THE ECONOMICS OF TOBACCO AND TOBACCO TAXATION IN BANGLADESH

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Advocacy for

Tobacco Taxation in Bangladesh

Organized by

Human Development Research Centre

Campaign for Tobacco-Free Kids

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Presentation Sequence

- ✓ Tobacco and Death: Global Context
- ✓ Economics of Tobacco: Bangladesh Context
- ✓ Economics of Tobacco: Key Issues
- ✓ Cost-benefits of Tobacco Use
- ✓ Tobacco Control Act
- ✓ Tobacco Taxes, Prices and Demand
- ✓ Impact of Tax Increases on: Public Health, Revenues, Poverty, Employment, Illicit trade
- ✓ Recommendations.

Why Study Economics of Tobacco?

Global Context

- ✓ Smoking cigarette/*bidi* and other tobacco uses account for 5.4 million premature deaths each year
- ✓ About 70% of tobacco-attributable deaths occur in low and middle-income countries
- ✓ Given current trends, tobacco use will cause approximately 100 crore deaths in 21 century
- ✓ Tobacco use imposes considerable economic costs: health care expenses to treat diseases caused by tobacco use + lost productivity due to tobacco-related illness + premature death + loss to secondary/passive smokers

Tobacco Economics : Bangladesh Context

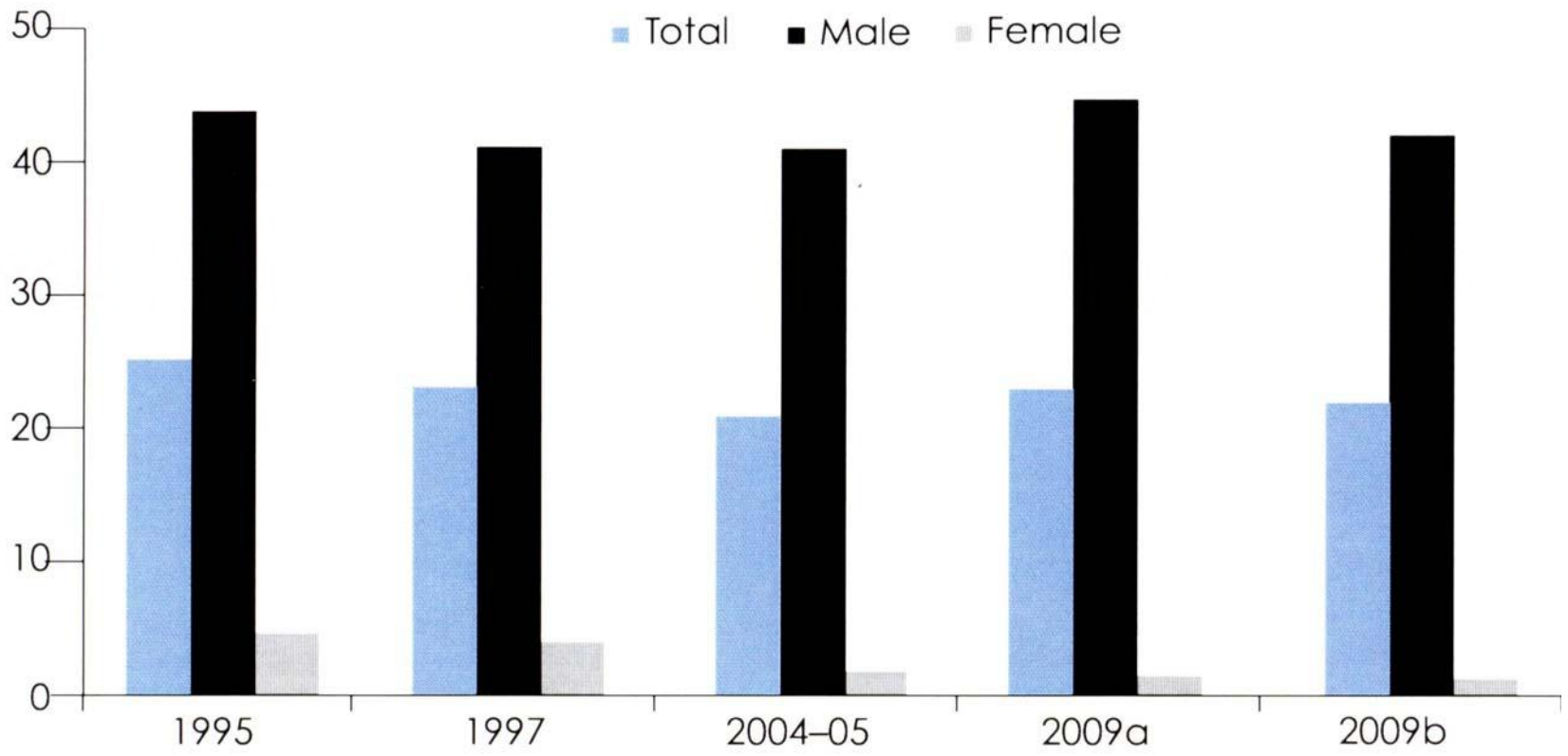
- ✓ About 10% people age 30+ suffer from 8 tobacco-related diseases
- ✓ These diseases cause 16% of all deaths;
  9% of all deaths are directly attributable to tobacco
- ✓ Each year, over 57,000 deaths are attributed to tobacco use (one in six deaths among 30 yrs and older)
- ✓ Tobacco cultivation cause 30% of annual deforestation. In terms of severity of tobacco-mediated deforestation, Bangladesh is placed the third globally.

Tobacco Economics : Bangladesh Context *… contd…*

- ✓ Bangladesh – one of the largest tobacco consuming countries in the world
- ✓ Consumed in many forms: smoking of cigarettes, bidis, water pipe (hookah), and chewing (with betel leaves and nuts, as jarda, sada pata, gul, khoinee)
- ✓ (2011 estimates) 46.3 million adults ages 15 years and above (out of 107 million) use tobacco product (smoke and smokeless)
- ✓ 43% ages 15+ consume some type of tobacco product (men 58%, women 28.7%)
- ✓ 23% adults are smokers (21% daily smokers); men are much more likely to smoke than women (44.7% and 1.5%)
- ✓ 27.2% adults (15+ yrs) use smokeless tobacco (26.4% men, 27.9% women)
- ✓ (Youth tobacco use, 2007) 6.9% in-school youth ages 13-15 use tobacco product (2% cigarette smoker).

Tobacco Economics : Bangladesh Context *… contd…*

Figure 1: Tobacco Smoking Prevalence, Total and by Gender, 1995-2009



Notes: Data are from the following surveys:
1995 - 10 and older, Bangladesh Bureau of Statistics
1997 - 10 and older, Bangladesh Bureau of Statistics
2004-5 - 15 and older, WHO
2009a - 15 and older, Global Adult Tobacco Survey
2009b - 15 and older, ITC-Bangladesh

