

Economics of Tobacco Control

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<http://www.tobaccoevidence.net>

Shall Government Intervene in the Tobacco Market?

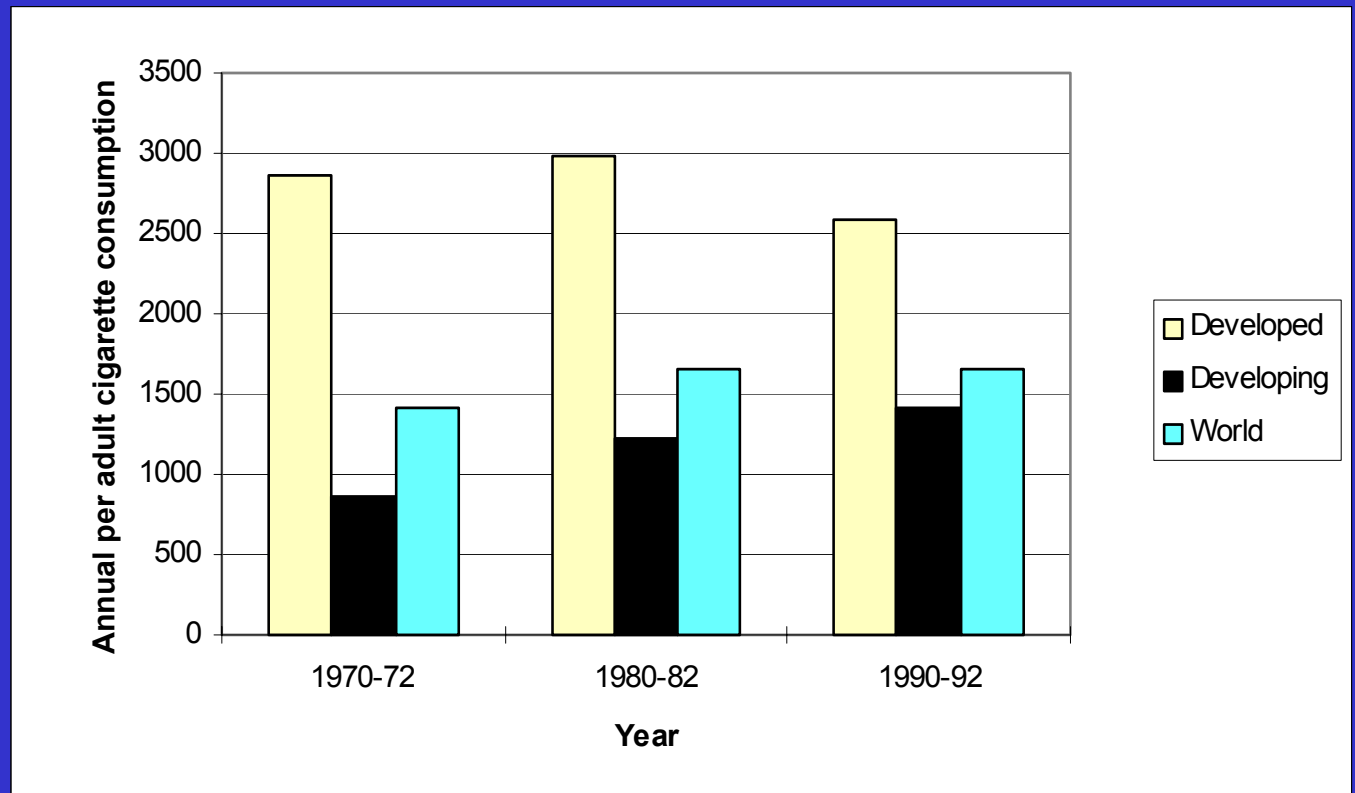
Yes, because there are market failures

Externalities:

- **physical or financial costs imposed on non-smokers**
- **inadequate information about the health risks of tobacco**
- **inadequate information about the risks of addiction**

