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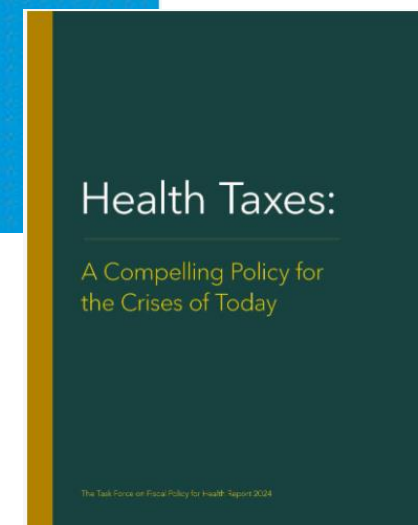
# Mobilizing Health Taxes for Development: Tobacco Taxation in the ASEAN region

Rajeev Cherukupalli, PhD  
March 31, 2025

# Tobacco taxes work !

## Our job is to help policymakers choose well

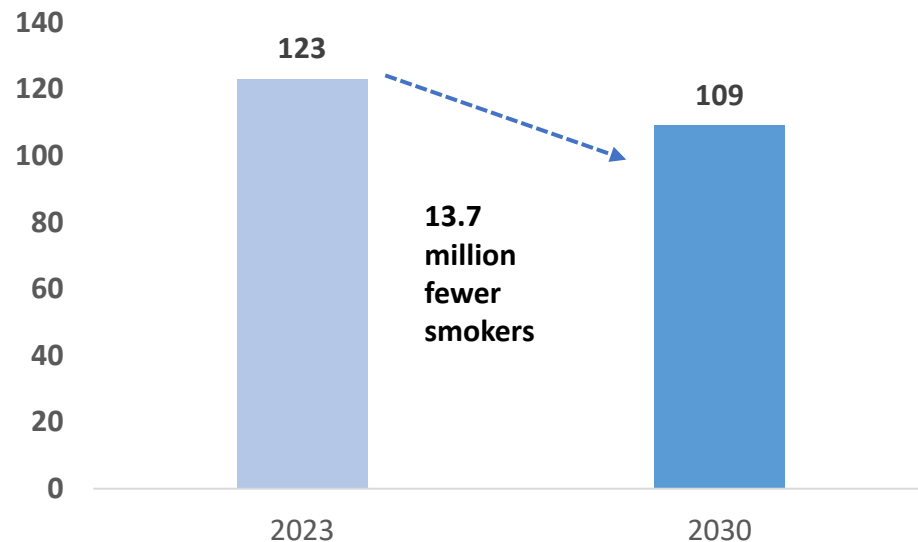
- ▶ **Strategic opportunity:** ASEAN's excise tax forum and intergovernmental conversations (Lao PDR, 2023)
- ▶ **Universal themes for tobacco taxes as a health and financing tool**
  - ▶ Tobacco taxes are low and underused
  - ▶ Health burden of tobacco use is large, generational, and destroys human capital
  - ▶ Strong economic evidence base on demand reduction (robust elasticity findings)
    - Just the health benefits are reason enough
    - The revenue gains are substantial – health
- ▶ **Modeling notes**
  - ▶ Ambitious→ Countries have a lot of catching up to do
  - ▶ Realistic→ Tax structures, initial economic conditions, policymaker receptivity all vary
  - ▶ Practical→ **We do not need to reinvent the wheel.** “Quick and dirty” works well!



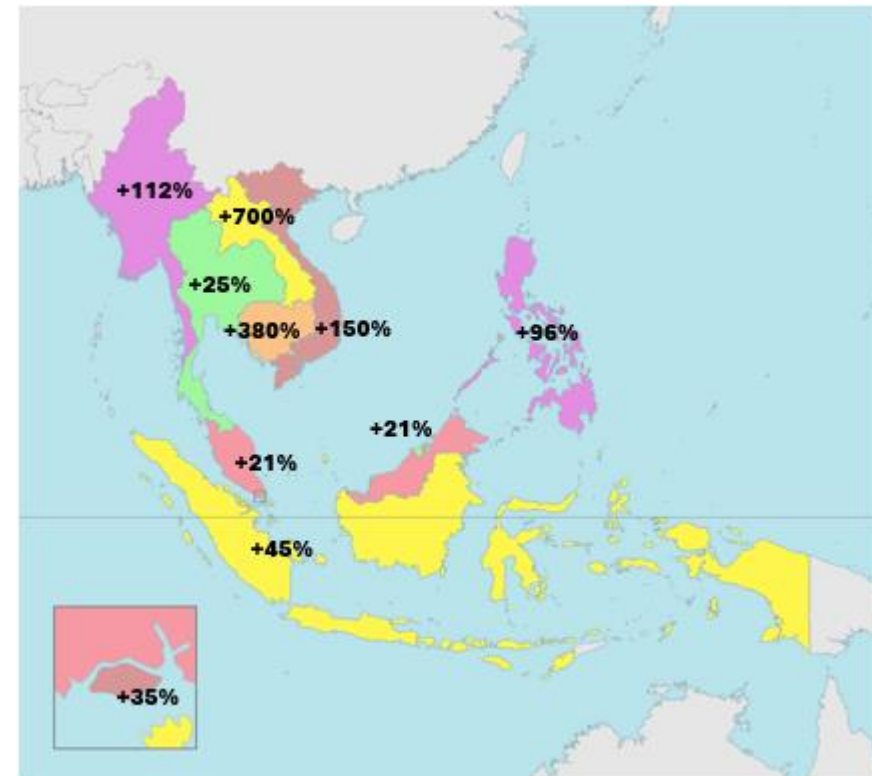
# Takeaway: taxes that reduce smoking prevalence by 13 million over 7 years deliver large revenue gains in all ASEAN countries

Accelerating prevalence declines..