Tobacco Economics : Bangladesh Context *… contd…*

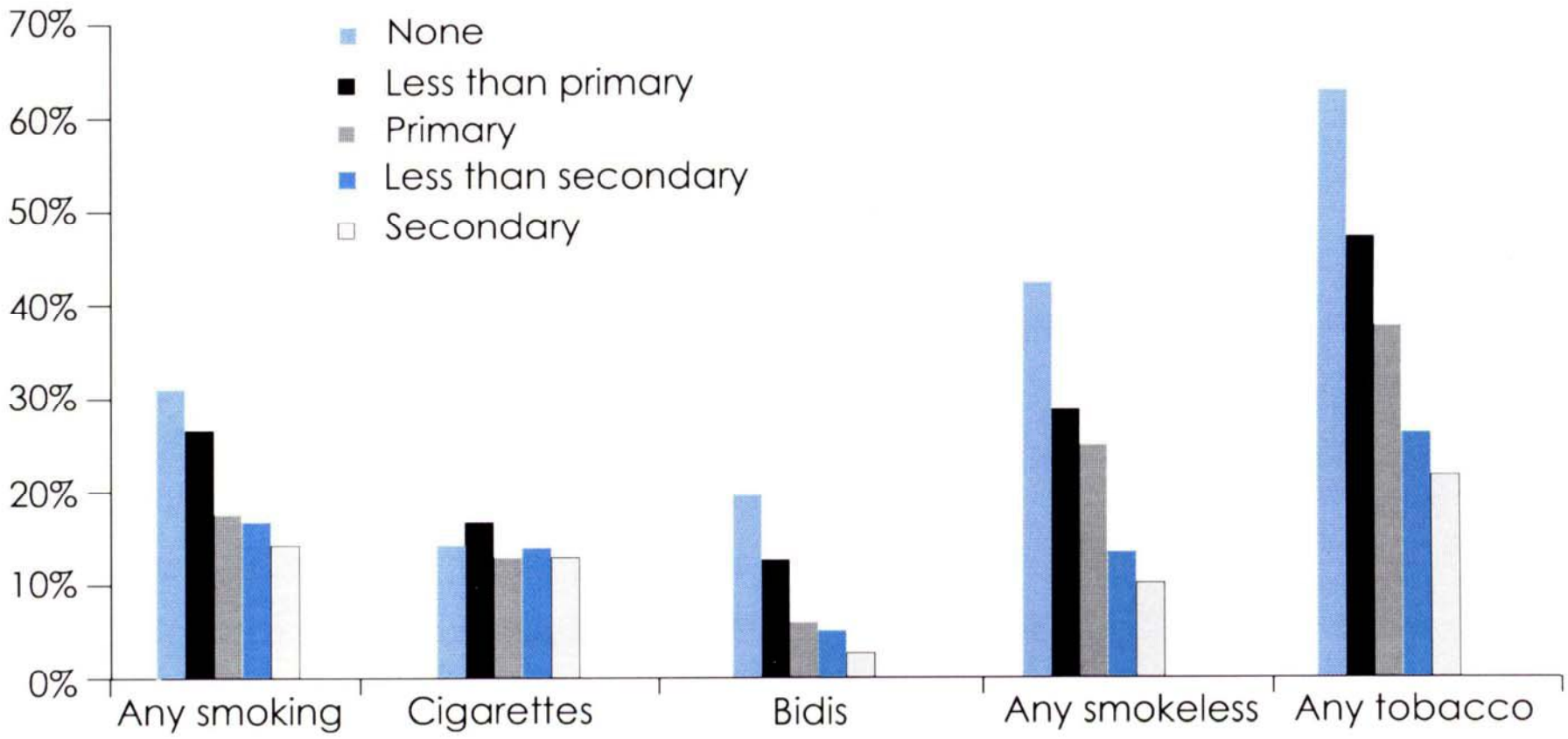
Table 1: Prevalence of Different Forms of Tobacco Use, by Gender, 2009

	Total	Male	Female
Any Tobacco Smoking	23.0%	44.7%	1.5%
Manufactured Cigarettes	14.1%	28.3%	0.2%
Hand-Rolled Cigarettes	0.4%	0.7%	0.1%
Bidis	11.2%	21.4%	1.1%
Other	0.1%	1.7%	0.3%
Any Smokeless Tobacco	27.2%	26.4%	27.9%
Betel Quid with Tobacco	24.3%	23.5%	25.2%
Gul	5.3%	5.5%	5.1%
Sada Pata	1.8%	2.0%	1.6%
Khoinee	1.5%	1.9%	1.2%
Other	1.4%	1.6%	1.2%
Any Tobacco Use (Smoking, smokeless or both)	43.3%	58%	28.7%

Source: GTSS, 2009.
Note: Subcategories of smoking tobacco prevalence are not mutually exclusive; some users consume more than 1 product.

Tobacco Economics : Bangladesh Context *… contd…*

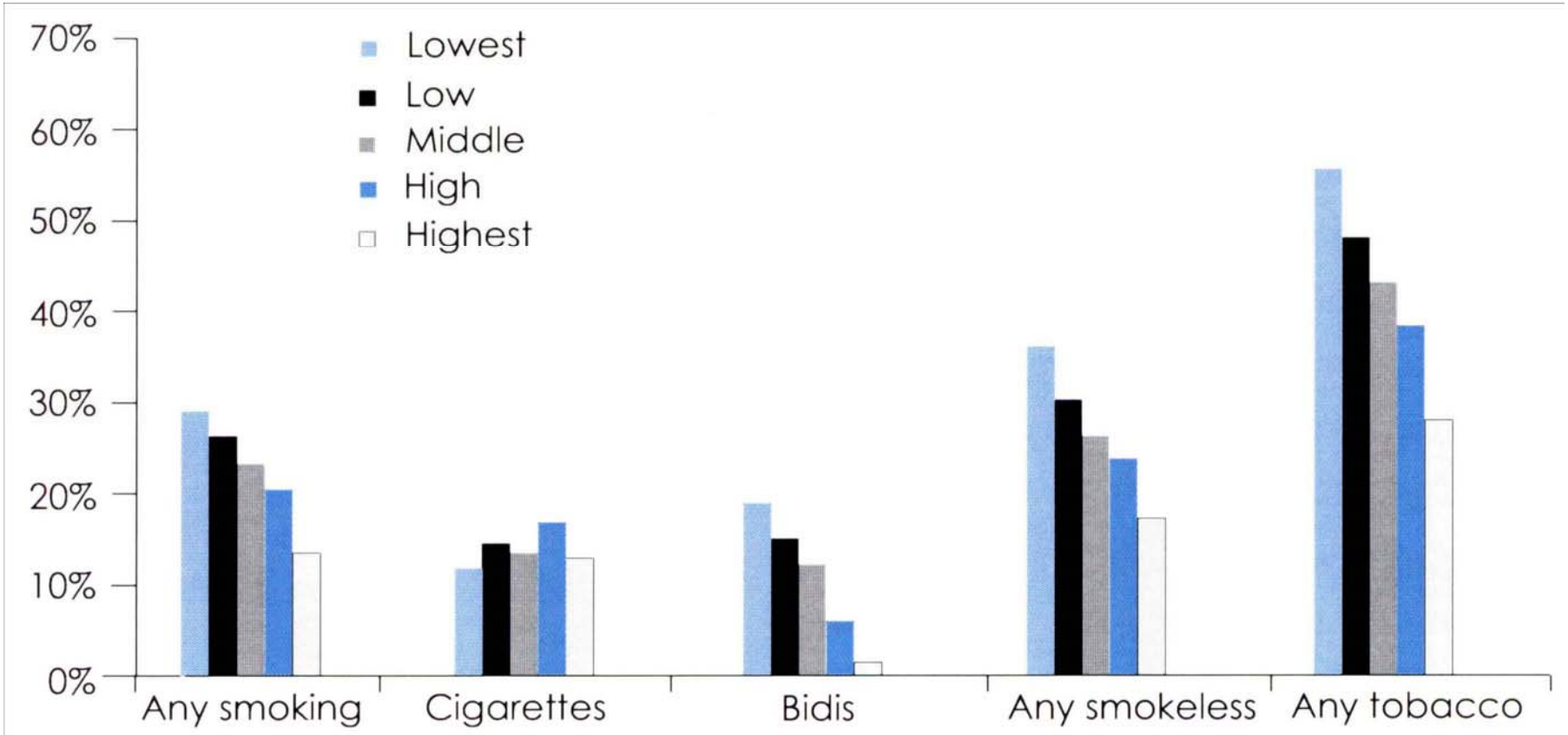
Figure 2: Tobacco Use Prevalence by Education, 2009



Source: GTSS, 2009.