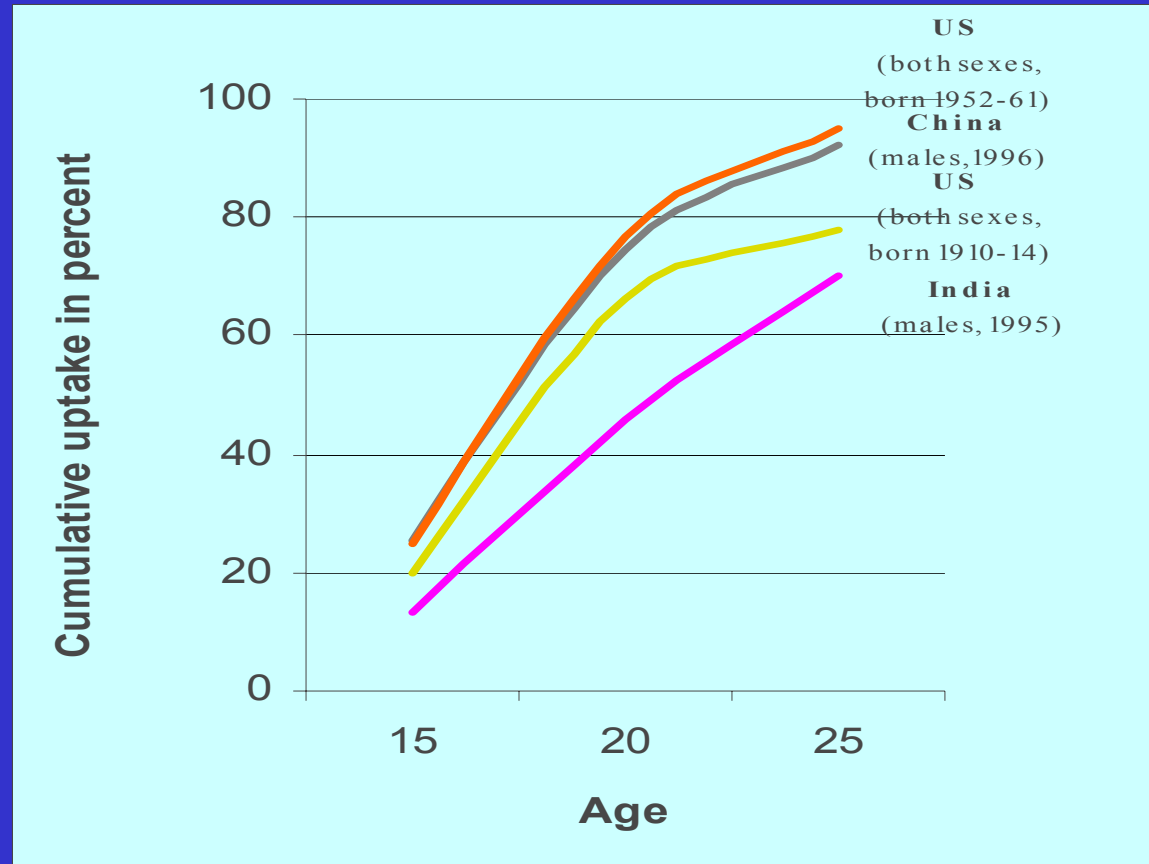
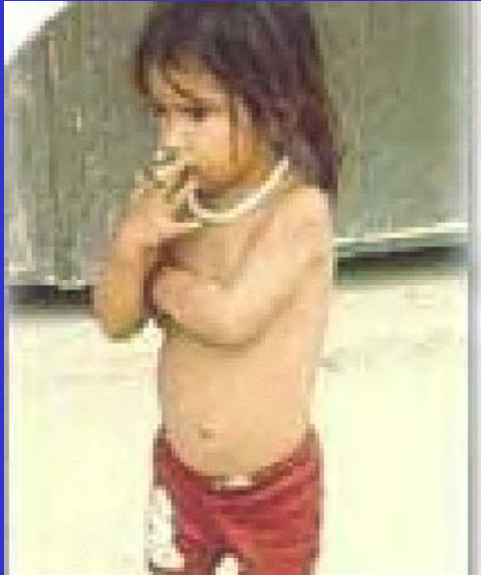
Lower labor productivity, lower economic growth

Per capita cigarette consumption has increased in developing countries



Source: WHO 1997

Tobacco addiction starts early in life



- **Every day 80,000 to 100,000 youths become regular smokers**

Source: Chinese Academy of Preventive Medicine 1997, Gupta 1996, US Surgeon General Reports, 1989

Underestimated risks of smoking

- ◆ **7 in 10 of Chinese smokers thought smoking does them “little or no harm”**
- ◆ **Risks not internalised: personal risks perceived lower than average risks**
- ◆ **Risks of addiction downplayed: only 2 in 5 of US adolescents intending to quit actually do**
 - **in high-income countries, 7 in 10 smokers wish they had not started**

Smoking versus other risks (alcohol, fast driving)

- ◆ Risk of addiction is greater for smoking
- ◆ No “learning” from youthful excesses
- ◆ Risk of death from smoking is much higher: of 1000 males smokers aged 15 +
 - 125 die from smoking in middle-age
 - 20 die from road accidents or violence (30 from all alcohol-related conditions)

ALL DEVELOPED COUNTRIES, 1990s:

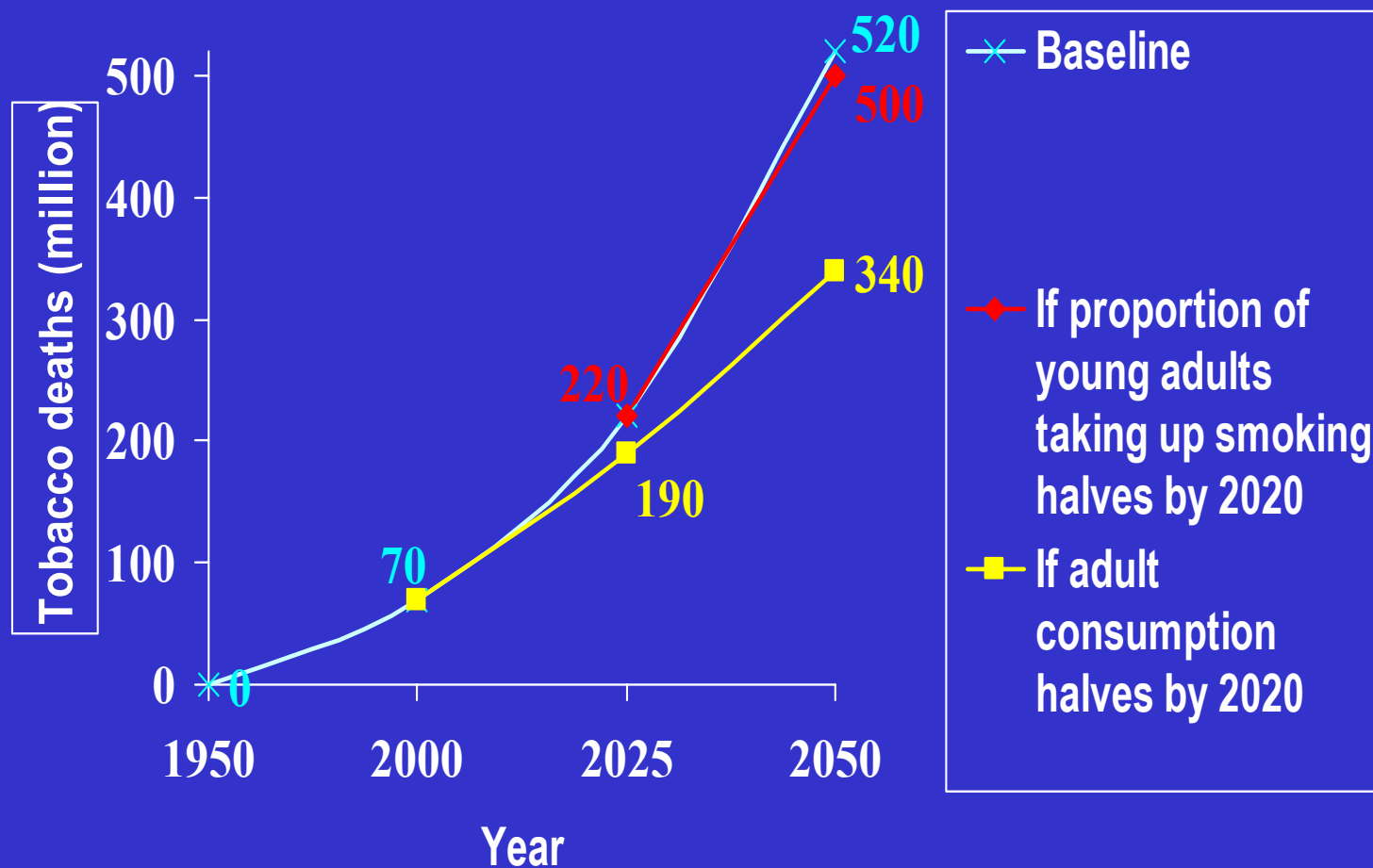
Annual Tobacco Deaths (in millions)

Age Range	<u>Tobacco Deaths</u>		Years
	million	% of all	lost per
	per year	deaths	death
35 to 69	1.1	30%	22
70+	0.9	13%	8
Total	2.0	17%	16

DEVELOPED COUNTRIES: Key Messages for the Individual Smoker

- **The risk is BIG: About HALF of persistent smokers are killed by their habit**
- **Half of deaths occur in MIDDLE-AGE (age 35-69), losing 20-25 years of life**
- **QUITTING WORKS: those who quit before major disease avoid most of the risks**

Unless current smokers quit, smoking deaths will rise dramatically over the next 50 years



Healthcare costs from smoking

- **Annual (gross) healthcare costs:**
 - **0.1-1.1% of GDP, or 6 -15% of total health costs in high-income countries (proportionally similar in lower-income countries)**
- **Net (lifetime) healthcare costs:**
 - **Differences in lifetime costs are smaller than annual costs**
 - **Best studies do suggest there are net lifetime costs**
 - **Pension or “smokers pay their way” arguments are complex**

How Can Public Policies Intervene?

Demand Side Interventions

- **Alter economic incentives for smoking behavior (price, access, consumption and advertising limits)**
- **Improve information dissemination**
- **Reduce social acceptance of smoking**

How Can Public Policies Intervene?

