT in 2010. Results also showed that there was no change in bidi consumption from 2009 (average of 13.6 bidi sticks per day) to 2010 (average of 13.8 bidi sticks per day).²¹

Cigarette Affordability

Cigarette affordability refers to the quantity of resources (or daily income) that is required to purchase a daily dose of cigarettes. Higher affordability, for example, means that the price of a pack of cigarettes would require a lower percentage of one's daily income. An Affordability Index (AffInd) was constructed using ITC Bangladesh Survey data to determine the change in the affordability of cigarettes between Wave 1 to Wave 3. This analysis took into account the price of cigarettes, number of cigarettes smoked per day (daily dose), and reported household income. Results showed that from Wave 1 to Wave 3, income levels in Bangladesh have risen faster than cigarette prices (see Table 8). Thus, it is not surprising that cigarettes have become increasingly more affordable over time (an increase of 1.77% from Wave 1 to Wave 2, and an increase of 0.23% from Wave 2 to Wave 3) (see Figure 9).

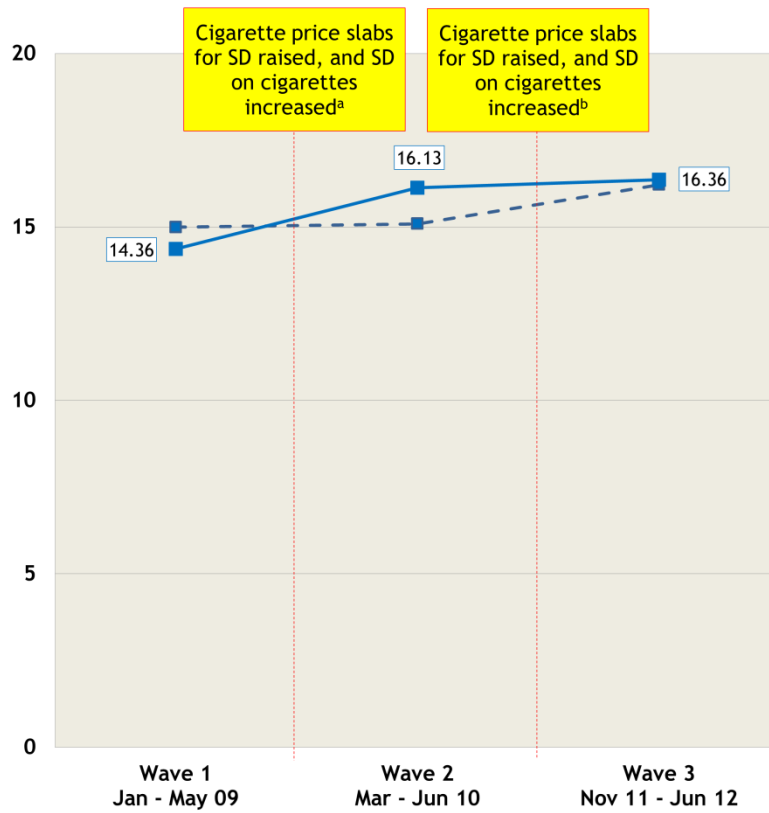
Data from the ITC Surveys also allows for a cross-country comparison of cigarette affordability. Overall, results indicated that cigarettes have become more affordable in low- to middle-income countries than in high-income countries over the last decade. Similar to changes in the affordability of cigarettes seen in four other middle-income ITC countries, cigarettes became more affordable (an increase of +1.63%) in Bangladesh between Waves 1 and 3 (see Figure 10).

Table 8. Unadjusted, and adjusted weighted average household daily income and price per cigarettes (in Taka) among all cigarette smokers (including dual and mixed users), daily dose values and affordability index values, by wave

| Wave | Adjusted Average Household Daily Income (in Taka) | Unadjusted Average Household Daily Income (in Taka) | Adjusted Average Price per Cigarette (in Taka) | Unadjusted Average Price per Cigarette (in Taka) |
|------|---|---|--|--|
| 1 | 248.01 | 235.02 | 1.42 | 1.43 |
| 2 | 284.01 | 270.03 | 1.65 | 1.71 |
| 3 | 321.64 | 307.57 | 2.29 | 2.13 |

| Wave | Adjusted Daily Dose of Manufactured Cigarettes | Unadjusted Daily Dose of Manufactured Cigarettes | Adjusted Value of Affordability Index for Manufactured Cigarettes | Unadjusted Value of Affordability Index for Manufactured Cigarettes |
|------|--|--|---|---|
| 1 | 8.66 | 9.03 | 14.26 | 14.99 |
| 2 | 9.06 | 9.48 | 16.13 | 15.09 |
| 3 | 9.30 | 8.68 | 16.36 | 16.22 |

Figure 9. Affordability index of cigarettes, by wave*



* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

^a SD on cigarettes increased by 1% in four price slabs.

^b SD on cigarettes increased by 2% at each price slab in the top three tiers, and 3% in the bottom tier.

Figure 10. Affordability of manufactured cigarettes and change in affordability per year in 17 ITC countries

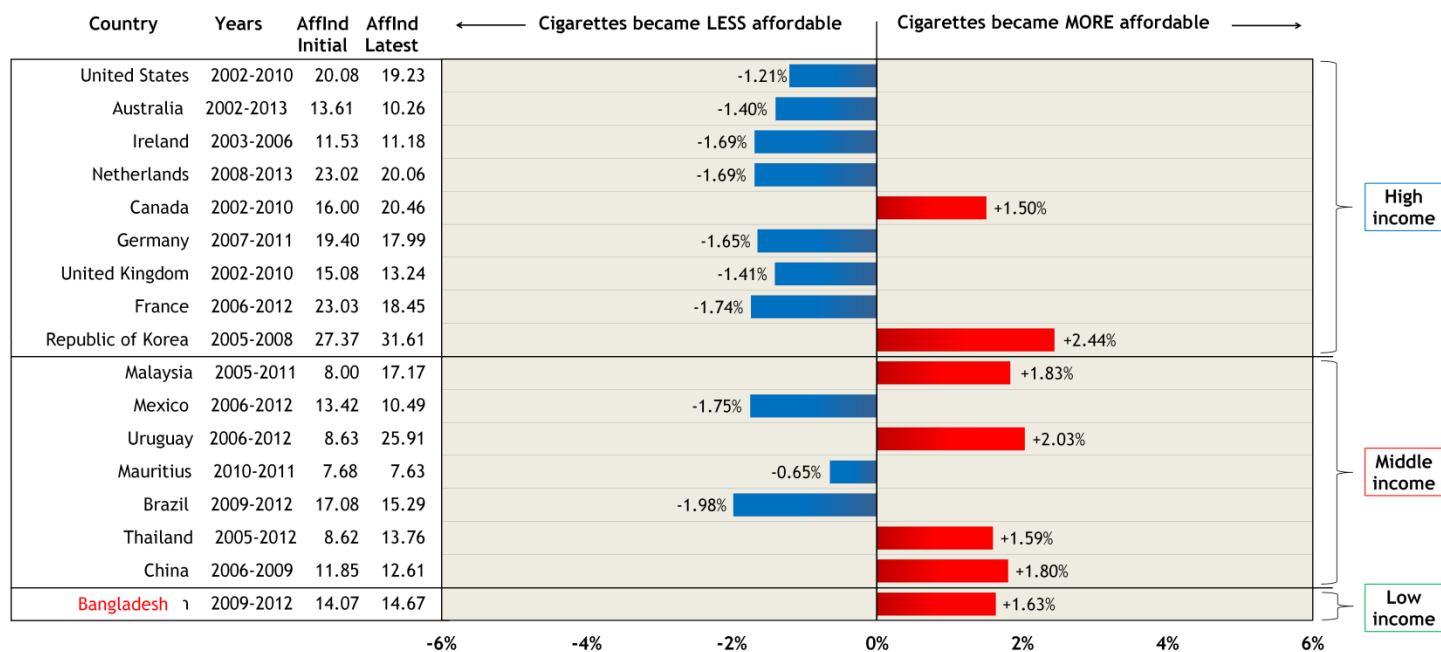


Figure 10 represents data for 17 ITC countries (males only): (a) Data presented for Mauritius is for Wave 2 (2010) and Wave 3 (2011). Data for the Republic of Korea is presented for Wave 1 (2005) and Wave 2 (2008). Data for all other countries is for the year of the first survey wave and of the most recent wave. Note that CPDIR is the cigarette price per day to daily income ratio, (b) **AffInd Initial:** the Affordability Index (the reciprocal of CPDIR) for the initial wave, (c) **AffInd Latest:** the Affordability Index (the reciprocal of CPDIR) for the most recent wave.*