Tobacco Economics : Bangladesh Context *… contd…*

Figure 3: Tobacco Use Prevalence by Wealth Quintiles, 2009



Source: GTSS, 2009.

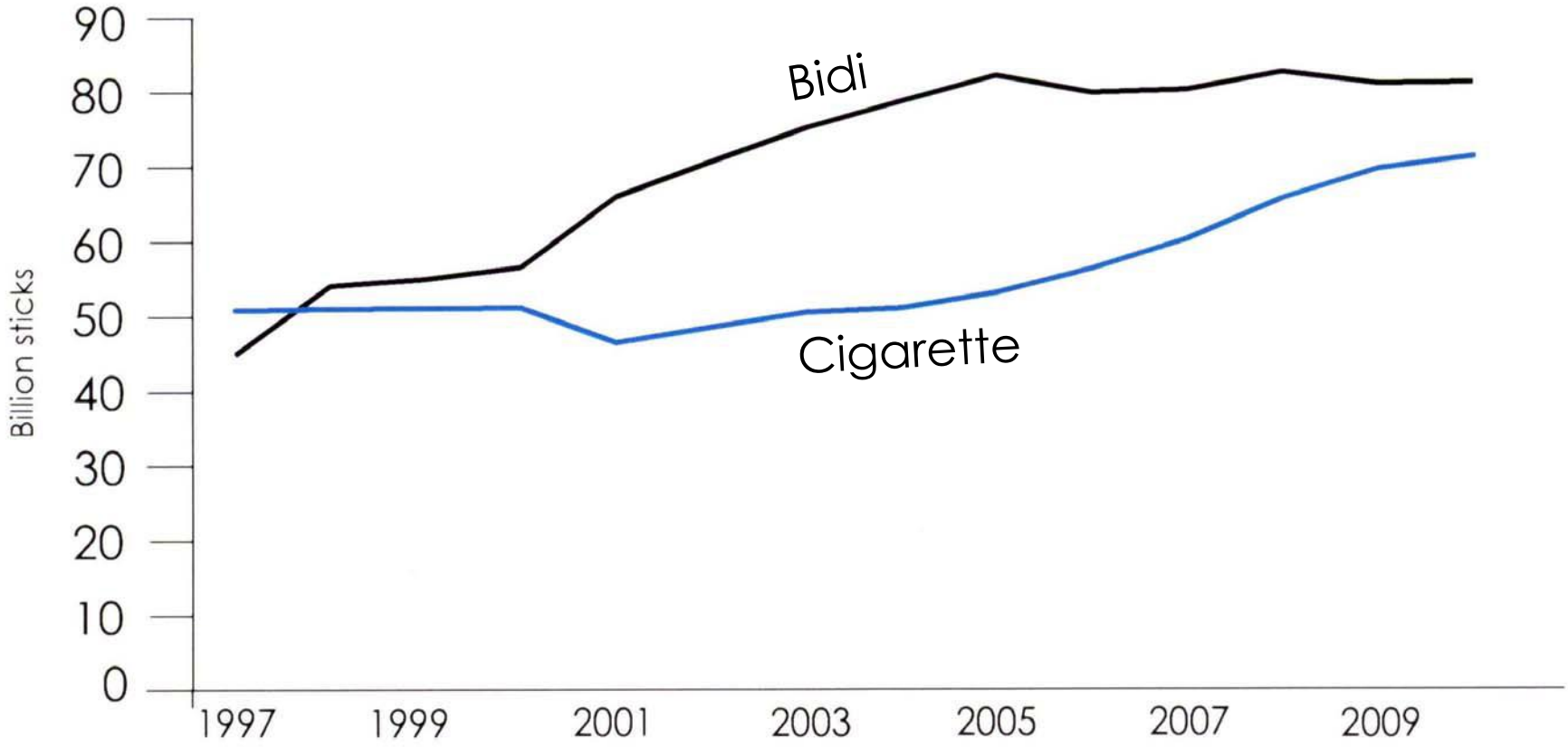
Tobacco Economics : Bangladesh Context *… contd…*

Tobacco Product Consumption

- ✓ Both cigarette and bidi consumption has been rising
- ✓ Bidi consumption has outpaced population growth
- ✓ Between 1997 and 2010, cigarette consumption rose by 40%, from 50.9 billion to almost 71.4 billion cigarettes
- ✓ Between 1997 and 2010, bidi consumption rose by 80%, from 43 billion to over 81 billion bidis.

Tobacco Economics : Bangladesh Context *… contd…*

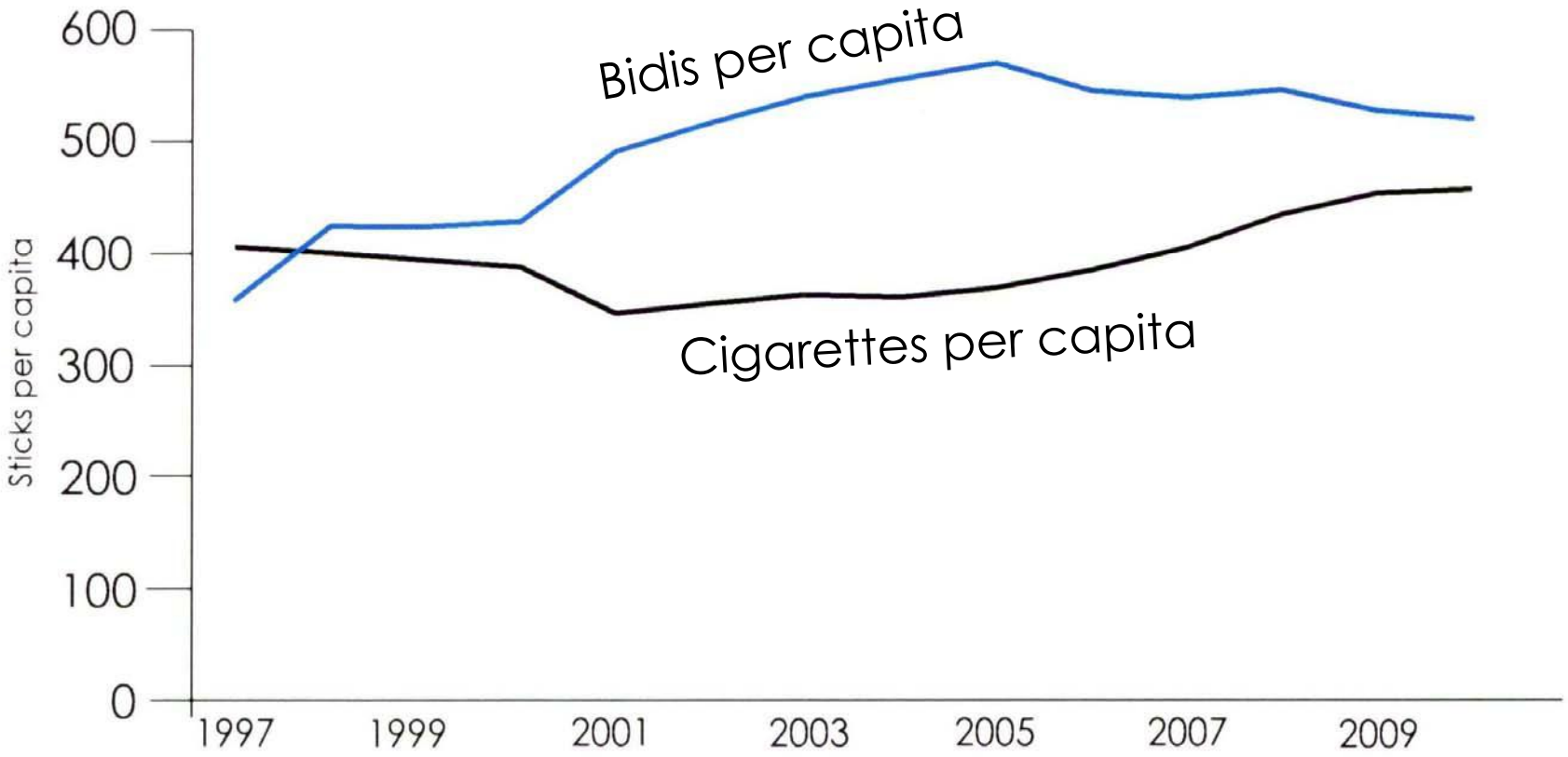
Figure 4: Estimated Cigarette and Bidi Consumption, 1997-2010



Source: Euromonitor, 2011 and official statistics.