Supply Side Interventions

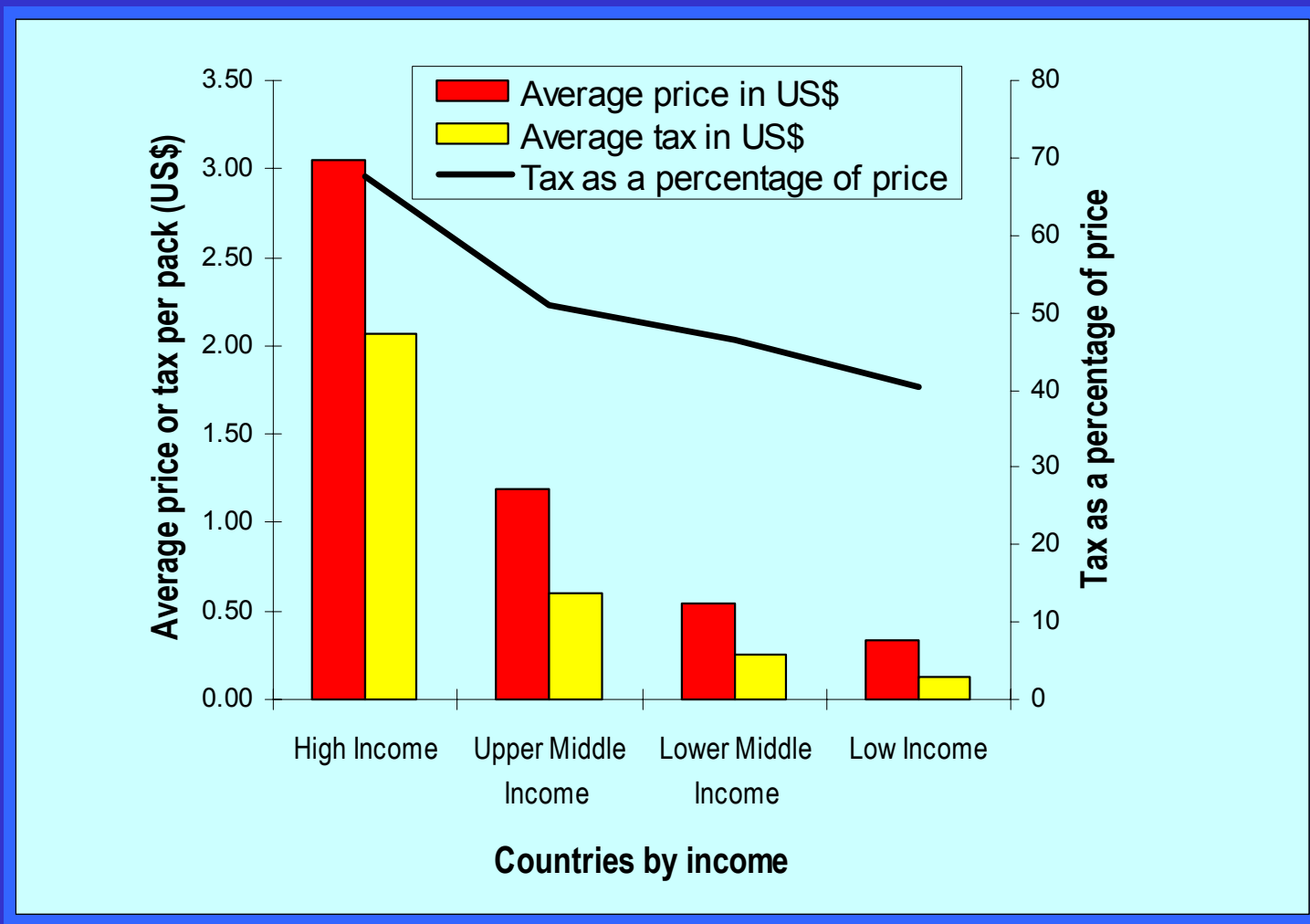
- **Alter economic incentives for tobacco farmers and manufacturers**
- **Reduce access to tobacco products (youth)**
- **Advertising restrictions**
- **Crack down on smuggling measures**

Taxation is the Most Effective Measure

- Higher taxes induce quitting, reduce consumption and prevent starting
- A 10% price increase reduces demand by:
 - 4% in high-income countries
 - 8% in low or middle-income countries
- Effect is both on # cigs by smokers and on new initiation
- Long-run effect of higher price is greater
- Young people and the poor are the most price responsive

Source: Chaloupka *et al.*, 2000

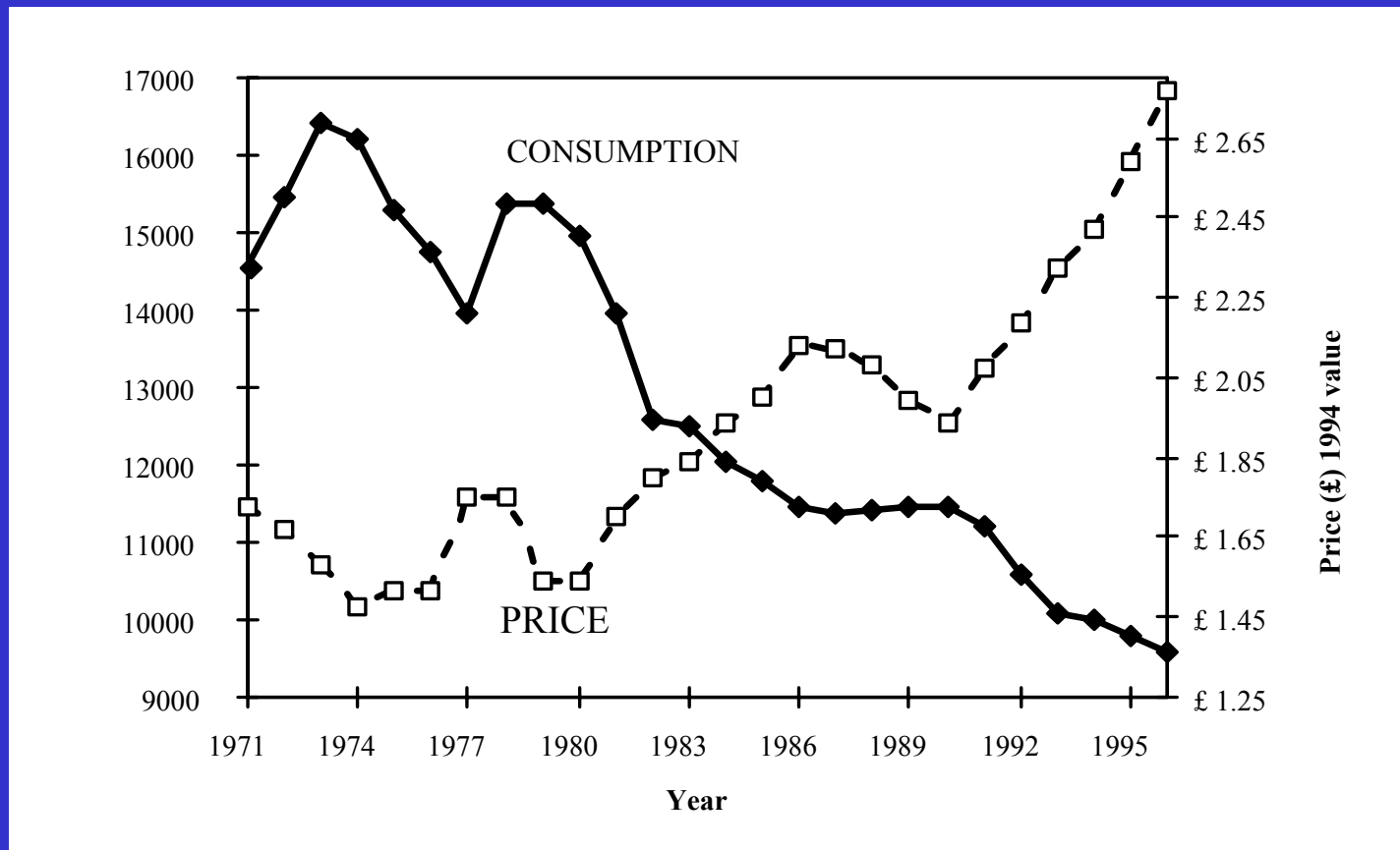
There is still ample room, especially in lower-income countries, to raise cigarette taxes