10-country model predicts large declines in cigarette use with revenues



...raises tax revenues (2030 vs 2023, real)



# Tobacco Taxation for development in the ASEAN region



## ► **Technical Report draft** submitted December 2023

### ► **Motivation and situational summary:** of the tobacco use and tax environment in the ASEAN countries (focusing on cigarettes)

- A high prevalence with some progress but high youth use
- Tobacco taxes are low, real prices have fallen and cigarettes have become more affordable in many countries

### ► **Model**

- Using data on prevalence, prices, demand responsiveness, we estimated the tax increases needed for countries alter the trend of tobacco use between 2024 and 2030 and deliver domestic revenue gains

### ► **Recommendations**

Following the **13<sup>th</sup> ASEAN SF-ET**,

**2023:** Collaboration WHO and ADB

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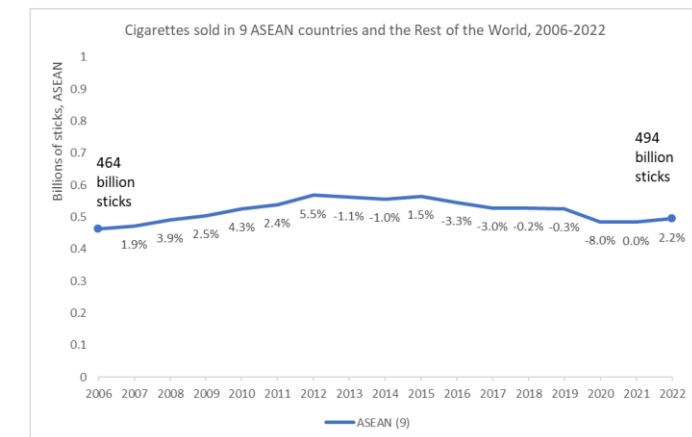
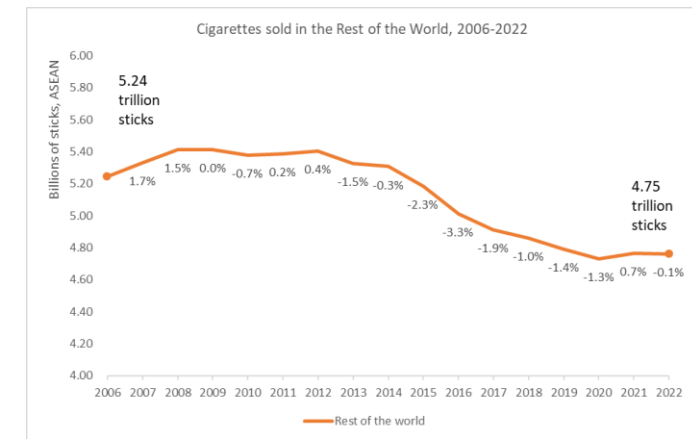
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individuals are affiliated with,  
including Johns Hopkins University  
and the World Health Organization  
(Cherukupalli)

# High rates of adult and youth tobacco use in the ASEAN region contribute to a large tobacco market



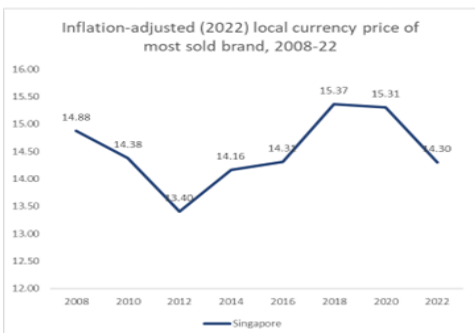
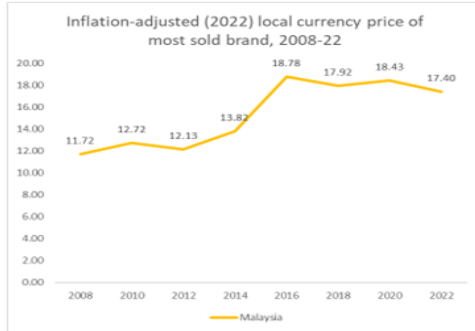
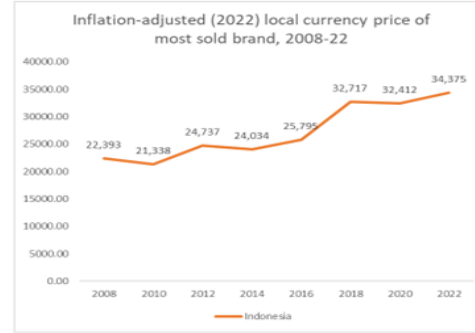
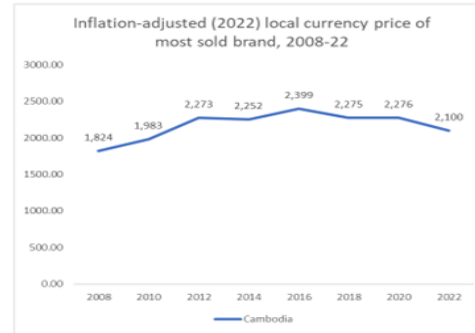
- ▶ The size of the cigarette market, i.e. sticks sold, has stayed **stable** or **grown** in the ASEAN region (7% larger in 2022 vs 2006)
- ▶ By contrast global sales outside ASEAN **declined** (9% smaller in 2022 vs 2006)
- ▶ 37 to 70% of men in ASEAN countries use tobacco (WHO, 2021)
- ▶ In some ASEAN countries, over 20% of children age 13-15 report using tobacco (WHO, 2023) . Low prices encourage youth use