Tobacco Economics : Bangladesh Context *… contd…*

Figure 5: Estimated Cigarette and Bidi Consumption per Capita, 1997-2010



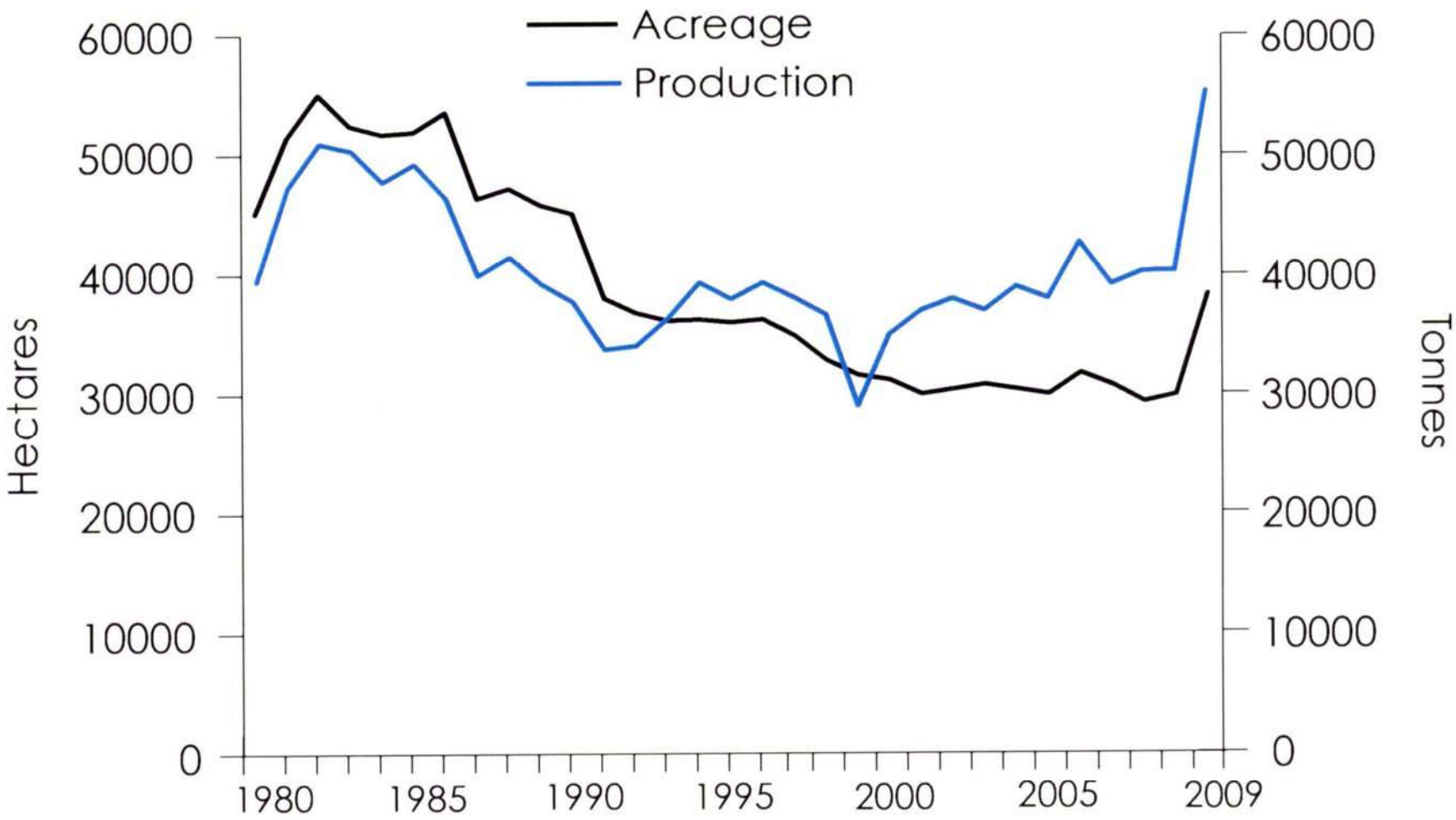
Source: Euromonitor, 2011; US Census Bureau; and authors' calculations

Economics of Tobacco: Key Issues

- ✓ It is argued that tobacco is a source of
  - ➢ Employment
  - ➢ Revenue
  - ➢ Foreign exchange
  - ➢ Reduction in tobacco farming will hurt economy and cause poverty
- ✓ But reality is different:
  - ➢ Bangladesh ranks 20th among the tobacco producing countries
  - ➢ Bangladesh produces 0.7% of total leaf produced by top 20 nations
  - ➢ Between 1980 and 2010, the acreage under tobacco production has reduced and amount of production reduced
  - ➢ Contribution of tobacco manufacturing is 1% of GDP
  - ➢ Employment in tobacco (agriculture and manufacturing) constitute only 0.5% of total labour force
  - ➢ Bangladesh is a net importer of tobacco products
- ✓ Tobacco industry contributes 9% of total tax revenue.

Economics of Tobacco: Key Issues *…contd…*

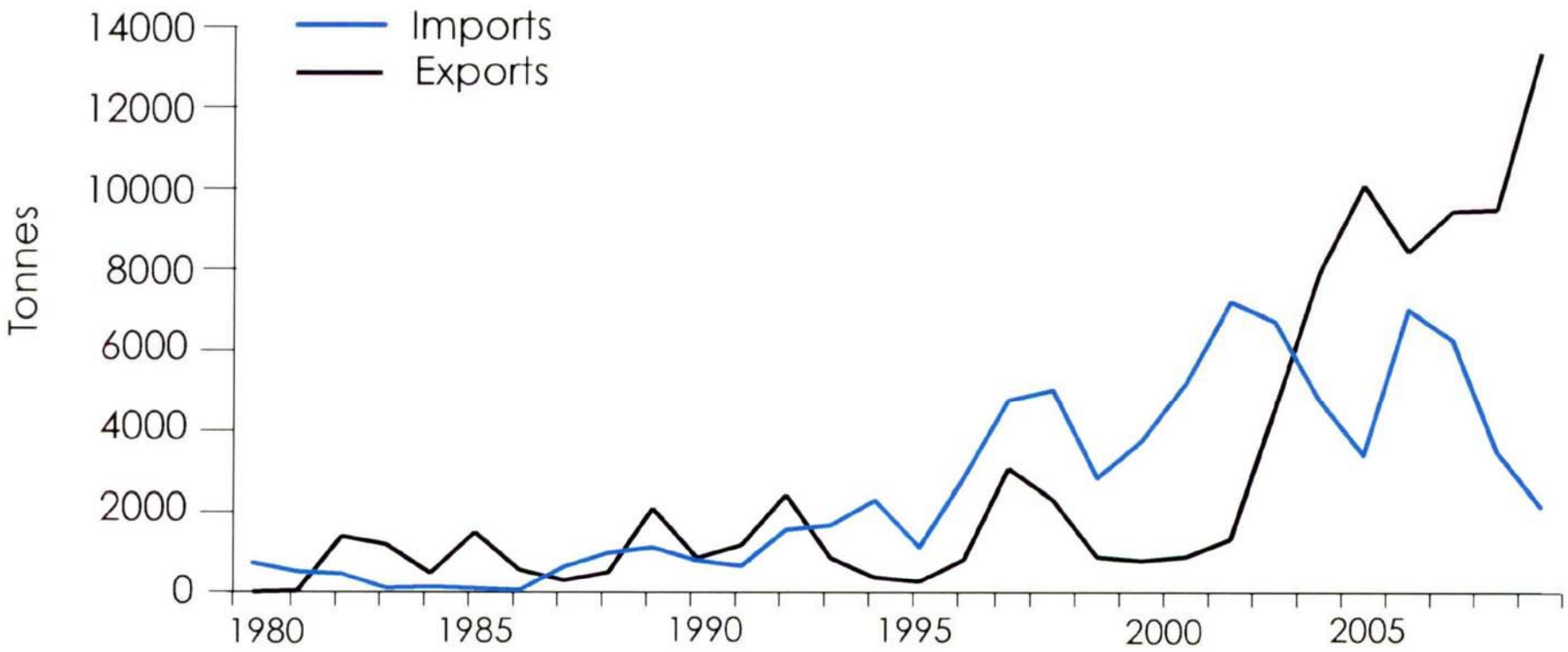
Figure 6: Tobacco Agriculture, 1980-2010