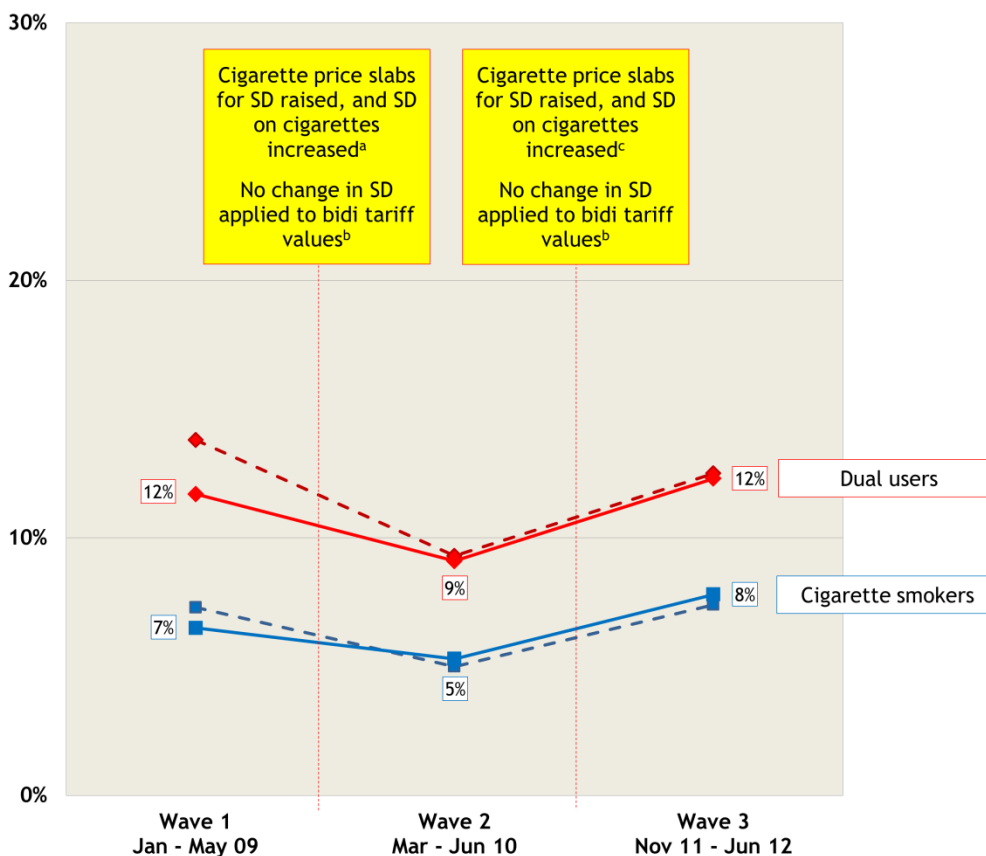
* Change in Affordability Index per year = (% change in AffInd between the first survey wave and the most recent survey wave) * [1 / (Difference between the date at the 1/3 timepoint of the first survey wave interviewing period and the date at the 1/3 timepoint of the most recent survey wave interviewing period, in years)]. The date corresponding to 1/3 of the survey wave interviewing period was chosen because it was the approximate point at which 50% of the respondents had been interviewed for that survey wave in each country.

Price and Brand Choice

Cigarettes

The ITC Bangladesh Wave 1 to 3 Surveys asked all current cigarette smokers and dual users to report whether they made a special effort in the last 6 months to buy cigarettes that are less expensive than what they could get from local stores. Across all three waves, less than 9% of cigarette smokers and less than 13% of dual users said that they made a special effort to buy cigarettes that are less expensive than what they could get from local stores, with no significant changes over time (see Figure 11).

Figure 11. Percentage of cigarette smokers and dual users who reported making a special effort to buy cigarettes that are less expensive than what they could get from local stores in the last 6 months, by wave*



* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

^a SD on cigarettes increased by 1% in four price slabs.

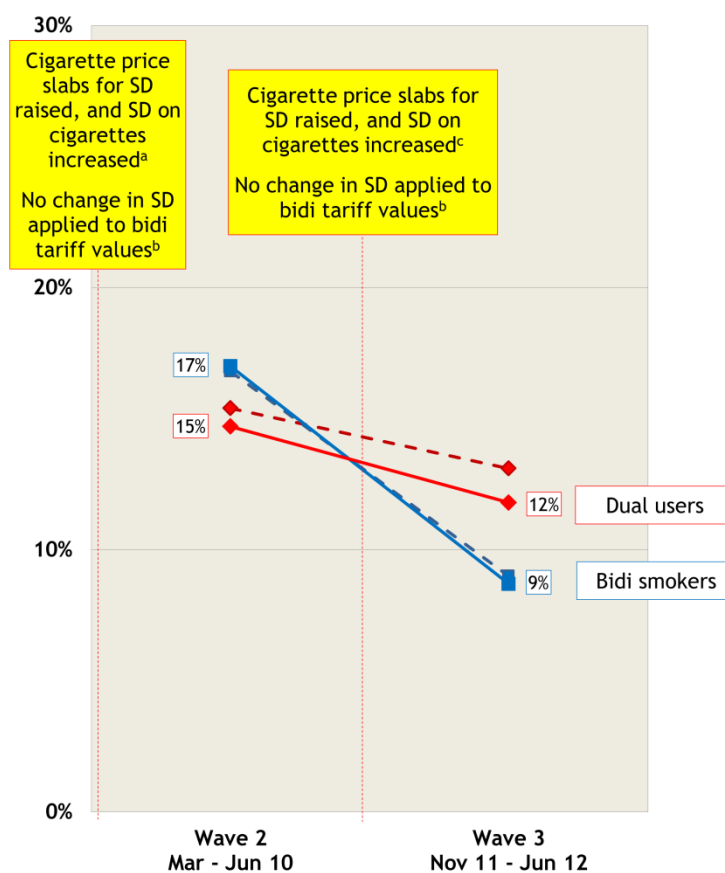
^b Per pack of 25 non-filtered bidis, or per pack of 20 filtered bidis.

^c SD on cigarettes increased by 2% at each price slab in the top three tiers, and 3% in the bottom tier.

Bidis

The ITC Bangladesh Wave 2 to 3 Surveys asked all current bidi smokers and dual users to report whether they made a special effort in the last 6 months to buy bidis that are less expensive than what they could get from local stores. Across both waves, less than 18% of bidi smokers and less than 16% of dual users said that they made a special effort to buy bidis that are less expensive than what they could get from local stores, and there were no significant changes over time (see Figure 12).