Volumes of cigarettes sold **outside** and **within** the ASEAN region



Authors' computations from Euromonitor, 2023

# Cigarette product prices adjusted for inflation have stagnated or even fallen over time in many ASEAN countries



- ▶ Are real prices rising consistently over time?
- ▶ In fact, cigarette prices **fell in real terms** in many instances over the past 14 years
- ▶ Real prices of most sold cigarette brands in 2022 vs 2008
  - ▶ **lower** in 3 countries
  - ▶ **higher** by 1 to 49% in 4 countries
  - ▶ **appreciably higher** (over 50%) in only 2 cases



Data source: WHO Report on the Global Tobacco Epidemic, 2023 and earlier years

# Many ASEAN countries fall short of a 30% relative reduction in cigarette use by 2030



## ASEAN progress and projected current cigarette use

	Actual Prevalence 2015	Actual Prevalence 2022	2030 30% relative reduction vs 2015	2030 Projected (2023 WHO Trends report)
Brunei Darussalam	14.6	14.4	10.2	14.1
Cambodia	16.4	13.5	11.5	10.4
Indonesia	31.7	33.4	22.2	35.3
Lao People's Democratic Republic	23.8	20.5	16.7	17.6
Malaysia	20.3	18.2	14.2	16.0
Myanmar	17.7	14.8	12.4	12.3
Philippines	22.3	18.9	15.6	15.8
Singapore	14.9	14.6	10.4	14.2
Thailand	19.7	17.9	13.8	15.9

WHO's Global Action Plan for Prevention of Noncommunicable Diseases, 2013-2020 (NCD Gap) has a target to reduce global prevalence of tobacco use by 30% from 2010 to 2025

We focus on cigarettes, the most common smoked product in the region.

We considered the period 2015-2030. Based on new analysis WHO from 2023,

- Indonesia has an **upward** trend
- Brunei, Lao PDR, Malaysia, Singapore, Thailand and Viet Nam would fall short of a 30% relative reduction in cigarette use

ALL countries must accelerate the decline in cigarette (and tobacco) use - the goal is getting to zero use and tobacco-free future generations

# Modeling considerations - ambition and realism



## ▶ **Strategic**

- ▶ A regional exercise, with simplifying assumptions and a universal message
- ▶ Proof of concept – quick (2-3 months)
- ▶ Simple model – higher taxes raise prices, reduce use and increase revenues
- ▶ Key drivers of death → cigarette use
  - But grounded in data, consensus on parameters, and reasonable assumptions

## ▶ **Work back from the end:**

- ▶ How much consumption reductions/ revenue gains will a tax increase deliver?
- ▶ What tax increases will deliver y% reduction in prevalence? ←we chose this

## ▶ **Simple messaging**

- ▶ Audiences will vary
- ▶ Kept our modeling transparent
- ▶ Willing to explain model limitations and extensions

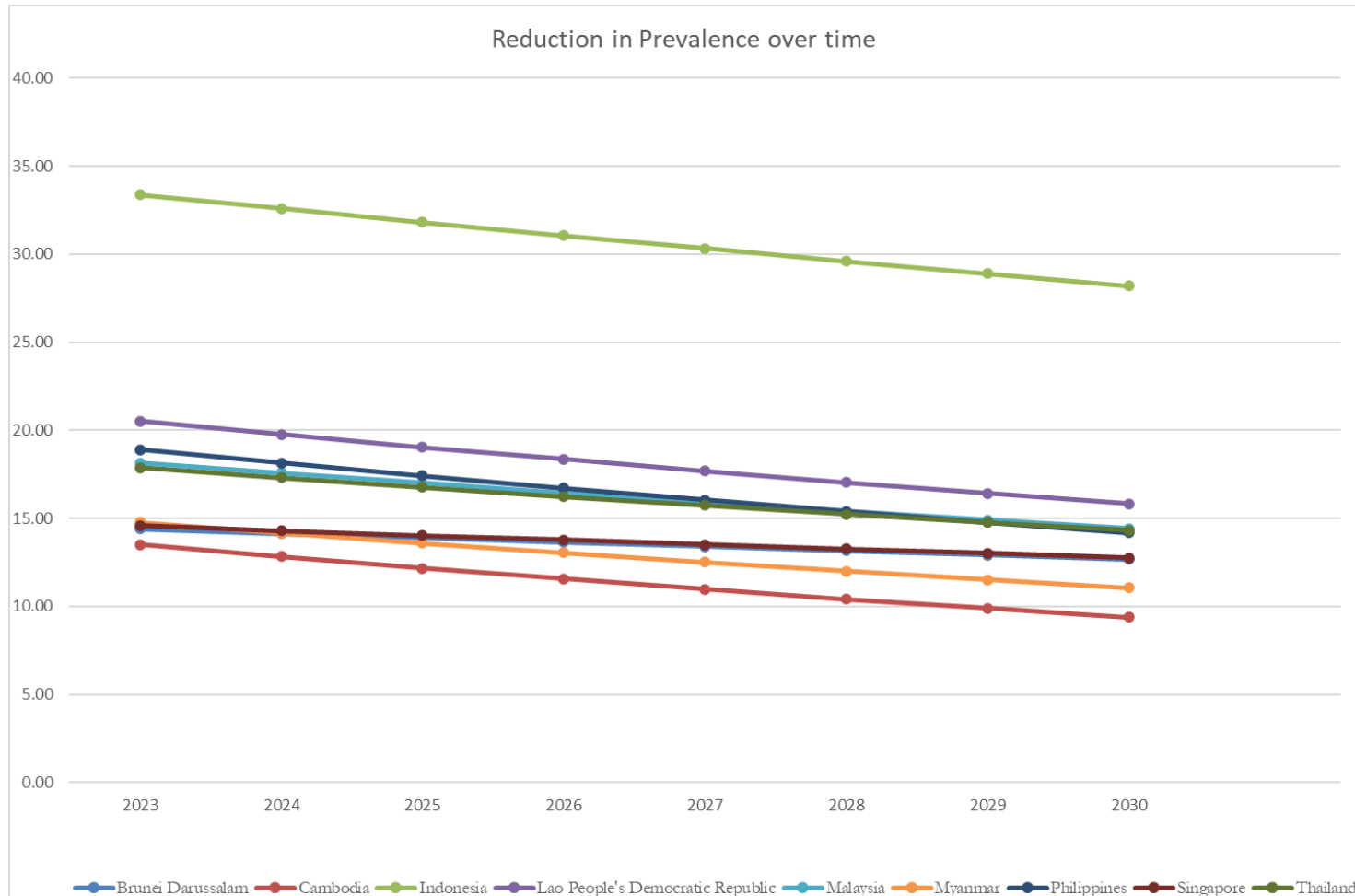
# Tax simulation model: Coming up with 2030 targets