Source: FAOSTAT, 2011

Economics of Tobacco: Key Issues *…contd…*

Figure 7: Tobacco Leaf Imports and Exports, 1980-2009



Source: FAOSTAT, 2011

Economics of Tobacco: Key Issues *…contd…*

Cigarette and Bidi Manufacturing

- ✓ Cigarette manufacturing is highly concentrated, while bidi manufacturing is much more fragmented
- ✓ Cigarette markets are dominated by two firms – British American Tobacco (BATB, multinational) and domestic Dhaka Tobacco Industries (DTI of Akij Group).
  (In 2010) BATB market share 46% (largely focuses on premium segment), DTI's 40% (lower prices brands)
- ✓ Total number of bidi manufacturers 9,624 (96% household based).
  Top 4 firms account for almost 50% market (Akij, Aziz, Ansar, Nasir).

Economics of Tobacco: Key Issues *…contd…*

Table 2: Cigarette Company Market Shares, 2000-2010

Company	2000	2002	2004	2006	2008	2010
BATB	55.0%	50.4%	51.6%	54.0%	45.5%	45.8%
Domestic Manufacturers	44.7%	49.4%	48.1%	45.7%	54.3%	54.1%
Imports	0.3%	0.2%	0.3%	0.3%	0.2%	0.1%

Source: ERC Group, 2010.

Economics of Tobacco: Key Issues *…contd…*

Table 3: Cigarette Brand Shares based on household survey data, 2009

Brand	Company	2010
Star	BATB	25.6%
Sheikh	DTI	18.3%
Navy	DTI	13.7%
Gold Leaf	BATB	10.3%
Marise	AKTC	8.9%
Others	---	23.2%

Source: GTSS, 2009.

Note: Reflects responses among smokers of manufactured cigarette to a Global Adult Tobacco Survey (GATS) question on last brand purchased.

Economics of Tobacco: Key Issues *…contd…*

Table 4: Bidi Brand Shares based on household survey data, 2009

Brand/Company	2010
Akij	29.1%
Aziz	10.8%
Ansar	4.8%
Nasir	4.7%
Others	50.6%

Source: GTSS, 2009.

Note: Reflects responses among bidi smokers to GATS question on last brand purchased.

Cost-Benefit of Tobacco Use

- ✓ Two types of costs associated with tobacco consumption:
  1. **Direct costs** 2. **Indirect costs**
- ✓ **Direct costs** refer to:
  - ➢ Out-of-pocket expenditures borne by households
  - ➢ Costs borne by public sector health system.
- ✓ **Indirect costs** refer to costs due to premature deaths and disabilities of smokers.
- ✓ **Benefits** of tobacco consumption are related to:
  1. Tax revenue collected on domestic tobacco consumption
  2. Net wages earned in tobacco sector.

Cost-Benefit of Tobacco Use *… contd…*

- ✓ Tobacco use kills 57,000 people (in Bangladesh) each year – about 1 in 6 deaths among people ages 30 yrs and older
- ✓ Cigarette and bidi smokers die 6-10 years earlier than their non-smoker counterparts
- ✓ Annual tobacco-attributable illness cases: 1.2 million cases of lung cancer, cerebro-vascular disease, coronary artery disease, chronic obstructive pulmonary disease and other related
- ✓ (conservative estimate based on 25% of those experiencing a disease caused by tobacco would seek inpatient care) Annual health care costs attributable to tobacco-related illness, Tk. 6,760 cr; Lost productivity costs, Tk. 8,030 cr.; Total benefit, Tk. 3,330 cr. Economic costs of tobacco use, Tk. 14,770 cr. (over 3% GDP). Net costs on society due to tobacco use, Tk. 2,730 cr.

Costs -Benefits of Tobacco Use *...contd.…*

Table 5: Costs and Benefits of Tobacco Use (billion Tk. in 2007-08 prices)

Description	Percentage of patients with tobacco-related illnesses receiving inpatient care			
	25%	50%	75%	100%
Direct costs of medical care	***67.6***	***106.0***	***145.8***	***184.4***
Health system cost	21.6	38.3	55.5	72.0
Out-of-pocket cost	45.8	67.7	90.5	112.4
Indirect costs	***80.3***	***94.3***	***108.6***	***122.6***
Loss of net-wages due to deaths	40.6	55.2	70.4	85.1
Current year loss of net-wages due to disability	39.8	38.9	38.3	37.5
Total costs imposed on society due to the prevalence of tobacco-related illnesses	***147.7***	***200.2***	***254.5***	***307.0***
Total cost imposed on society directly due to tobacco usage (41%)	***60.6***	***82.1***	***104.3***	***125.8***
Total benefit	***33.3***	***33.3***	***33.3***	***33.3***
Total revenue collected	27.3	27.3	27.3	27.3
Net-wage labor earned	6.0	6.0	6.0	6.0
Net costs on society due to tobacco usage	***27.3***	***48.7***	***71.0***	***92.5***
US$ equivalent in 2007-08 (billion) at US$1 = Taka 68.58	*0.40*	*0.71*	*1.04*	*1.35*

Source: Acharya et al (2006)

Tobacco Control Act in Bangladesh

Acts: FCTC, BTCA

- ✓ Bangladesh has signed the WHO **Framework Convention on Tobacco Control (FCTC) in 2003** to adopt comprehensive policies to curb tobacco use.
- ✓ Adopted **Smoking and Tobacco Product Usage (control) Act, 2005**
- ✓ **Bangladesh Tobacco Control Act 2005** does not mention following:
  - ➢ Tax measures to reduce tobacco consumption
  - ➢ Measures to promote cessation of tobacco use
  - ➢ Adequate treatment for tobacco dependence
  - ➢ Awareness and participation of public & private agencies
  - ➢ Gender specific rule for tobacco control
  - ➢ Smokeless tobacco use (highly prevalent among women)
  - ➢ Adequate pictorial warning in cigarette packets.
- ✓ We **still don't have** a **national agency for tobacco control and tobacco prevention** to address the comprehensive policies recommended by WHO as part of MPOWER package (monitor, protect, offer, enforce, raise).

Tobacco Taxes, Prices and Demand

- ✓ **Cigarette** tax structure is complicated with a tiered structure which imposes different *ad valorem* taxes based on retail cigarette price slabs.
- ✓ **Bidis** are taxed at a much lower rate, with the effective rate reduced even further by taxing on an artificially determined "tariff value" rather than actual retail price.