Figure 12. Percentage of bidi smokers and dual users who reported making a special effort to buy bidis that are less expensive than what they could get from local stores in the last 6 months, by wave*



* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

^a SD on cigarettes increased by 1% in four price slabs.

^b Per pack of 25 non-filtered bidis, or per pack of 20 filtered bidis.

^c SD on cigarettes increased by 2% at each price slab in the top three tiers, and 3% in the bottom tier.

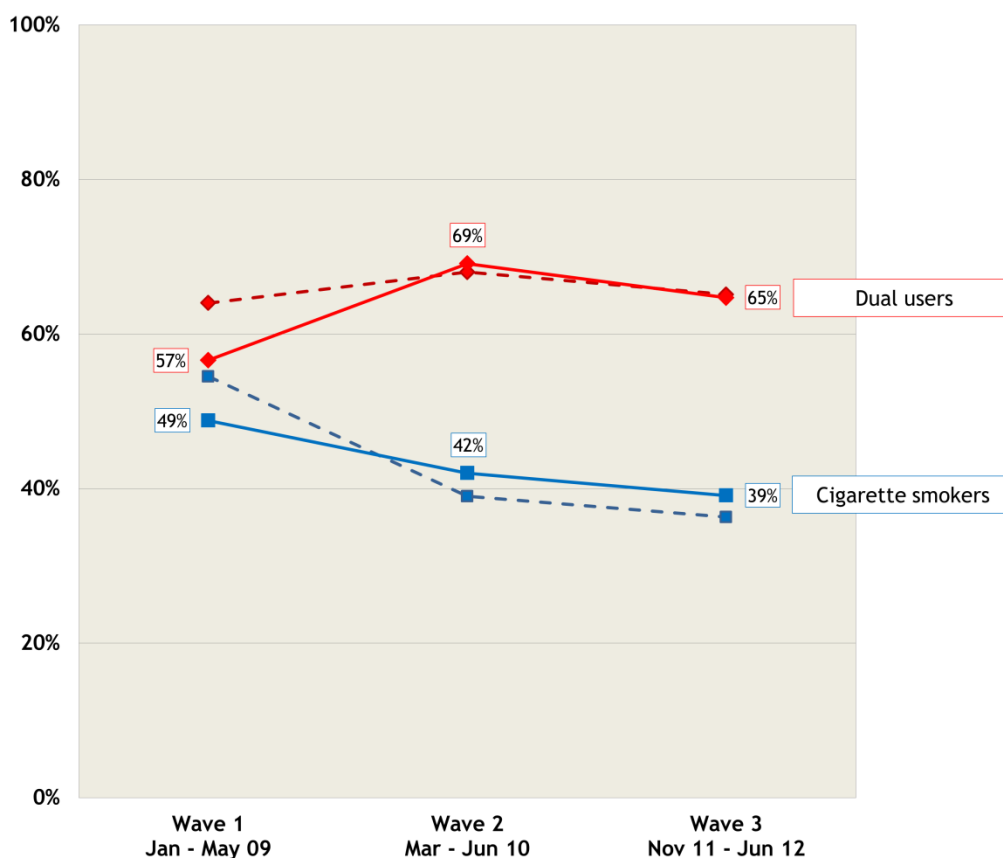
Price as a Reason to Quit Using Smoked Tobacco Products

Cigarettes

The ITC Bangladesh Wave 1 to 3 Surveys asked all current cigarette smokers and dual users who had intentions to quit using cigarettes at some point in time to report whether the price of cigarettes led them to think about quitting.

Across all three waves, between one-third to half of cigarette smokers (39% to 49%) and more than half of dual users (57% to 69%) said that the price of cigarettes led them to think about quitting. Nevertheless, there were no significant changes in the percentage of cigarette smokers or dual users who identified the price of cigarettes as a reason that led them to think about quitting over time (see Figure 13).

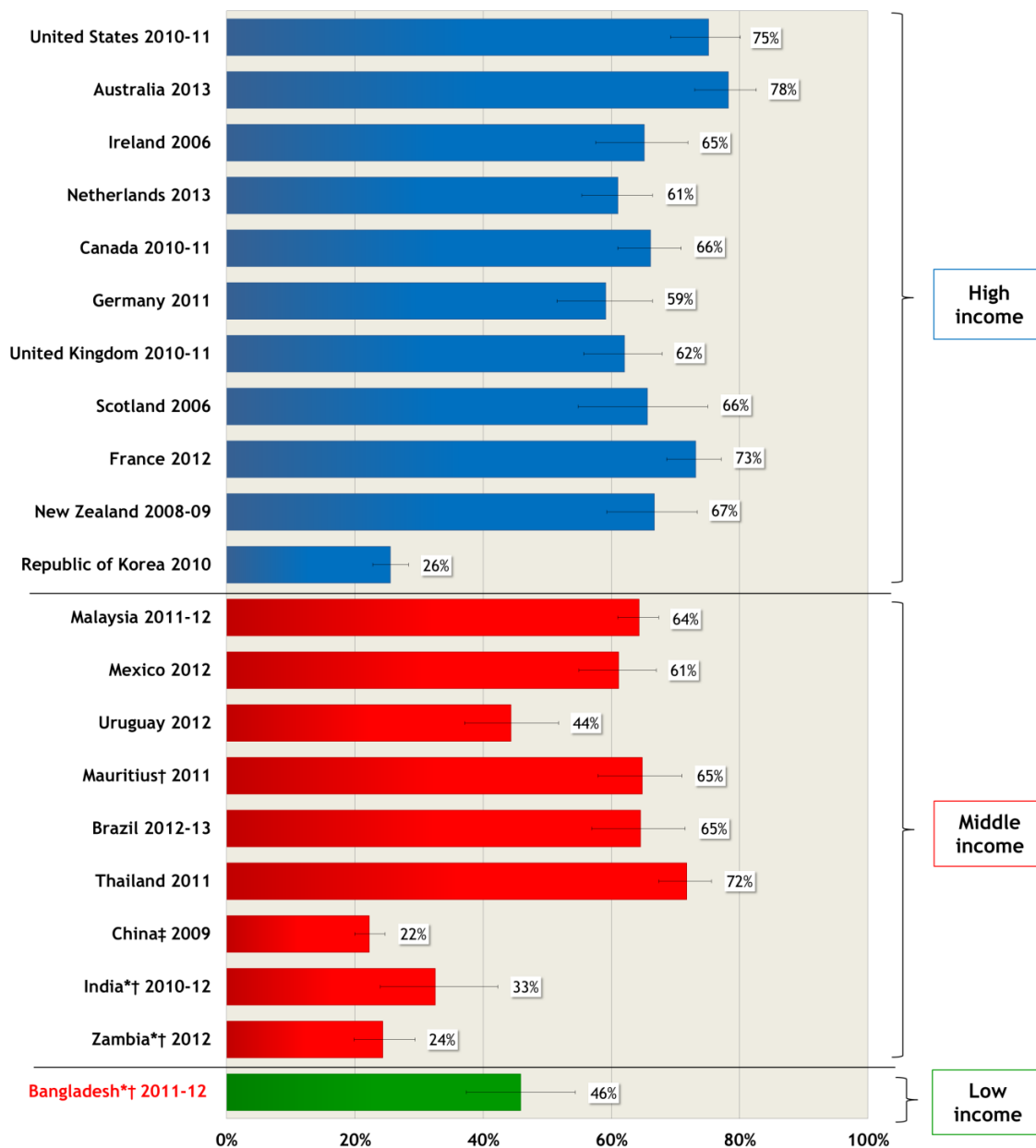
Figure 13. Percentage of cigarette smokers and dual users who reported that the price of cigarettes led them to think about quitting, among those who had intentions to quit, by wave*



* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

ITC cross-country comparison data also showed that cigarettes prices are not high enough to motivate smokers to quit in Bangladesh. Based on data from the most recent survey wave in 21 ITC countries, Bangladesh was among the six ITC countries where less than half of male smokers (46%) reported that the price of cigarettes led them to think about quitting (see Figure 14).