	Prevalence 2015	Actual Prevalence 2022	2030 30% relative reduction vs 2015	2030 <u>Projected</u> (WHO Trends report)	2030 Model end points, 10% lower than projected
Brunei Darussalam	14.6	14.4	10.2	14.1	12.7
Cambodia	16.4	13.5	11.5	10.4	9.4
Indonesia	31.7	33.4	22.2	35.3	28.2
Lao People's Democratic Republic	23.8	20.5	16.7	17.6	15.8
Malaysia	20.3	18.2	14.2	16.0	14.4
Myanmar	17.7	14.8	12.4	12.3	11.1
Philippines	22.3	18.9	15.6	15.8	14.2
Singapore	14.9	14.6	10.4	14.2	12.8
Thailand	19.7	17.9	13.8	15.9	14.3
Viet Nam	17.5	16.5	12.2	15.2	13.6

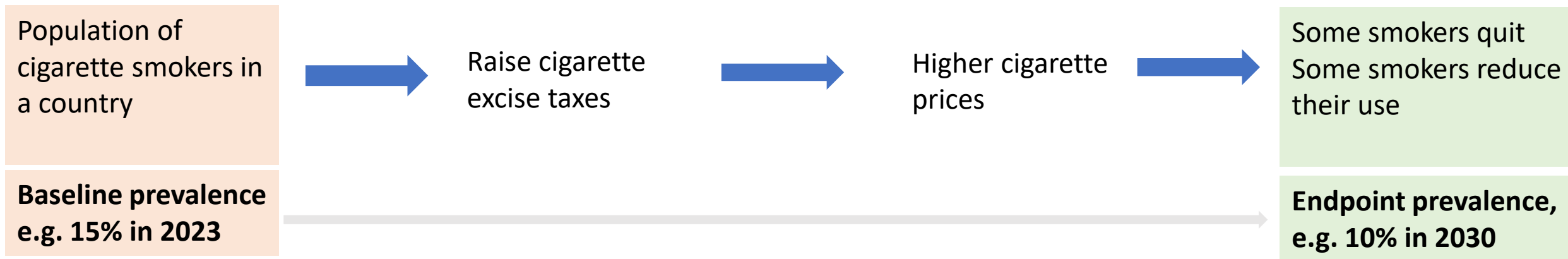
- How much do we wish prevalence to fall by in the next 6 years?
- Ideally – as low as possible!
- As a reasonable target: 30% lower than 2015
- But, since many countries are not on track to reducing cigarette use by 30% by 2030, we selected a less challenging end point → 10% less than their 2030 projected cigarette use prevalence

# Targeted reductions in adult cigarette use through 2030



- Each country's 2030 target prevalence is based on its progress from 2015-2022 trend
- Evidence shows countries can reverse increases or accelerate reductions (Philippines, e.g.)
- Price increases are computed to enable prevalence to decline a **further 10%** for most countries.