Tobacco Taxes, Prices and Demand *…contd..*

- ✓ Excise taxes account for just over half of retail cigarette prices on average, while total taxes on cigarettes account for almost two-thirds of retail prices. This is below the level in countries that have taken a comprehensive approach to reducing tobacco use, where excise taxes typically account for 70% or more of retail price and total taxes typically account for more than 75% of retail price. As a result, cigarette prices in Bangladesh are among the lowest in the world and bidis are even cheaper.

- ✓ Real cigarette prices (adjusted for inflation) have been falling in recent years and increases in real incomes over the past decade have made tobacco products increasingly affordable.

Tobacco Taxes, Prices and Demand *...contd..*

Table 6: Cigarette Excise Tax Rates, 2007/08 - 2011/12

Price Slab	2007/08	2008/09	2009/10	2010/11	2011/12
Premium	6.0-6.99	6.5-7.5	7.25-8.75	8.4-9.15	11.0-11.3
Tax	32%	32%	32%	33%	36%
High	12.5-13.49	13.25-14.25	16.25-17.25	18.4-19.0	22.5-23.0
Tax	52%	52%	52%	53%	55%
Medium	19-26.9	21-28	23.25-29.25	27.0-32.0	32.0-36.0
Tax	55%	55%	55%	56%	58%
Low	≥35	≥41	≥46.25	≥52	≥60
Tax	57%	57%	57%	58%	60%

Notes: Price slabs are based on prices for a pack of 10 cigarettes. Taxes are imposed on maximum retail price.

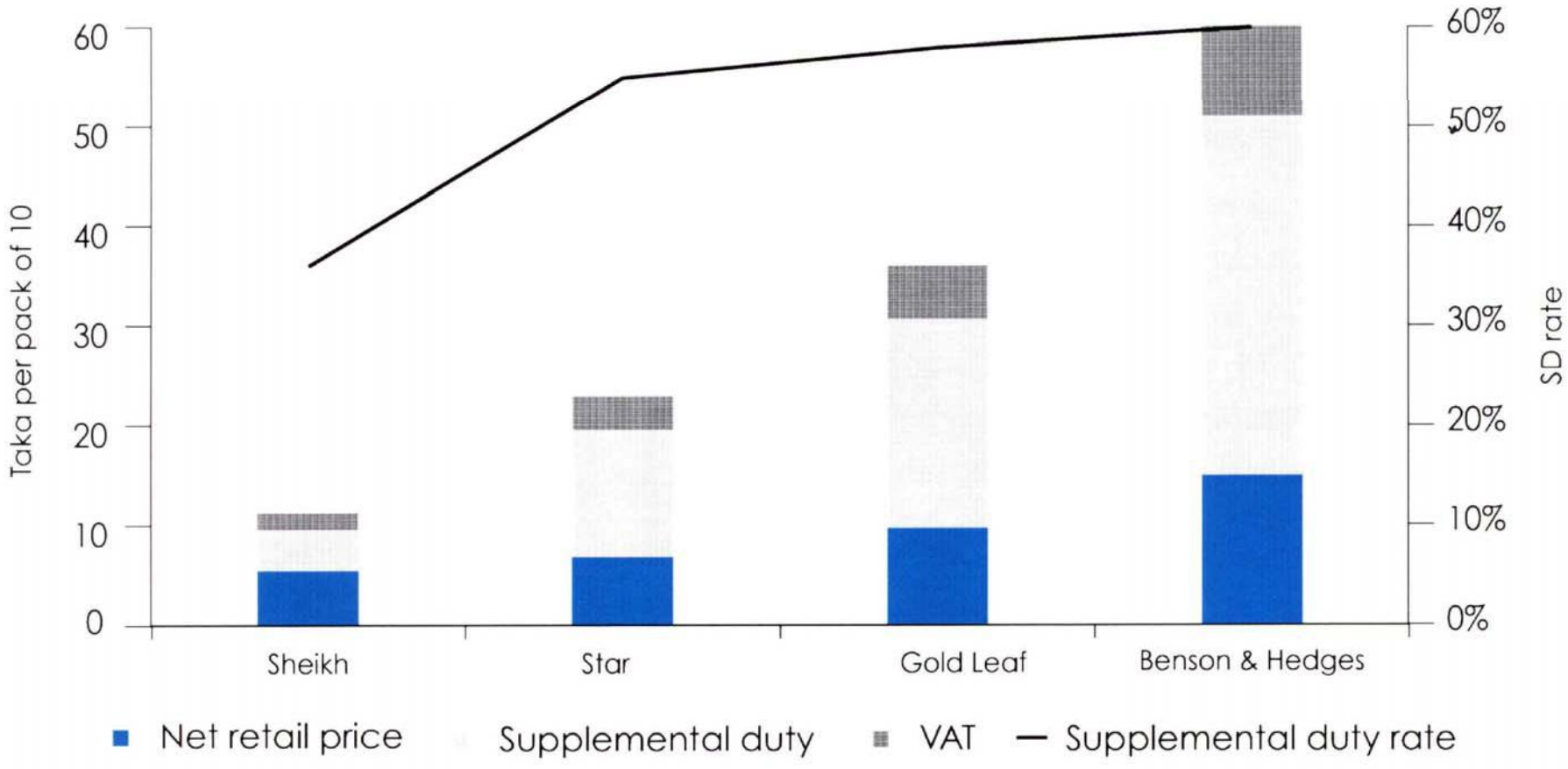
Tobacco Taxes, Prices and Demand *…contd..*

Table 7: Bidi Supplemental Duty (excise) Rates, 2011/12

Tariff Value	Supplementary Duty (excise) rate	Effective excise tax (taka)
Handmade Bidis, Unfiltered		
1.0105 per 8 stick pack	20%	0.20
1.5158 per 12 stick pack	20%	0.30
3.1579 per 25 stick pack	20%	0.63
Handmade Bidis, Filtered		
1.715 per 10 stick pack	25%	0.43
3.43 per 20 stick pack	25%	0.86