Source: Chaloupka *et al.*, 2000; data from 1996

Cigarette price and consumption show opposite trends

Real price of cigarettes and cigarette consumption in the UK, 1971-96



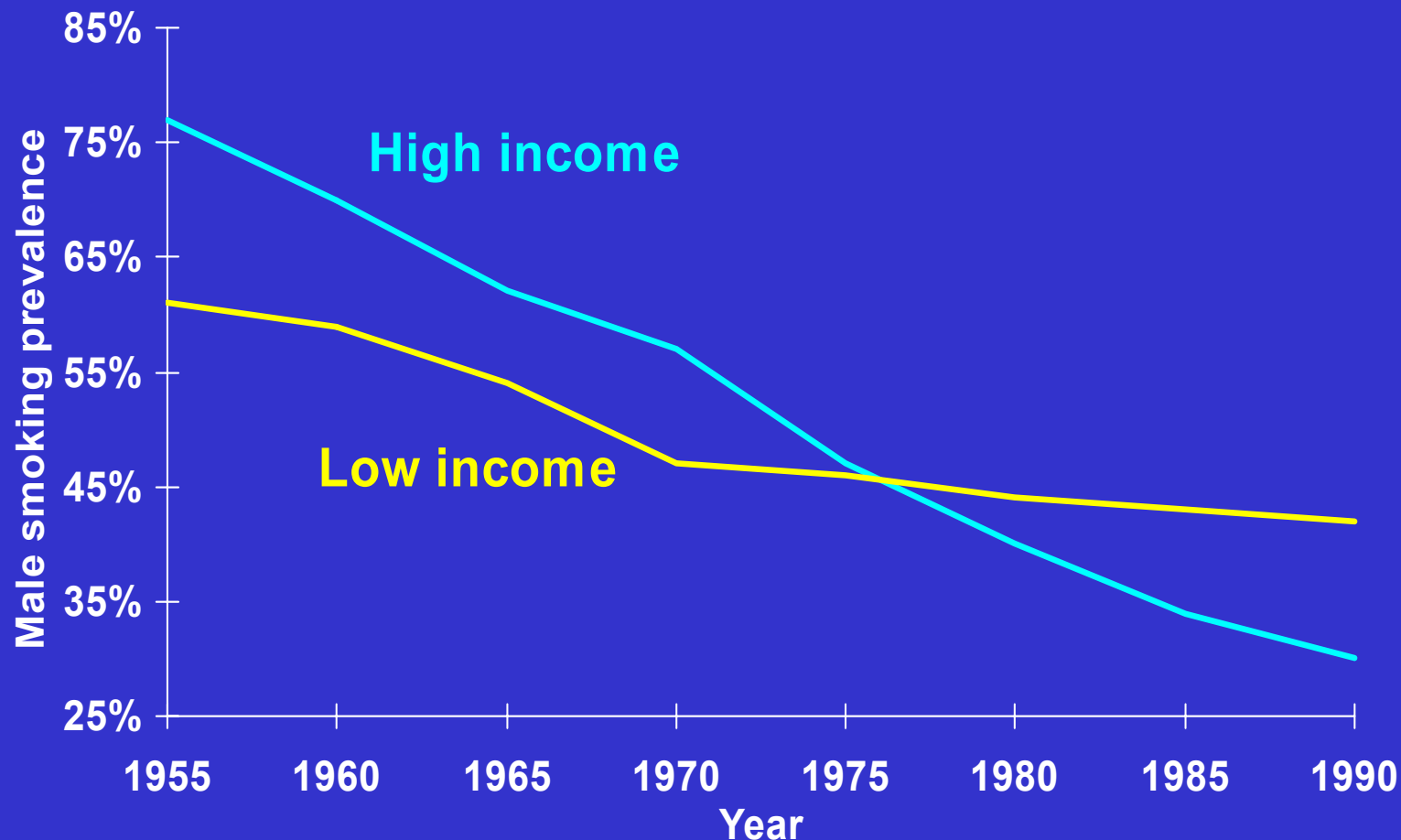
Source: Townsend 1998

Youth and the Poor Are Most Responsive to Tax Increases

- **Effects on youth up to three times as large as effects on adults**
 - **low incomes, less addicted, greater effect of peer influences, importance of current costs**
- **Larger effects in lowest income populations compared to highest income populations**
 - **Implies: tax increases can be progressive**