# Tax simulation model: Higher taxes to reduce tobacco use

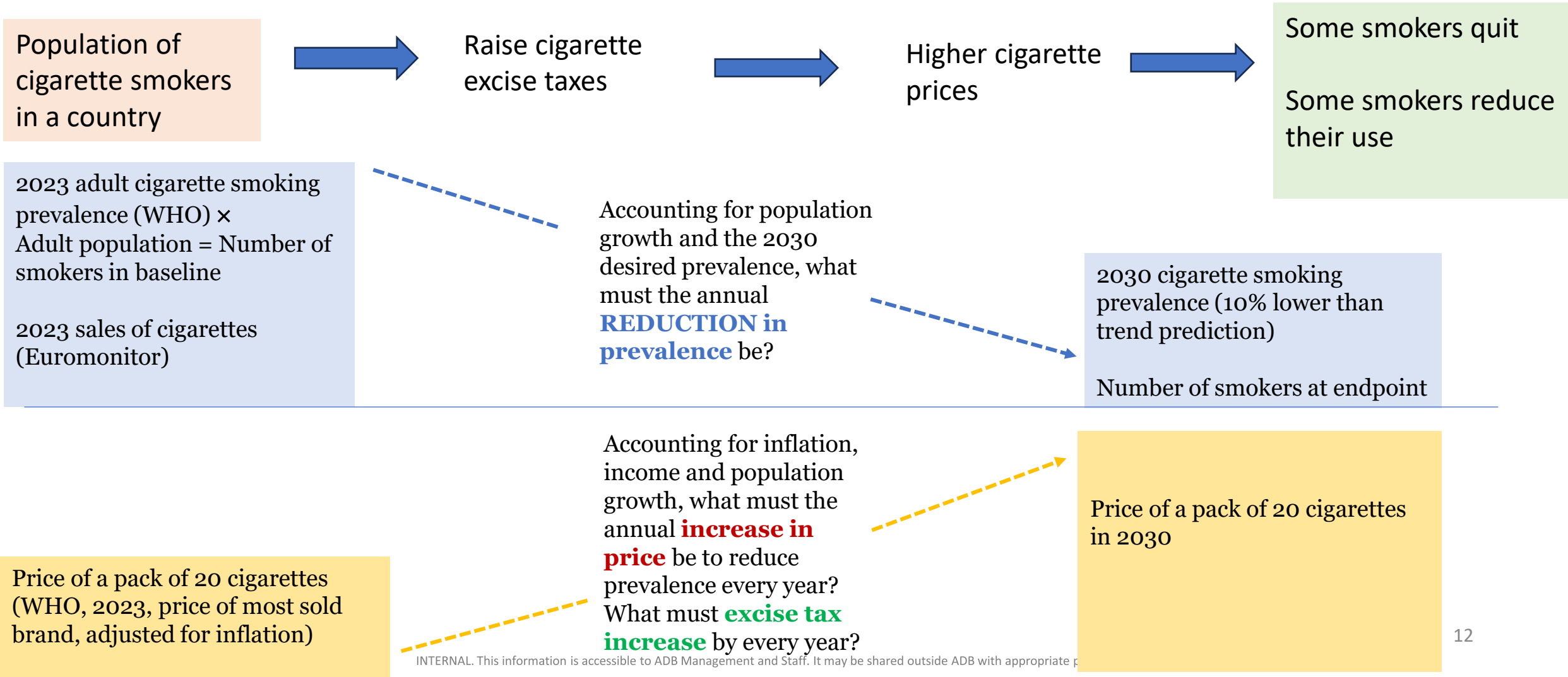


- This is the core structure of all demand models
- The technical report adapts modeling done by the American Cancer Society
- We focus on cigarettes—most used product in the region, with better data

In the **status quo/ business as usual** (without new taxes),

- Countries are already on a trend (**but will not see large reductions in smoking without additional policy action**)
- Population growth increases the market size
- Income growth increases demand and increases the market size
- Inflation erodes the real value of taxes
- Other considerations are usually held constant (often of “second order” importance)