Figure 14. Percentage of male smokers who reported that the price of cigarettes led them to think about quitting "somewhat" or "very much" in the last 6 months, by country



* For Bangladesh, India, and Zambia, dual tobacco users (those tobacco users who reported smoking both cigarettes and bidis) and mixed tobacco users (those tobacco users who reported smoking both smoked tobacco and smokeless tobacco) who reported smoking cigarettes were also included in the analysis.

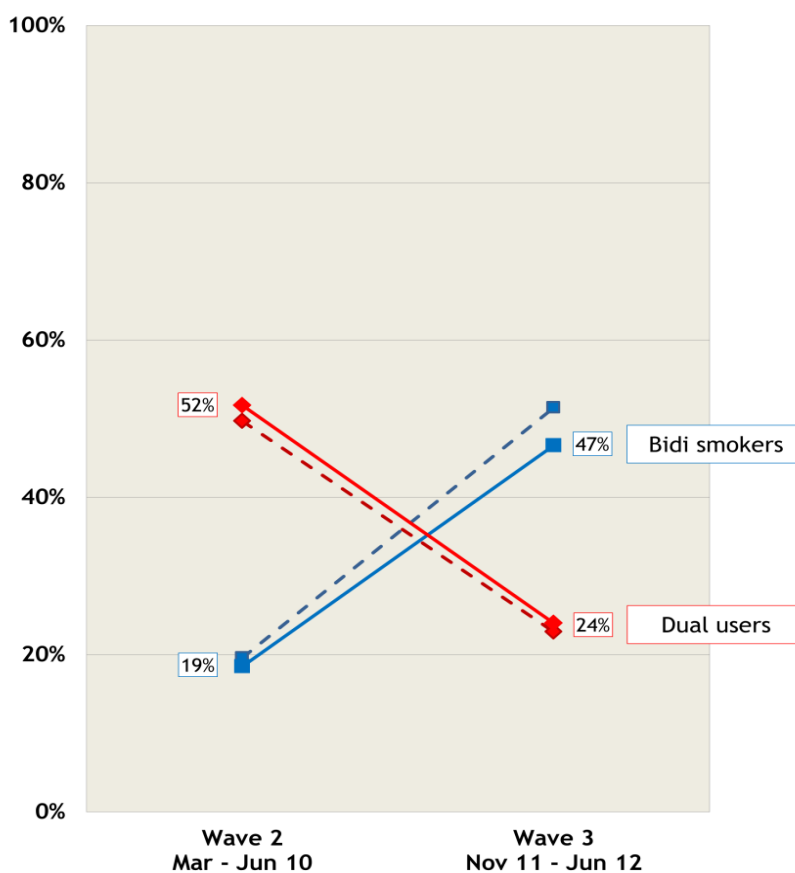
† The response options for Bangladesh, India, Mauritius, and Zambia were "yes"/"no" versus "very much"/"somewhat"/"not at all." The percentage of respondents who answered "yes" is shown.

‡ In China, instead of "somewhat" the response option was "a little."

Bidis

The ITC Bangladesh Wave 2 to 3 Surveys asked all current bidi smokers and dual users who had intentions to quit using bidis at some point in time to report whether the price of bidis led them to think about quitting. Results showed no significant changes in the percentage of bidi smokers or dual users who identified the price of bidis as a reason that led them to think about quitting over time, but there was a significant interaction between wave and smoker type. Specifically, a significantly higher percentage of dual users (52%) reported that the price of bidis led them to think about quitting than bidi smokers (19%) at Wave 2. In contrast, a significantly higher percentage of bidi smokers (47%) reported that the price of bidis led them to think about quitting than dual users (24%) at Wave 3 (see Figure 15).

Figure 15. Percentage of bidi smokers and dual users who reported that the price of bidis led them to think about quitting, among those who had intentions to quit, by wave*



* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

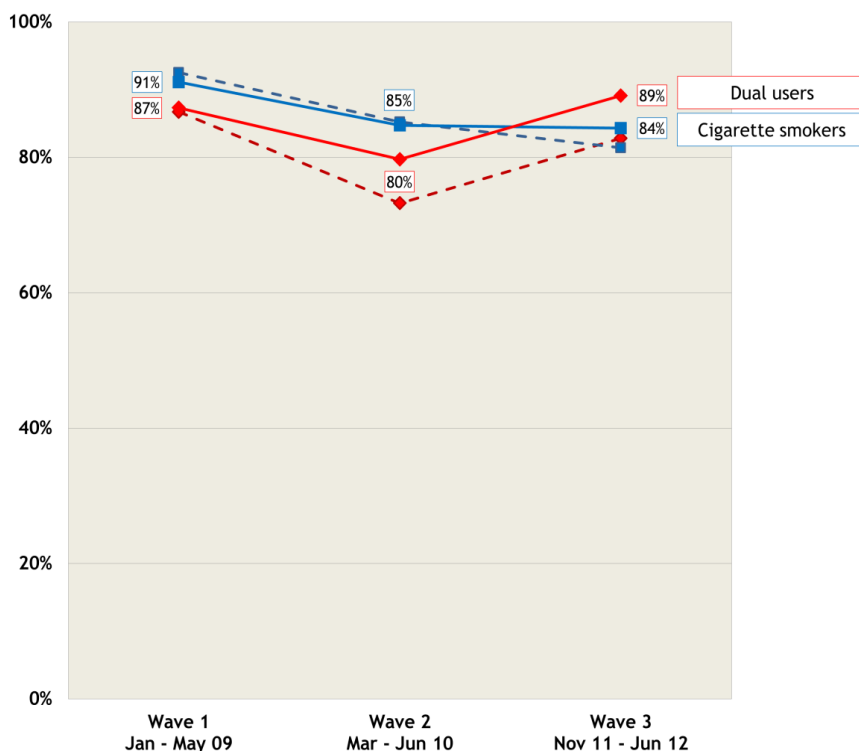
Concern about Money Spent on Smoked Tobacco Products

The opportunity cost of tobacco use is high, especially in low income settings. It diverts spending away from the basic necessities such as food, clothing, housing, education or health and leads to suboptimal allocation of resources. The economic burden of tobacco consumption on the poor has long been proven to be very high in Bangladesh.²²

Cigarettes

The ITC Bangladesh Wave 1 to 3 Surveys asked all current cigarette smokers and dual users to report whether they thought that they spent too much money on cigarettes. Across all three waves, the vast majority of cigarette smokers (84% to 91%) “agreed” or “strongly agreed” that they spent too much money on cigarettes, and there were no significant changes over time. The vast majority of dual users (80% to 89%) also “agreed” or “strongly agreed” that they spent too much money on cigarettes at Waves 1 to 3, with no significant changes over time (see Figure 16).