Source: Chaloupka *et al.*, 2000

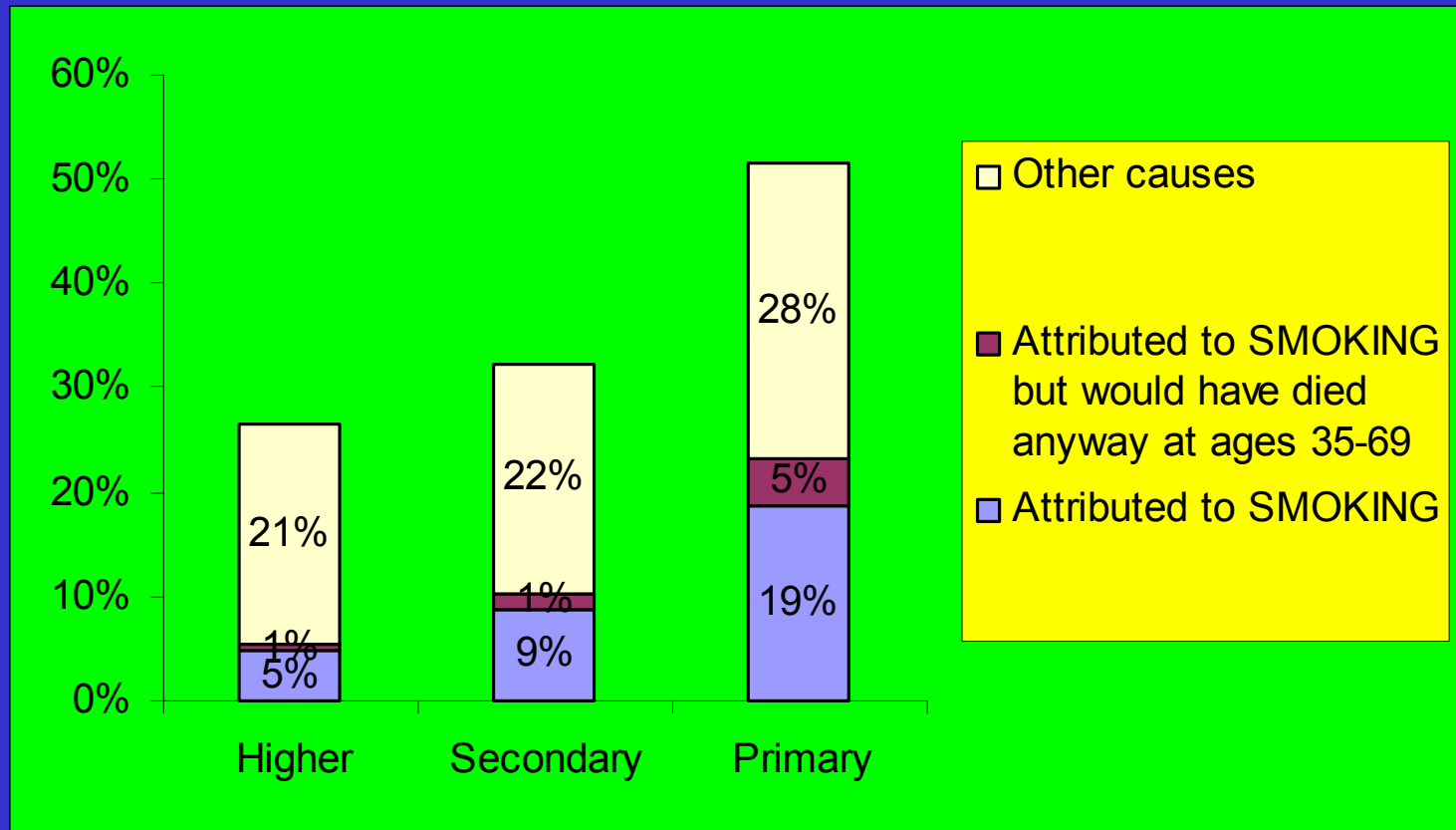
Trends in smoking in Norwegian males by Income Group



Source: Lund *et al.*, 1995

Smoking accounts for much of the mortality gap between rich and poor

Risk of death of a 35 year old male before age 70, by education levels in Poland, 1996



Source: Bobak *et al.*, 2000

Non-price Measures to Reduce Tobacco Demand

- **Improve consumer information:** dissemination of research findings, warning labels, counter-advertising
- **Comprehensive ban on advertising and promotion**
- **Restrictions on smoking in public and work places**
- **Increase access to services supporting cessation and to nicotine-replacement therapies (NRT)**

Potential Impact of Demand Side Interventions

Region	Change in number of smokers (millions)		Change in number of deaths (millions)	
	10% Price increases	Set of Non-price measures	10% Price increases	Set of Non-price measures
Low/Middle Income	-38	-19	-9	-4
High Income	-4	-4	-1	-1
World	-42	-23	-10	-5

Source: Ranson *et al.*, 2000

How Cost-effective are Tobacco Control Measures?