# Model mechanics



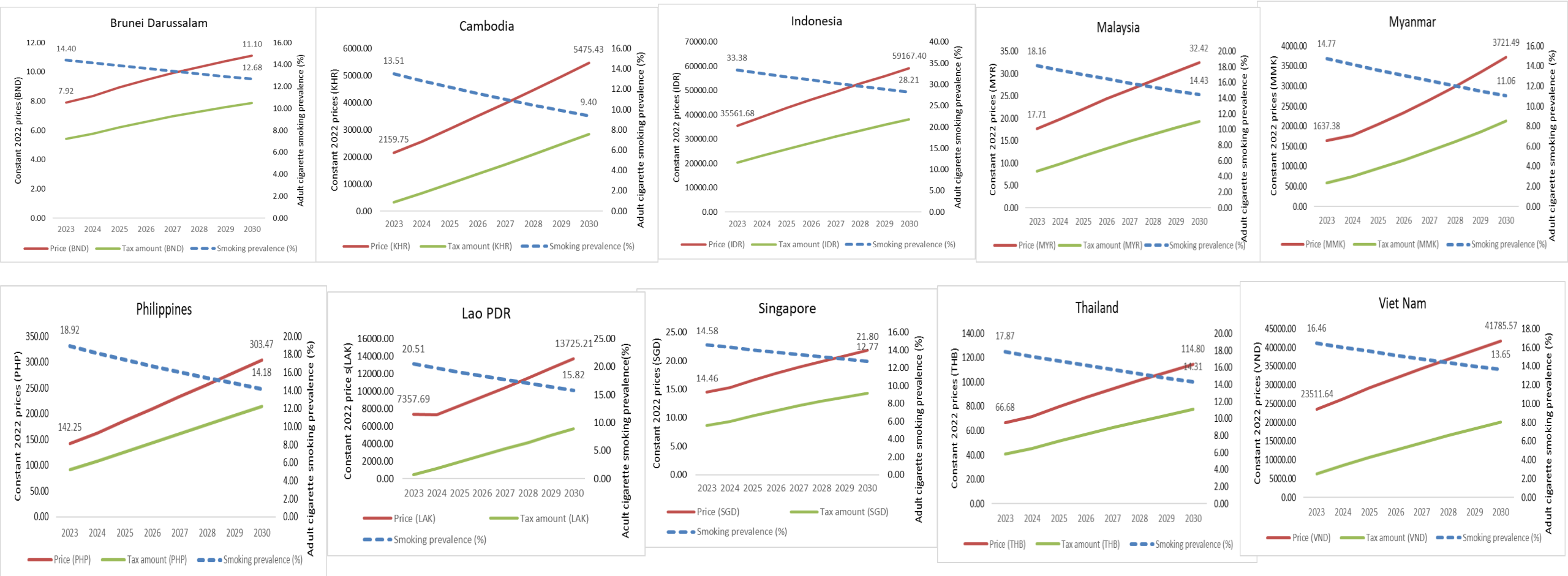
# Baseline and model mechanics: summary



## Baseline and model mechanics

- ▶ Over 123 million adults 15+ smoke cigarettes in the ASEAN region
- ▶ Cigarette use prevalence, excise taxes, prices, cigarette sales volume data from latest sources (2023, WHO and World Bank)
- ▶ Higher tobacco taxes raise product prices and reduce consumption
  - ▶ Model assumption: 10% price increases reduces consumption by 2% (in middle-income) or 1.5% (in high-income countries)
- ▶ Model computes the tax increases needed over 2024-30 to raise prices and reduce consumption enough to achieve prevalence declines
  - ▶ An additional 10% decline over what members are currently on trend to achieve by 2030
- ▶ Cigarette tax increases must account for future inflation, GDP and population growth in each member state
  - ▶ Annual inflation between 0.75 and 9.16 % across ASEAN member states
  - ▶ Annual GDP growth between 2 to 5 %
  - ▶ Annual population growth between 0.3 and 1.9%

# Modeled **tax** and **price** increases to deliver **prevalence** reductions



# Model results – Real price increases and reduced smoking (increases are quite reasonable!)



## Modeled price increases to reduce current cigarette smoking prevalence in ASEAN member states

Country	Currency	2023 prevalence (%)	2030 model target prevalence (%)	2023 baseline price	Modeled 2030 Price (Real 2023 LCU)	% real price increase
Brunei Darussalam	Price (BND)	14.4	12.7	7.9	11.10	40%
Cambodia	Price (KHR)	13.5	9.4	2160	5475.43	154%
Indonesia	Price (IDR)	33.4	28.2	35562	59167.40	66%
Lao People's Democ	Price (LAK)	20.5	15.8	7358	13725.21	87%
Malaysia	Price (MYR)	18.2	14.4	17.7	32.42	83%
Myanmar	Price (MMK)	14.8	11.1	1637	3721.49	127%
Philippines	Price (PHP)	18.9	14.2	142	303.47	113%
Singapore	Price (SGD)	14.6	12.8	14.5	21.80	51%
Thailand	Price (THB)	17.9	14.3	66.7	114.80	72%
Viet Nam	Price (VND)	16.5	13.6	23512	41785.57	78%

- After accounting for inflation, prices in the end period need to be **40 to 154 % higher by 2030** to achieve the needed consumption declines, depending on the country
- The tax reforms that achieve these price increases will depend on countries' current tax structures
- Modeling is necessarily simplified – a single price, tax is introduced as a specific amount
- Simple models have a powerful message → **start today to have a consistent reduction in prevalence**
- Countries may refine these models with updated data and parameters

# Model results – 13.7 million more smokers predicted to quit cigarettes by 2030



Change in number of adult smokers from previous year	2024	2025	2026	2027	2028	2029	2030	Total reduction (2023-2030)
Brunei Darussalam	386	383	380	377	375	372	369	2,643
Cambodia	59,365	57,205	55,123	53,117	51,184	49,322	47,527	372,843
Indonesia	879,951	868,833	857,854	847,015	836,313	825,745	815,312	5,931,023
Lao People's Democratic Republic	23,461	22,953	22,455	21,969	21,493	21,027	20,571	153,929
Malaysia	93,216	91,415	89,648	87,915	86,216	84,549	82,915	615,874
Myanmar	207,126	200,030	193,176	186,558	180,166	173,993	168,032	1,309,080
Philippines	411,233	400,225	389,512	379,086	368,939	359,063	349,452	2,657,508
Singapore	7,666	7,591	7,516	7,441	7,368	7,295	7,223	52,099
Thailand	305,651	297,033	288,657	280,518	272,608	264,921	257,451	1,966,840
Viet Nam	96,773	96,047	95,328	94,613	93,904	93,200	92,502	662,366
<b>Total</b>	<b>2,084,829</b>	<b>2,041,713</b>	<b>1,999,650</b>	<b>1,958,609</b>	<b>1,918,564</b>	<b>1,879,488</b>	<b>1,841,353</b>	<b>13,724,207</b>

# Model results – large cigarette **excise tax revenue gains** predicted across ASEAN member states



Country	Currency, units	2023	2030	Cumulative Cigarette Excise Revenue (2023 to 2030), constant 2022 prices
Brunei Darussalam	BND, millions	82	99	738
Cambodia	KHR, millions	145,605	699,408	3,814,987
Indonesia	IDR, billions	303,134	439,327	3,050,754
Lao People's Democratic Republic	LAK, millions	90,022	727,980	3,565,717
Malaysia	MYR, millions	2,953	4,866	32,772
Myanmar	MMK, millions	185,249	392,550	2,370,893
Philippines	PHP, millions	219,266	316,746	2,222,249
Singapore	SGD, millions	1,115	1,510	10,702
Thailand	THB, millions	68,142	85,100	629,233
Viet Nam	VBD, billions	27,396	68,624	404,709