Tobacco Taxes, Prices and Demand ...*contd..*

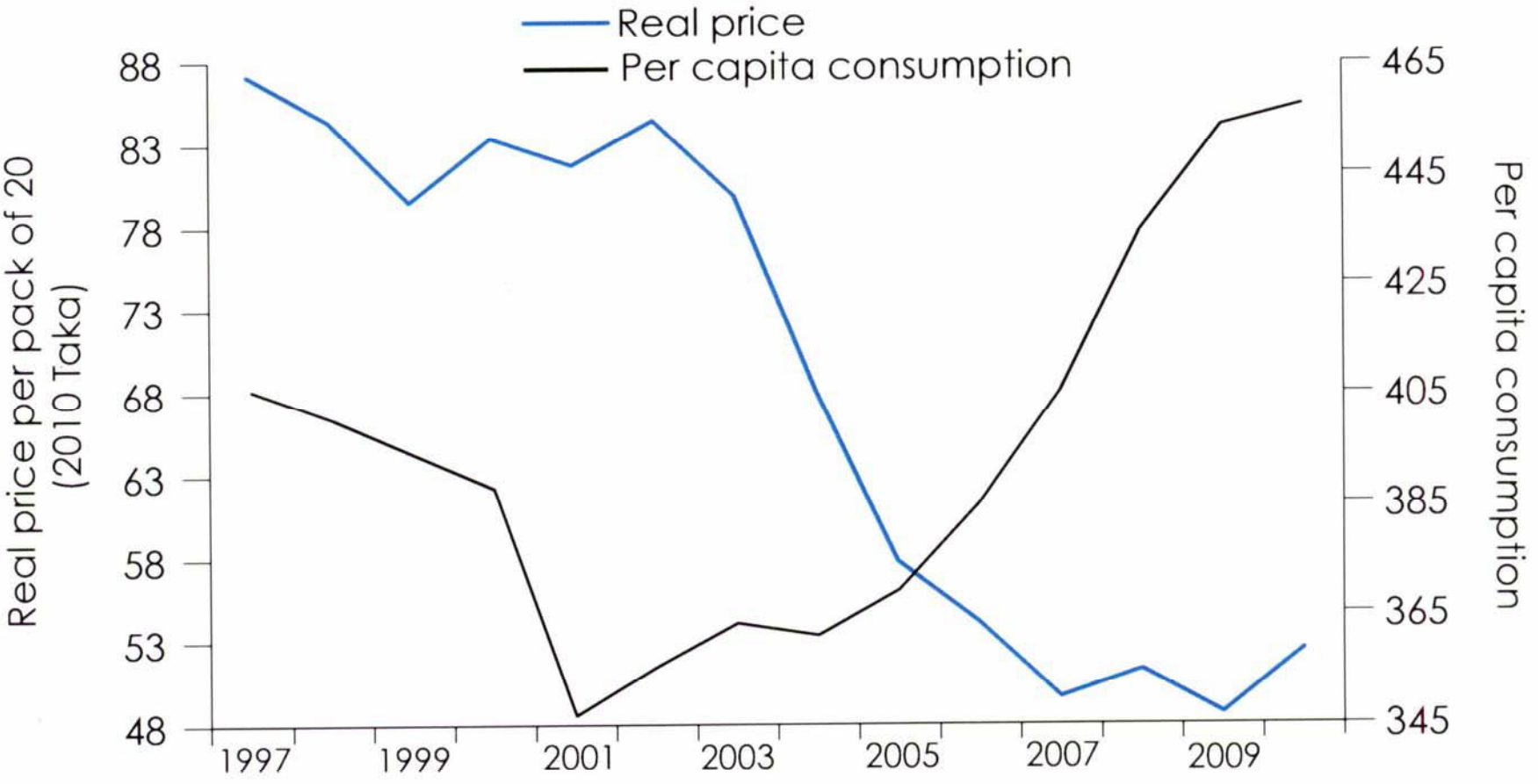
Figure 8: Cigarette Taxes and Prices per Pack of 10 Cigarettes Selected Brands, 2012



Sources: Most popular brand in each category based on GTSS (2009) and ERC Group. Notes: Prices are assumed to be at the top end of each price slab for slabs A, B and C: Premium brand prices are assumed to be twice the minimum price for slab D, based on recent EIU price data.

Tobacco Taxes, Prices and Demand ...*contd..*

Figure 9: Inflation Adjusted Cigarette Prices and Per Capita Cigarette Consumption, 1995-2010



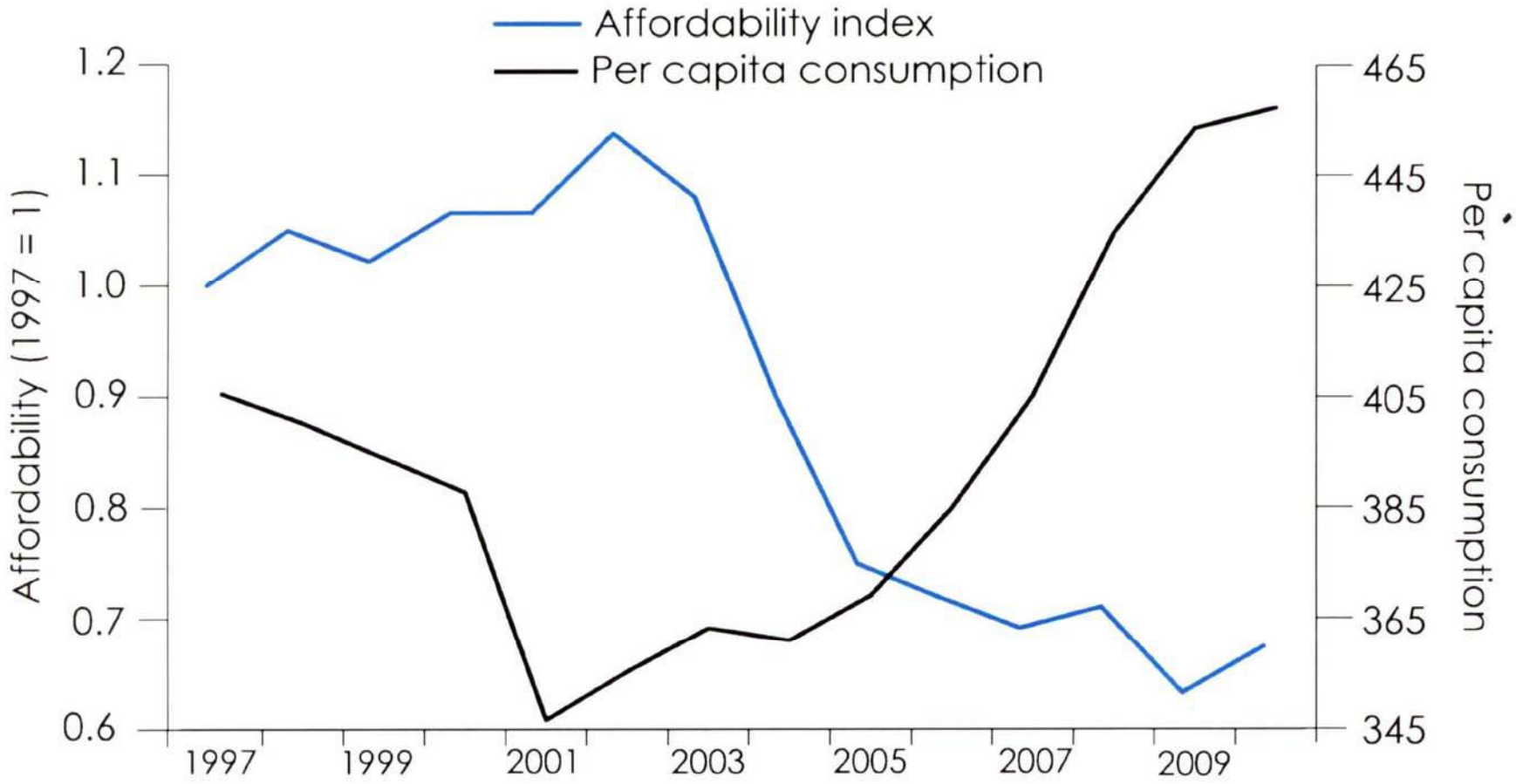
Sources: Euromonitor International, 2011; Economist Intelligence Unit, 2011; World Bank, 2011; and authors' calculations.

Tobacco Taxes, Prices and Demand *...contd..*

- ✓ There is an inverse relationship between tobacco product prices and consumption. Falling cigarette and bidi prices lead to increases in smoking while rising prices will reduce smoking, all else being constant.
- ✓ A 10% increase in average cigarette prices in Bangladesh will lead to an over 5% reduction in cigarette consumption, while a 10% increase in average bidi prices will reduce their consumption by almost 7%.
- ✓ Rising incomes could lead to significantly more smoking in Bangladesh unless steps are taken to reverse this trend.