Figure 16. Percentage of cigarette smokers and dual users who “agree” or “strongly agree” that they spent too much money on cigarettes, by wave*



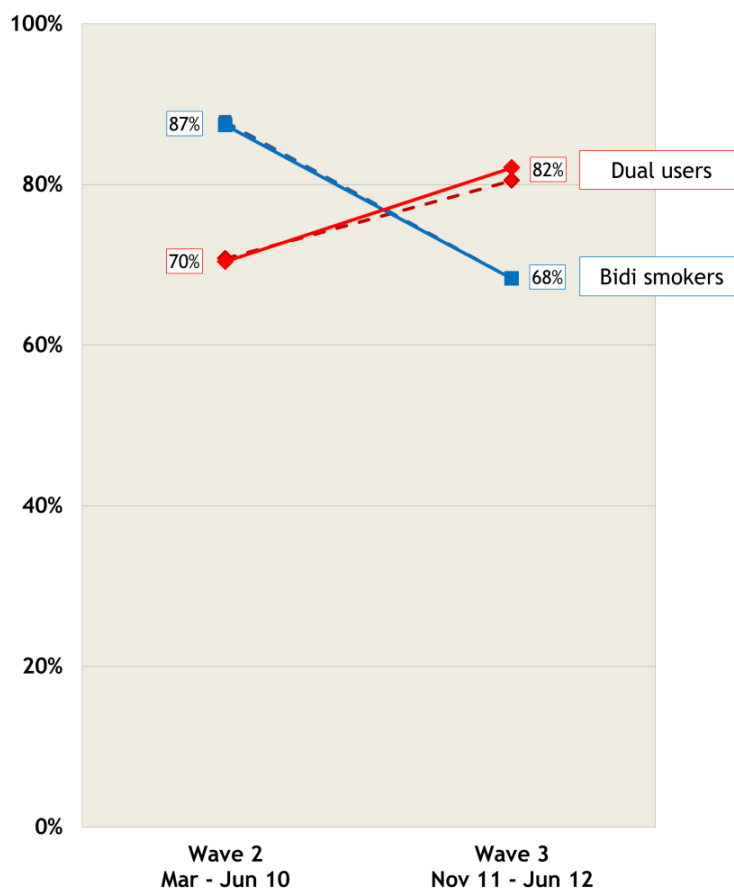
* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

Bidis

The ITC Bangladesh Wave 2 to 3 Surveys asked all current bidi smokers and dual users to report whether they thought that they spent too much money on bidis.

Across both waves, more than two-thirds of bidi smokers (87% at Wave 2; 68% at Wave 3) and dual users (70% at Wave 2; 82% at Wave 3) “agreed” or “strongly agreed” that they spent too much money on bidis. Results showed a significant interaction between wave and smoker type - a significantly higher percentage of bidi smokers at Wave 2 (87%) “agreed” or “strongly agreed” that they spent too much money on bidis than dual users (70%) at Wave 2, whereas a significantly higher percentage of dual users (82%) “agreed” or “strongly agreed” that they spent too much money on bidis than bidi smokers (68%) at Wave 3 (see Figure 17).

Figure 17. Percentage of bidi smokers and dual users who “agree” or “strongly agree” that they spent too much money on bidis, by wave*



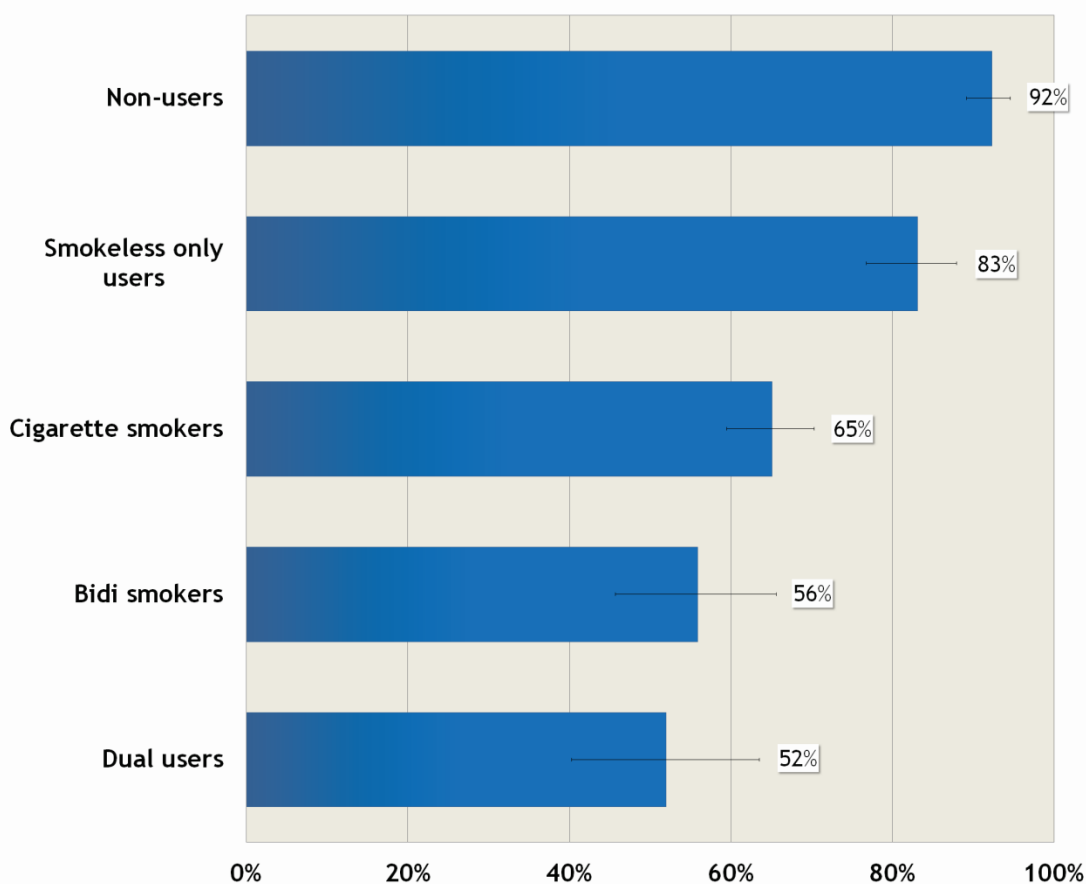
* The solid lines represent percentages adjusted for time-in-sample while the dashed lines represent the corresponding unadjusted percentages.

Support for Tax Increases on Smoked Tobacco Products

The ITC Bangladesh Wave 3 Survey asked all current cigarette smokers, bidi smokers, dual users, smokeless only users, and non-users of cigarettes whether they thought that the government should increase the tax on cigarettes and bidis. Overall, there was strong support for tax increases on both of these types of smoked tobacco products, even among smokers themselves.