# From model to practice: ASEAN member states **fall short of best practice** tax structure



COUNTRY	Excise tax proportion of price	Type of excise tax applied.	Uniform excise tax applied Yes (Uniform), No (Tiered/varying rates)	Greater reliance on specific tax in	Minimum specific tax applied	Minimum Price	Retail price used as base	Specific tax component automatically adjusted for inflation (or other)	Price dispersion:	Price gap decreased between 2020 and 2022
Brunei Darussalam	—	Specific	Yes	—	—	No	—	No	...	
Cambodia	14.71%	Ad valorem	Yes	—	No	No	No	—	15.4%	
Indonesia	57.31%	Specific	No	—	—	Yes	—	No	...	
Lao People's Democratic Republic	6.34%	Ad valorem	No	—	No	No	No	—	20.0%	*
Malaysia	45.98%	Specific	Yes	—	—	Yes	—	No	...	
Myanmar	36.00%	Specific	No	—	—	No	—	No	19.4%	*
Philippines	39.86%	Specific	Yes	—	—	No	—	Yes	60.3%	*
Singapore	59.72%	Specific	Yes	—	No	No	—	No	72.0%	*
Thailand	61.24%	Mixed	No	Yes	Yes	No	Yes	No	38.2%	
Viet Nam	26.81%	Ad valorem	Yes	—	No	Yes	No	—	17.6%	*

Source: Tabulations from WHO Report on the Global Tobacco Epidemic, 2023

# Recommendations



1. Accelerate and sustain efforts to raise tobacco taxes to reduce tobacco use, stop young people from starting, and reach global prevalence reduction targets.
2. Simplify tobacco tax structures and close loopholes
3. As countries transition to simple, single-rate specific taxes, ensure those rates are increased annually to exceed inflation.
4. Allocate additional tobacco revenues to specific development and health causes (including tobacco control)
5. Improve tobacco tax administration to prevent tax avoidance and evasion, reduce revenue leakages, and better calibrate future tax increases.
6. Adopt a whole-of-government approach to tobacco control and tobacco taxation - Collaborations between ministries of health and finance are crucial



# Thank you

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# Tobacco excise taxes: Best practices



## SIMPLE, UNITARY, HIGH SPECIFIC TAX

- Ideal. Applied irrespective of product attributes (size/manufacturing capacity/filter/manufacturing location)

## GREATER RELIANCE ON SPECIFIC TAX

- Within a mixed tax regime → deters cheap cigarettes

## INDEX SPECIFIC TAX RATES

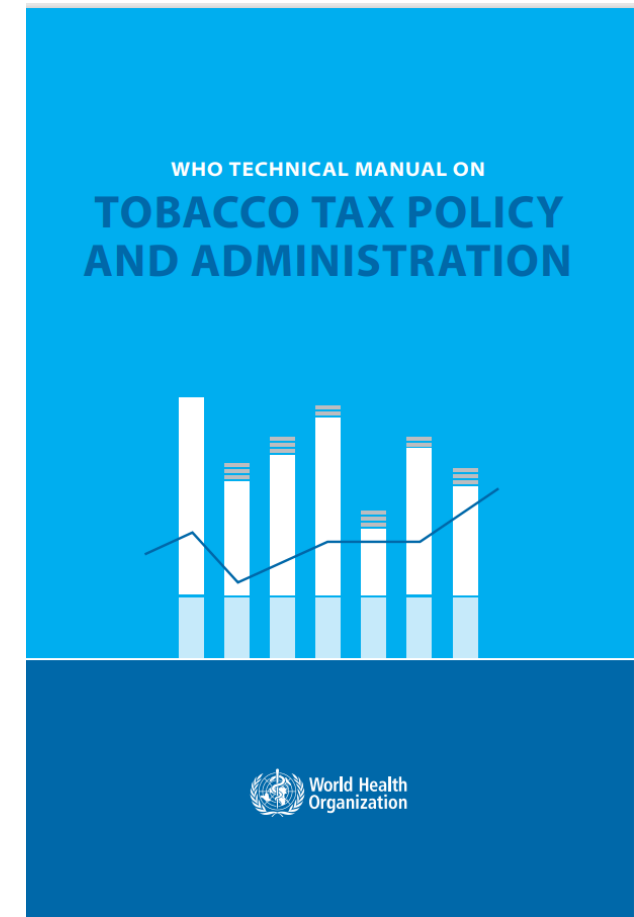
- Within specific and mixed regime → To counter inflation and secure revenue