Tobacco Taxes, Prices and Demand …*contd..*

Figure 10: Cigarette Affordability and Per Capita Cigarette Sales, 1997-2010

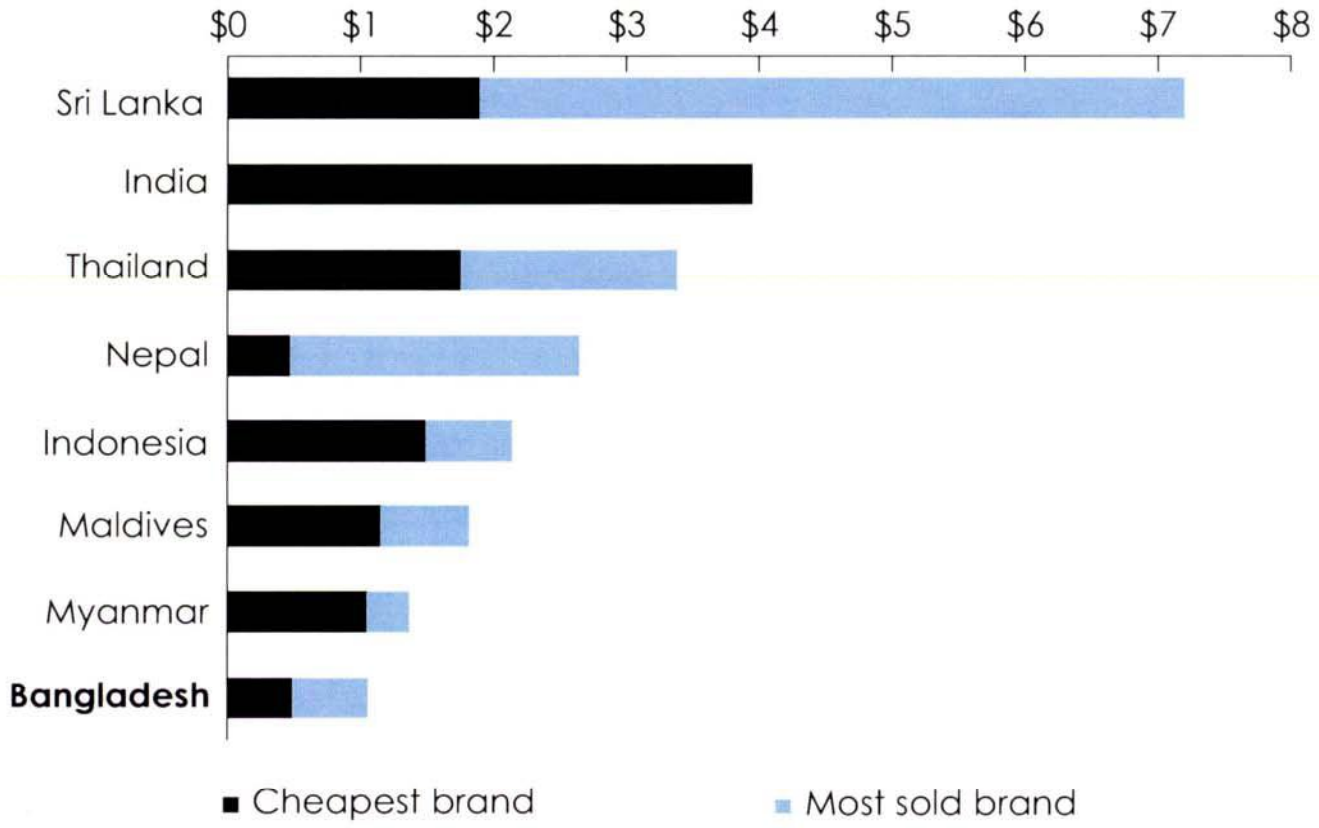


Sources: ERC Group, 2010; Economist Intelligence Unit, 2011; World Bank, 2011; and authors' calculations.

Note: The affordability index here is the ratio of pack prices to annual per capita income. Cigarettes are becoming less affordable as the affordability index rises and are becoming increasingly affordable as the affordability index falls.

Tobacco Taxes, Prices and Demand *…contd..*

Figure 11: Prices of Pack of Most Sold and Cheapest Brands of Cigarettes in International (Purchasing Power Parity – adjusted) Dollars, South East Asia Region, 2010



Source: WHO, 2011.

Notes: Prices are for a pack of 20 cigarettes. Data not reported/not available for: Democratic People's Republic of Korea. PPP not available for: Timor-Leste. It is illegal to sell cigarettes in Bhutan. Data for Bangladesh are based on Star and Sheikh brand prices rather than the prices reported by WHO. International dollars (or PPP-adjusted dollars) are used instead of conversions as the official exchange rate to enable better comparison: An international dollar has the same purchasing power as the U.S. dollar has in the United States.

Tobacco Taxes, Prices and Demand ...*contd..*

Table 8: Estimated Price Elasticities of Cigarette and Bidi Demand from International Tobacco Control Policy Evaluation Project (ITC) Bangladesh Surveys, 2009 & 2010

	2009		Pooled 2009 & 2010	
	Cigarettes	Bidis	Cigarettes	Bidis
Prevalence	–0.29***	–0.46*	–0.44***	0.03
Conditional Demand	–0.14***	–0.18	–0.22***	–0.22**
Total	–0.43	–0.64	–0.66	–0.22

Sources: Nargis, et al. (2010, 2011).

*Notes: ***, **, and * represent estimates statistically significant at the 1%, 5%, and 10% significance levels, respectively.*

Note: Price elasticity of demand is defined as the ratio of percentage change in quantity demanded to a percentage change in price. The negative value of total price elasticity of cigarettes (for instance, -0.43 and -0.66) indicates that an increase in the price of cigarettes leads to a decrease in its purchase (a negative number). The demand for cigarettes is relatively less elastic. Total price elasticity -0.43 and -0.66 implies that 1% increase in the price of cigarettes leads to the reduction of consumption by 0.43% and 0.66% respectively.

Impact of Tax Increases on Public Health and Tax Revenues

Eliminating tiered tax structure and adopting a uniform specific **excise tax** of

Tk. 34 per 10 cigarettes

Would result in

- cigarette excise tax accounting for 70% of retail prices (as recommended by WHO)
- raise average cigarette price by 130%
- reduce consumption by 66%
- quit 7 million current smokers
- prevent 7 million youth from initiating smoking
- preventing 6 million premature deaths (caused by tobacco use in current population cohort)
- generate > Tk. 1,500 cr (US$ 200 million) in new cigarette tax revenues.

Impact of Tax Increases on Public Health and Tax Revenues *…contd…*

Levying a uniform specific **excise tax** of

Tk. 4.9 per pack of 25 bidis (40% of average retail prices) and applying VAT to actual retail price

Would result in

- 3.4 million adult bidi smokers to quit
- prevent 3.5 million youth from initiating bidi smoking
- preventing 2.5 million premature deaths (caused by tobacco use in current population cohort)
- generate > Tk. 720 cr (US$ 87.5 million) in new bidi excise tax revenues.

Possible Impact of Tobacco Tax Increase

Impact of tax-cum-price options on
EMPLOYMENT, POVERTY, & ILLICIT TRADE

Points to consider:

- ✓ Reduced consumption will reduce opportunity cost of tobacco use (foregone essential food & non-food items) which is high among poor.
- ✓ Reduced consumption will reduce net cost imposed on society due to tobacco use.
- ✓ Poor will receive greater portion of reduced net cost.
- ✓ Production and distribution chain monitoring system needs to be strengthened
- ✓ Tobacco-dependent jobs may be offset by increase in jobs in other sectors.

Recommendations

1. Eliminate the use of price slabs as the basis for differential taxation.
2. Adopt a uniform specific cigarette excise tax that significantly raises cigarette prices and reduces tobacco use.
3. Increase bidi taxes substantially through a high uniform specific bidi excise tax that significantly raises bidi prices and reduces use.
4. Increase taxes on other tobacco products to be equivalent to cigarette taxes and to reduce the use of these products.
5. Implement annual adjustments to specific excise tax rates so that they retain their real value over time.
6. Implement annual adjustments to excise tax rates on tobacco products so that they result in increases in product prices that are at least as large as increases in incomes.
7. Strengthen tobacco tax administration, improve enforcement, and tax duty-free sales of tobacco products in order to reduce tax evasion and avoidance.
8. Earmark tobacco tax revenues for health purposes, including health promotion and tobacco control.

THANK YOU