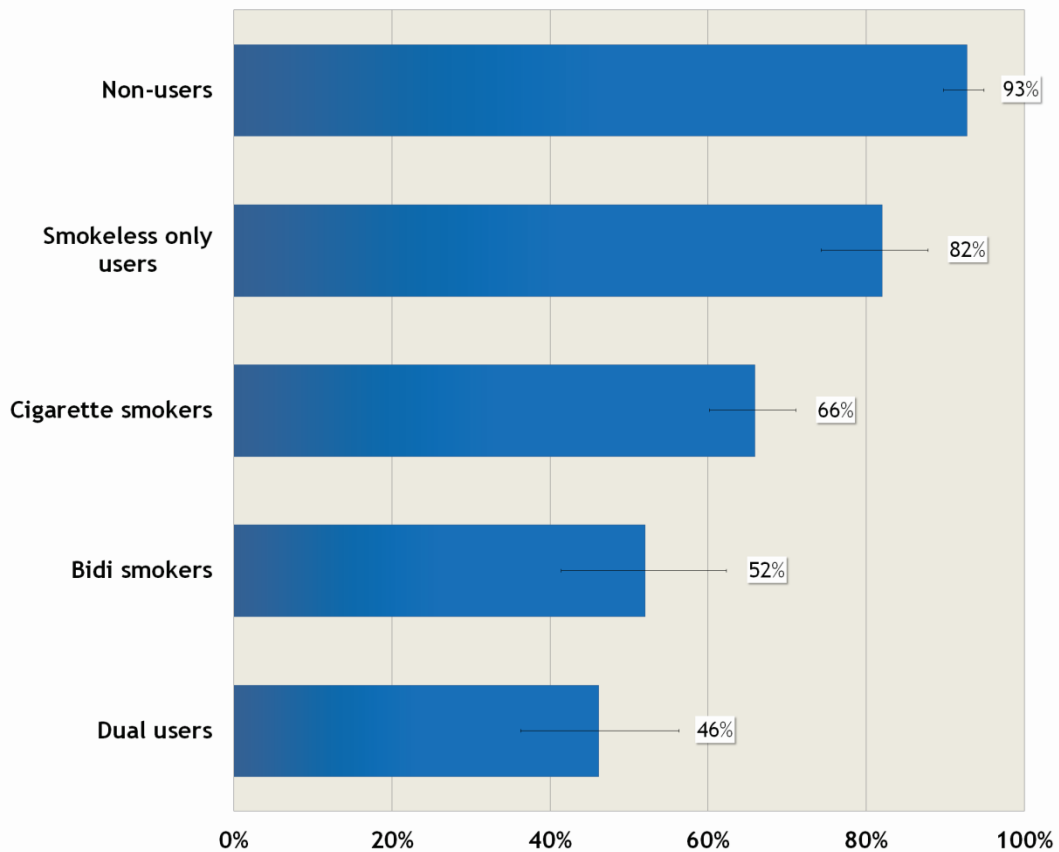
Support for cigarette tax increases was highest among non-users (92%), followed by smokeless only users (83%). However, support for cigarette tax increases was also high among cigarette smokers themselves – in fact, a significantly higher percentage of cigarette smokers (65%) than bidi smokers (56%) or dual users (52%) said that the government should increase the tax on cigarettes (see Figure 18).

Figure 18. Percentage of tobacco users and non-users of tobacco who support cigarette tax increases, by tobacco type, Wave 3 (Nov 11 - Jun 12)



Similarly, findings showed that support for bidi tax increases was highest among non-users (93%), followed by smokeless only users (82%). In contrast to the findings for support for cigarette tax increases, support for bidi tax increases was significantly lower among bidi smokers (52%) and dual users (46%) than it was among cigarette smokers (66%) (see Figure 19).

Figure 19. Percentage of tobacco users and non-users of tobacco who support bidi tax increases, by tobacco type, Wave 3 (Nov 11 - Jun 12)



Longitudinal findings from the ITC Bangladesh Wave 1 to 3 Surveys (2009-2012) provided strong evidence that cigarettes and bidis continue to be affordable for smokers in Bangladesh. Overall, there was no significant reduction in cigarette or bidi consumption among daily smokers from 2009 to 2012. Cigarette prices in Bangladesh are still very low, and minimal tax increases have not led to a dramatic increase in the real price of cigarettes. For example, from 2009 to 2012, there was a significant but small increase of only 8.55 (2012) BDT (equivalent to 0.11 USD in 2012 prices) in the average real price per pack of 10 cigarettes. Results also showed that there have only been marginal changes in the real price of bidis over time - from 2010 to 2012, the average real price per pack of 20 bidis and 25 bidis increased by only 3.55 (2012) BDT (equivalent to 0.04 USD in 2012 prices), and by 4.41 (2012) BDT (equivalent to 0.06 USD in 2012 prices), respectively. Given the low cigarette and bidi prices in Bangladesh, it is not surprising that less than one-quarter of current cigarette smokers, bidi smokers, and dual users said that they made a special effort to buy cigarettes and/or bidis that are less expensive than what they could get at local stores at each of the three survey waves. In addition, there was no significant change in the percentage of cigarette smokers, bidi smokers, and dual users who identified the price of cigarettes and/or bidis as a reason that led them to consider quitting over time. Results also showed no significant overall change from 2009 to 2012 in the percentage of cigarette smokers, bidi smokers, and dual users who “agreed” or “strongly agreed” that they spent too much money on cigarettes and/or bidis. If the government of Bangladesh were to raise cigarette and bidi prices through increased taxation, this would lead to reductions in consumption and prevalence.

Moreover, it is important to note the ITC survey shows that *smokers themselves would support higher taxes on their own products*. In 2012, more than half of cigarette smokers (66%) and bidi smokers (56%) said that the government should increase the tax on cigarettes and bidis, respectively. Although this pattern of results may seem to contradict the notion that people engage in behaviours and hold opinions that are in their self-interest, that is only if one defines “self-interest” solely in terms of price. ITC findings across virtually every country have shown that the vast majority of smokers regret that they ever even started smoking.^{23 24} An extraordinary 95% of smokers in Bangladesh have a negative opinion about smoking and 98% of tobacco smokers themselves support the idea that the government should do more to tackle the harms of smoking. This is the highest level of support among all ITC countries.

Taken in its broader context, then, “self-interest” for tobacco users encompasses more than just taxes and prices. Smokers know that higher prices would help them to reduce their consumption or to quit, and hence the majority of them would support higher taxes.

Cigarette Price Distributions Under Different Tax Structures: The Advantages of Implementing Uniform Specific Tax Systems

Existing research has consistently shown that increases in taxes that lead to higher tobacco prices cause reduction in consumption.^{25 26 27} There is considerable variation in the level, type, and structure of taxes that are applied to tobacco products between and within countries. In order to maximize the health impact and revenue generation of tobacco taxation, the WHO recommends that governments adopt relatively simple tobacco tax structures that rely more on specific excise taxes that are applied to all tobacco products.¹⁰

Guidelines and recommendations for the effective implementation of Article 6 suggest that Parties implement specific or mixed excise tax systems, and ensure that tax systems minimize the incentive for users to switch down to less expensive brands.⁹

A recent study by Shang et al. (2014)¹¹ compared cigarette price distributions across different tax structures for 16 ITC countries, including Bangladesh. Overall, results indicated that there was greater variability in cigarette price distributions under complicated taxation systems. Specifically, variations in cigarette price distributions tended to be greater with tiered structures and other uniform tax structures (ad valorem uniform and mixed uniform structures) than with a uniform specific tax structure.

In Bangladesh, where a tiered cigarette tax structure that imposes different ad valorem taxes based on retail price slabs is applied, prices are largely skewed toward lower prices. These findings provide evidence to support the argument that the current cigarette tax structure in Bangladesh drives cigarette prices towards lower values, widens the price gap among cigarette brands, and may facilitate substitution to cheaper brands as taxes increase.

Nargis et al. (2014)¹⁴ also used data from the ITC Bangladesh Wave 1 to 2 Surveys (2009-2010) in order to generate price and income elasticity estimates for cigarette smoking prevalence and conditional cigarette demand, which were then used to assess the impact of simulated tax increases and different tax structures on overall cigarette consumption and tax revenue. The three simulated alternative tax structures included: (1) uniform ad valorem tax at the rate of 61% of the retail price of cigarettes; (2) uniform ad valorem tax at the rate of 61% of the retail price per pack of 10 cigarettes with a specific minimum of 20 BDT (in 2012-2013 prices); and (3) uniform specific tax of 22 BDT (in 2012-2013 prices) per pack of 10 cigarettes.

Findings showed that the implementation of a uniform specific tax system would lead to the highest price increases and decreases in the number of smokers and annual cigarette consumption. Specifically, a uniform specific tax of 22 BDT (in 2012 prices) per pack of 10 cigarettes would lead to a 59% increase in the real price of cigarettes, and a 32.6% decrease in annual consumption. Results also showed that the uniform ad valorem tax system would lead to the highest revenue gain (32% to 33% increase in real tax revenue) and tax share in the retail price (76% of the average total tax share in retail price) (see Table 9). These findings provide strong evidence that raising cigarette taxes and prices is an effective strategy for reducing cigarette smoking prevalence and increasing government revenue.