## RETAIL PRICE AS TAX BASE

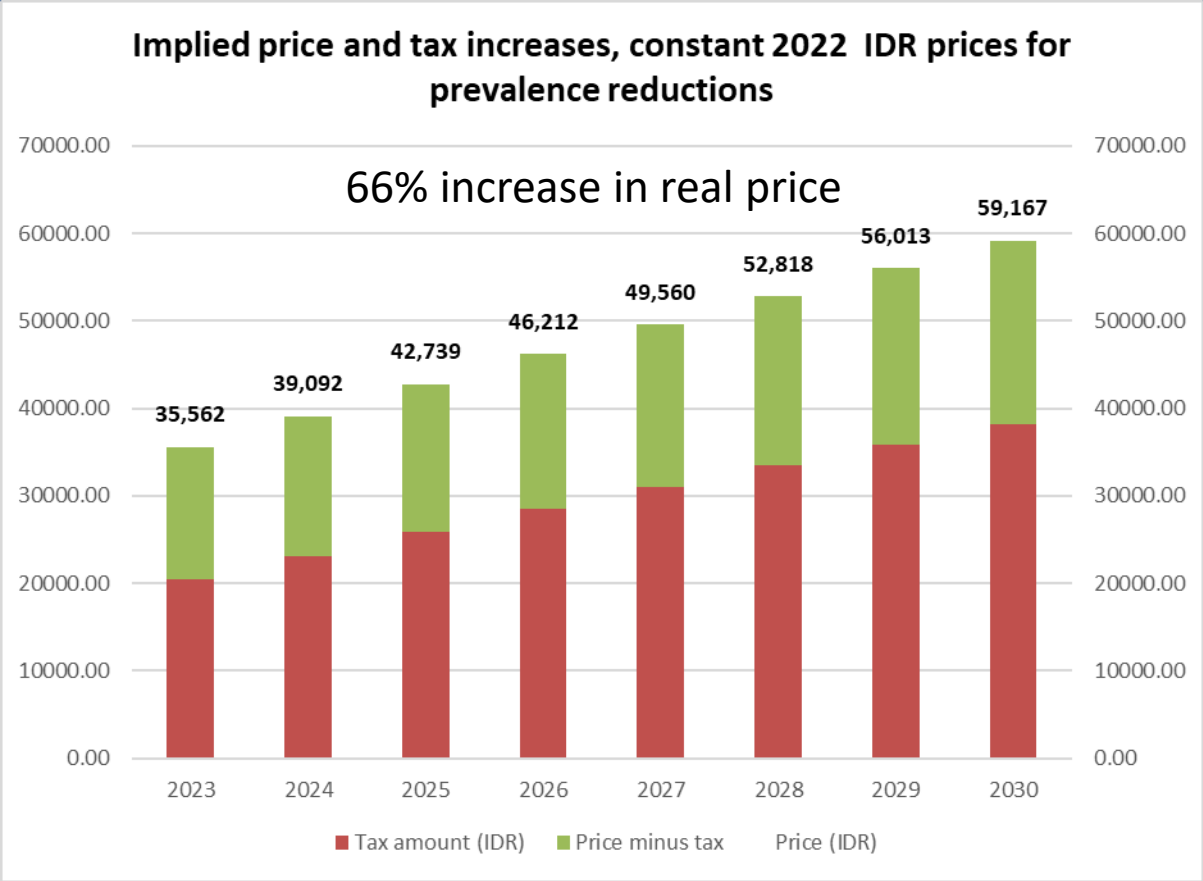
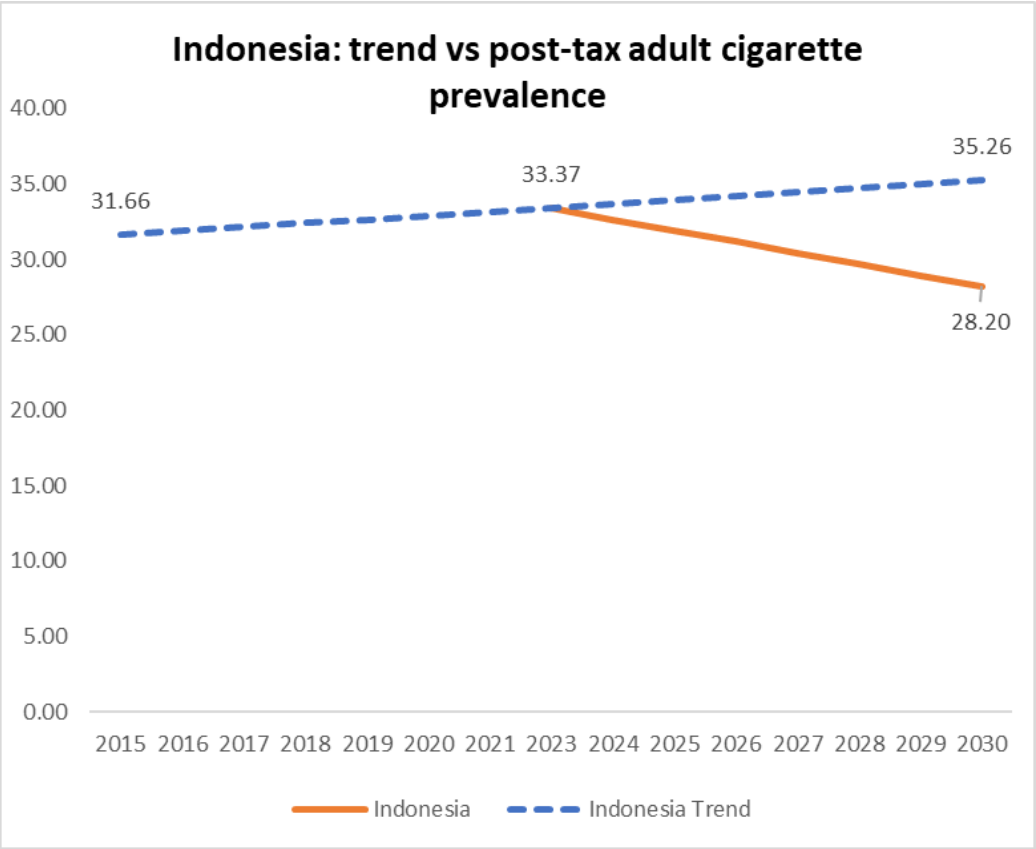
- Within an ad valorem tax regime → to prevent base manipulation

## MINIMUM PRICE

- Within ad valorem and mixed regimes → set a floor



# Example: Indonesia can reduce prevalence from 33% in 2023 to 28% by 2030 by a 66% increase in real price



Status quo: Adult cigarette use could rise to 35% by 2030 given trend  
 Model target: Reduce to 28 % by 2030

Given inflation, the nominal prices will be much higher in each year.