US dollars per healthy year life gained

<i>Region</i>	<i>Price increases of 10%</i>	<i>Non-price measures with effectiveness of 5%</i>	<i>NRT (publicly provided) with 25% coverage</i>
Low / middle income	4 to 34	68 to 272	276 to 297
High Income	165 to 1,370	1,347 to 5,388	746 to 1,160

Note: 3% discount rate, costs for non-price measures and all benefits projected over 30 years

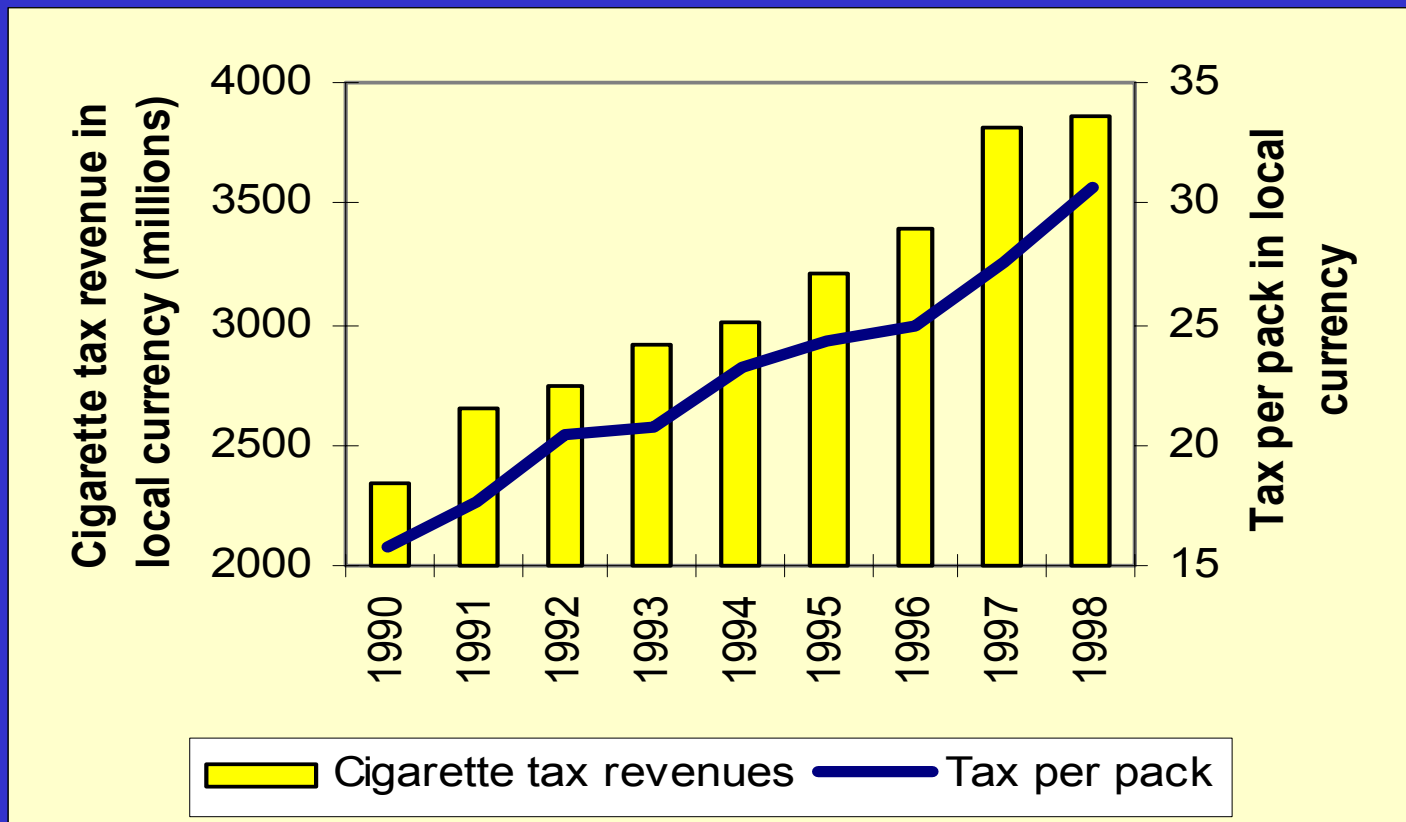
Source: *Ranson et al.*, 2000

What Are the Costs of Tobacco Control?