Table 9. The simulated impact of increase in cigarette tax on cigarette consumption and revenue in Bangladesh

| Factor | Baseline: Tiered ad valorem (Low: 39%, Medium: 56%, High: 59%, Premium: 61% of retail price) | Simulation A: uniform ad valorem at 61% of retail price | Simulation B: uniform ad valorem at 61% of retail price with a specific minimum of 20 Taka (in 2012 prices) per pack of 10 sticks | Simulation C: uniform specific tax of 22 Taka (in 2012 prices) per pack of 10 sticks |
|--|--|---|---|--|
| Average excise tax per pack of 10 sticks (2012 Taka) | 11.89 | 20.90 | 21.18 | 21.57 |
| Average excise tax share in retail price (%) | 53% | 61% | 61% | 57% |
| Average total tax (excise tax and VAT) share in retail price (%) | 68% | 76% | 76% | 72% |
| Average price per pack of 10 sticks (in 2012 Taka) | 22.46 | 34.26 | 34.65 | 35.67 |
| Percentage change in real price | | 53% | 54% | 59% |
| Number of cigarette smokers (million) | 19.9 | 16.4 | 16.2 | 15.7 |
| Annual consumption (million packs of 10 sticks) | 7603 | 5490 | 5388 | 5125 |
| Percentage change in annual consumption | | -27.8% | -29.1% | -32.6 |
| Revenue (million in 2012 Taka) | 116 045 | 154 372 | 153 497 | 142 376 |
| Percentage change in real revenue | | 33.0% | 32.3% | 22.7% |

Source: Nargis, et al. (2014).¹⁴

Economic analyses of data from the ITC Bangladesh Wave 1 to 2 Surveys (2009-2010) demonstrate that stronger pricing and taxation measures would reduce tobacco consumption and prevalence, at the same time as it would increase tobacco tax revenues. And there is clearly room for much higher taxes in Bangladesh. Tobacco prices in Bangladesh are among the lowest in the South-East Asia Region, and the marginal increases in cigarette and bidi taxes implemented in Bangladesh between 2009 and 2010 have had no impact on raising the real prices and consumption of these tobacco products.

Estimates suggest that even a modest price increase would lead to a considerable reduction in consumption. For example, a 10% increase in the price of cigarettes (based on 2009-2010 prices) is expected to lead to a 4.9% reduction in cigarette consumption. Finally, the tiered ad valorem cigarette tax structure in Bangladesh skews prices towards lower values, and increases variability in cigarette price distributions, which may then create more opportunities for smokers to switch down to cheaper brands rather than decrease consumption in response to tax increases.

In summary, the implementation of a uniform specific tax structure would lead to a significant increase in cigarette prices and reduction in consumption – if Bangladesh implemented a uniform specific tax of 22 BDT (in 2012 prices) per pack of 10 cigarettes, it would lead to a 59% increase in the real price of cigarettes, and a 32.6% decrease in annual consumption.

Summary and Policy Recommendations

Bangladesh was among the first 40 countries to become a Party to the FCTC when they ratified the treaty on June 14, 2004. Nevertheless, Bangladesh still ranks among the top tobacco consuming countries in the world, and tobacco prices and taxes remain far below the range that is recommended by the WHO.

The benefits of tobacco price and tax increases in Bangladesh are threefold. First, they are the most effective way to reduce tobacco consumption, prevent the uptake of tobacco use among price-responsive groups, and encourage current tobacco users to quit. Second, they can generate higher government revenue, while reducing the burden of tobacco-related health care costs. Finally, because there is considerable public support for tobacco tax increases that can generate funds to support health and social services that assist tobacco users to quit, tobacco price and tax increases also represent a political win.

Based on findings from the ITC Bangladesh Wave 1 to 3 Surveys (2009-2012), the following recommendations can be made for the current tobacco tax policy in Bangladesh.

1. Simplify the current cigarette tax structure. Reduce the tax gaps between different cigarette price bands, and implement a uniform specific tax system that will maximize price increases and decreases in consumption, in addition to generating higher tax revenue.
2. Apply specific tax to bidi which is independent of tariff value and raise the tax significantly to harmonize with the tax rate applicable to cigarettes.
3. Reduce the price gap between bidis and the cheapest cigarettes to minimize downward shifting to less expensive products.
4. Ban stick sales of cigarette and bidi by the retailers.
5. Work towards increasing tobacco prices and harmonizing specific excise tax rates across all forms and brands of tobacco, including smoked and smokeless tobacco.
6. Monitor tobacco tax rates on a regular basis and adjust accordingly to keep pace with inflation and income growth. In order to reduce the affordability of tobacco products, taxes need to be increased so that price increases are faster than income growth.
7. Earmark tobacco tax revenues for comprehensive public health, social, and tobacco control programs.

References

- ¹ World Health Organization. (2008). *WHO report on the global tobacco epidemic, 2008: The MPOWER package*. Geneva: World Health Organization. Available at: <http://www.who.int/tobacco/mpower/en/>.
- ² International Agency for Research on Cancer. (2011). *IARC handbooks of cancer prevention: Tobacco control. Volume 14. Effectiveness of price and tax policies for control of tobacco*. Lyon, France: International Agency for Research on Cancer.
- ³ The World Bank. (1999). *Curbing the epidemic: Governments and the economics of tobacco control*. Washington, DC: The World Bank.
- ⁴ World Health Organization. (2008). *MPOWER: A policy package to reverse the tobacco epidemic*. Geneva: World Health Organization.
- ⁵ Bader, P., Boisclair, D., & Ferrence, R. (2011). Effects of tobacco taxation and pricing on smoking behaviour in high risk populations: A knowledge synthesis. *International Journal of Environmental Research and Public Health*, 8, 4118-4139.
- ⁶ Chaloupka, F.J., Straif, K., & Leon, M.E. (2011). Effectiveness of tax and price policies in tobacco control. *Tobacco Control*, 20, 235-238.
- ⁷ Chaloupka, F.J. (1999). Macro-social influences: The effects of prices and tobacco-control policies on the demand for tobacco products. *Nicotine & Tobacco Research*, 1, s77-s81.
- ⁸ U.S. Department of Health and Human Services. (2012). *Preventing tobacco use among youth and young adults: A report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Centre for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
- ⁹ World Health Organization, Conference of the Parties to the Framework Convention on Tobacco Control. (2012). Set of guiding principles and recommendations for implementation of Article 6 of the WHO Framework Convention on Tobacco Control (*Price and tax measures to reduce the demand for tobacco*), available from http://apps.who.int/gb/fctc/PDF/cop5/FCTC_COP5%287%29-en.pdf
- ¹⁰ World Health Organization. (2010). *WHO technical manual on tobacco tax administration*. Geneva: World Health Organization.
- ¹¹ Shang, C., Chaloupka, F.J., Zahra, N., & Fong, G.T. (2014). The distribution of cigarette prices under different tax structures: findings from the International Tobacco Control Policy Evaluation (ITC) Project. *Tobacco Control*, 23, i23–i29.

- ¹² Smith, K.E, Savell, E., Gilmore, A.B. (2013). What is known about tobacco industry efforts to influence tobacco tax? A systematic review of empirical studies. *Tobacco Control*, 22, e1.
- ¹³ Chaloupka, F.J., Cummings, K.M., Morley, C.P., & Horan, J.K. (2002). Tax, price and cigarette smoking: Evidence from the tobacco documents and implications for tobacco company marketing strategies. *Tobacco Control*, 11 (Suppl 1), i62-i72.
- ¹⁴ Nargis, N., Ruthbah, U.H., Ghulam Hussain, A.K.M., Fong, G.T., Huq, I., & Ashiquzzaman, S.M. (2014). The price sensitivity of cigarette consumption in Bangladesh: Evidence from the International Tobacco Control (ITC) Bangladesh Wave 1 (2009) and Wave 2 (2010) Surveys. *Tobacco Control*, 23,i39-i47.
- ¹⁵ Barkat, A., Chowdhury, A.U., Nargis, N., Rahman, M., Kumar, P.K., Bashir, S., et al. (2012). *The economics of tobacco and tobacco taxation in Bangladesh*. Paris: International Union Against Tuberculosis and Lung Disease.
- ¹⁶ World Health Organization. (2007). *Impact of tobacco-related illnesses in Bangladesh*. New Dehli: WHO Regional Office for South-East Asia.
- ¹⁷ World Health Organization. (2009). *Global Adult Tobacco Survey: Bangladesh report 2009*. Dhaka: Country Office for Bangladesh. Available at: www.who.int/entity/tobacco/surveillance/global_adult_tobacco_survey_bangladesh_report_2009.pdf
- ¹⁸ World Health Organization. (2013). *WHO report on the global tobacco epidemic, 2013. Country profile: Bangladesh*. Geneva: World Health Organization.
- ¹⁹ Ali, Z., Rahman, A., & Rahman, T. (2003). *Appetite for nicotine: An economic analysis of tobacco control in Bangladesh*. Economics of Tobacco Control Paper No. 16. Washington, DC: The World Bank.
- ²⁰ Roy, A., Eforymson, D., Jones, L., Ahmed, S., Arafat, I., Sarker, R., et al. (2012). Gainfully employed? An inquiry into bidi-dependent livelihoods in Bangladesh. *Tobacco Control*, 21, 313-317.
- ²¹ Nargis, N., Ruthbah, U.H., Ghulam Hussain, A.K.M., Ashiquzzaman, S.M., Fong, G.T., & Huq, I. (2011, May). *Pricing and taxation of tobacco products in Bangladesh: Findings from Wave 1 (2009) and Wave 2 (2010) of the ITC Bangladesh Survey*. ITC Working Paper Series. University of Waterloo, Waterloo, Ontario, Canada.
- ²² Eforymson, D., Ahmed, S., Townsend, J., Mahbubul, S.A., Ranjan, A., Saha, R., Dhar, B., Sujon, A.I., Ahmed, K.U., Rahman, Oliur. (2001). Hungry for tobacco: an analysis of the economic impact of tobacco consumption on the poor in Bangladesh., *Tobacco Control*, 10, 212-217.

- ²³ Fong, G.T., Hammond, D., Laux, F.L., Zanna, M.P., Cummings, K.M., Borland, R., & Ross, H. (2004). The near-universal experience of regret among smokers in four countries: Findings from the International Tobacco Control Policy Evaluation Survey. *Nicotine & Tobacco Research*, 6 (Suppl. 3), S341-S351.
- ²⁴ Sansone, N., Fong, G.T., Lee, W.B., Laux, F.L., Seo, H.G., Omar, M., Sirirassamee, B., & Jiang, Y. (2013). Comparing the experience of regret and its predictors among smokers in four Asian countries: Findings from the ITC Surveys in Thailand, South Korea, Malaysia, and China. *Nicotine & Tobacco Research*, 15, 1663-1672.
- ²⁵ U.S. Department of Health and Human Services. (2000). *Reducing tobacco use: A report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
- ²⁶ Chaloupka, F.J., & Warner, K.E. (2000). The economics of smoking. In A.J. Cuyler & J.P. Newhouse (Eds.), *Handbook of health economics* (pp. 1539-1627). Amsterdam: Elsevier Science.
- ²⁷ Chaloupka, F.J., Hu, T.W., Warner, K.E., Jacobs, R., & Yurekli, A. (2000). The taxation of tobacco products. In P. Jha & F.J. Chaloupka (Eds.), *Tobacco control in developing countries* (pp. 237-272). Oxford: Oxford University Press.

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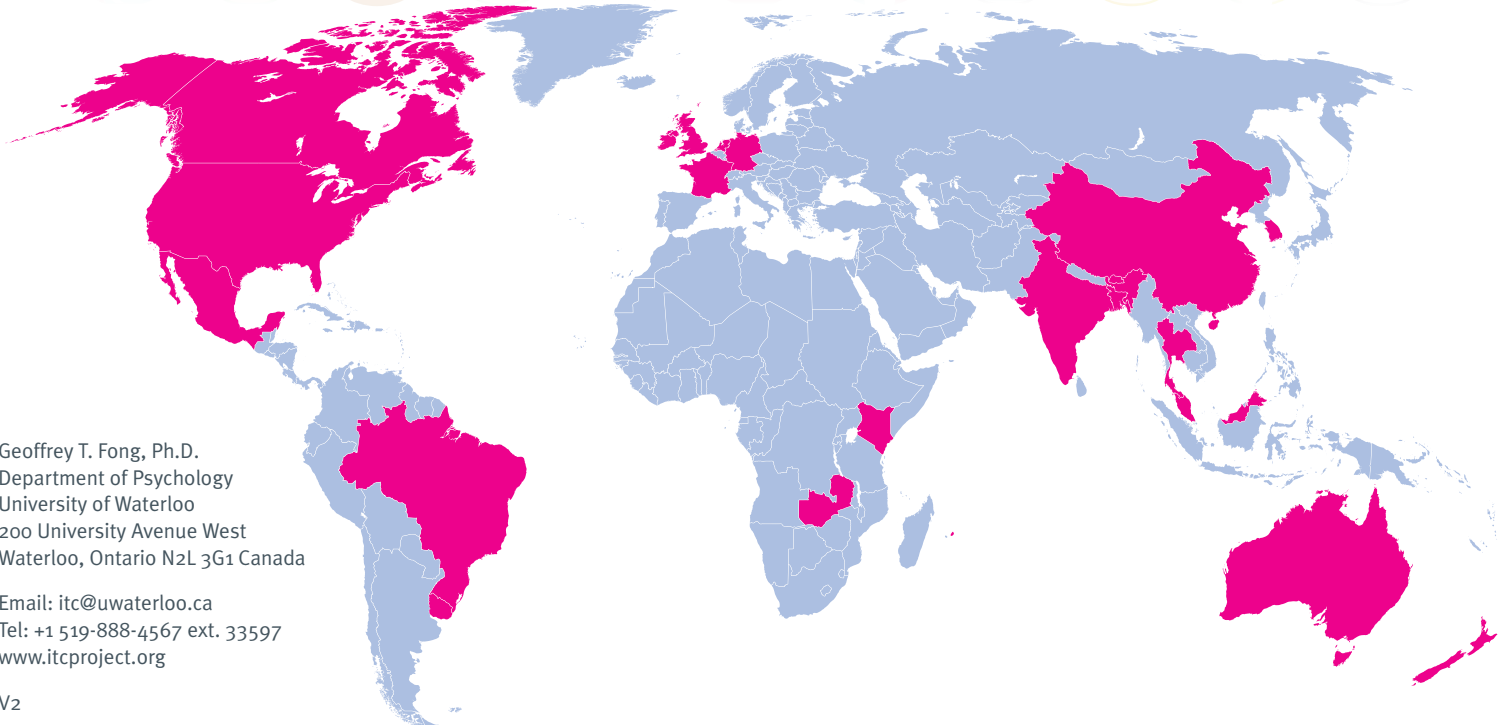
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