- **Revenue loss: likely to have revenue gains**
 - a 10% tax increase would raise revenue by 7%
- **Job loss: temporary, minimal, and gradual**
- **Cost to individuals, especially the poor: partially offset by lower consumption**
- **Possible smuggling: crack down on criminal activity, not lower taxes**

Revenues Increase with Cigarette Taxes

Tax per pack and tax revenues in Norway, 1990-1998



Studies on the Employment Effects

<i>Type of country</i>	<i>Name and year</i>	<i>Net change as % of economy in base year given</i>
Net Exporters	US (1993)	0%
	UK (1990)	+0.5%
	Zimbabwe (1980)	-12.4%
Balanced Tobacco Economies	South Africa (1995)	+0.4%
	Scotland (1989)	+0.3%
Net Importers	Bangladesh (1994)	+18.7%

Source: Buck *et al*, 1995; Irvine and Sims, 1997; McNicoll and Boyle 1992, Jacobs *et al*, 2000; Warner *et al*, 1996

Impact on the Poor

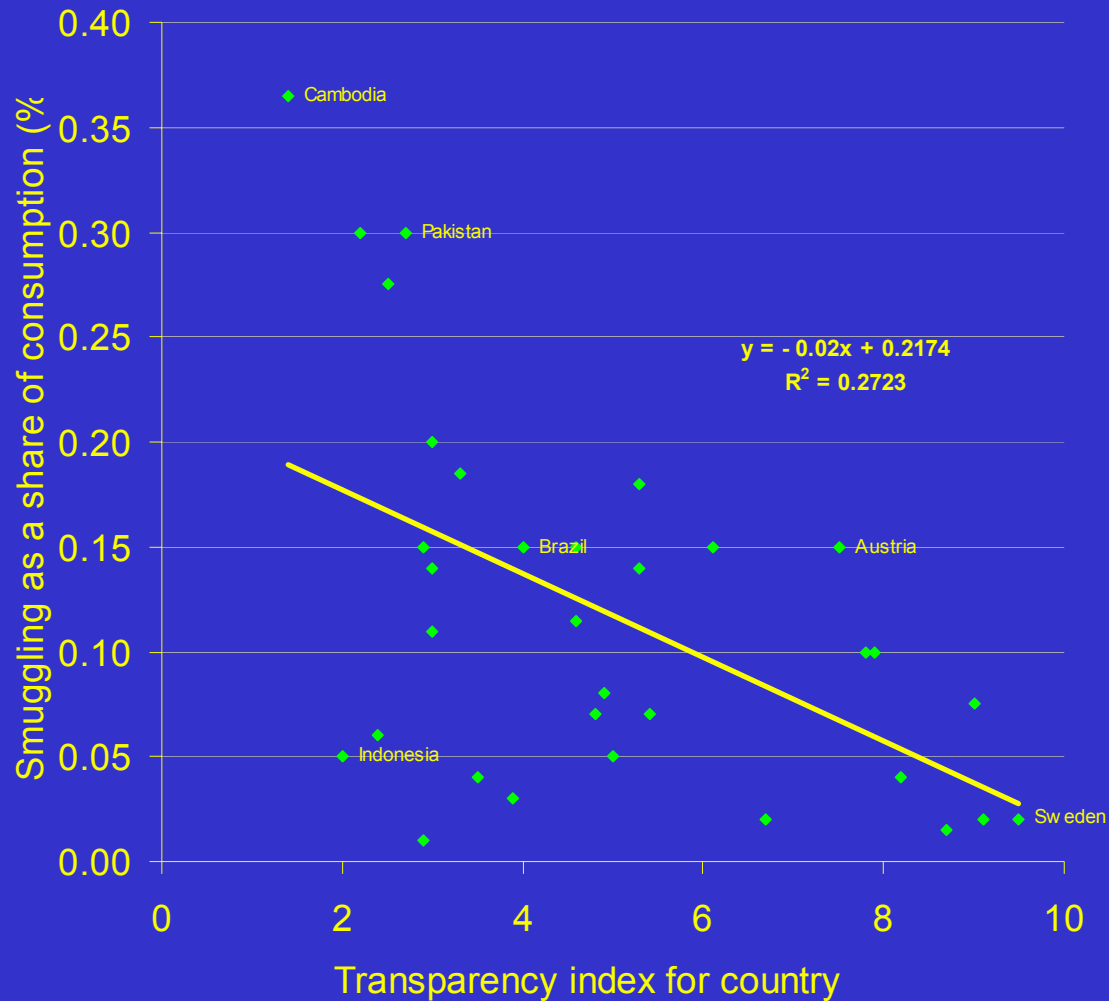
- **Tax increases can be progressive**
 - **Greatest sensitivity to price in lowest income populations**
- **Tobacco taxes should be considered in context of overall tax and spending system**
 - **Revenues generated from tax can be used to support programs targeting the poor**
- **Health benefits of tobacco control are progressive**
 - **Tobacco accounts for about half of health gap between the rich and poor**

Smuggling of cigarettes

- **Industry has economic incentive to smuggle**
 - Increase market share and decrease tax rates**
- **Best estimate: 6 to 8.5% of total consumption**
- **Non-price variables important**
 - Perceived level of corruption more important than cigarette prices**
- **Tax increase will lead to revenue increase, even in the event of increased smuggling**

Tobacco smuggling tends to rise in line with the degree of corruption

Smuggling as a function of transparency index



Source: Merriman *et al.*, 2000

Estimated Smuggling in 1995 in Selected European Countries

Country	Price per pack in US\$ 1995	Estimate of smuggling as a percentage of 1995 domestic sales by expert sources
Austria	2.96	15%
<u>Spain</u>	<u>1.38</u>	<u>15%</u>
Germany	3.38	10%
Italy	2.19	12%
Greece	1.90	8%
Sweden	4.58	2%
UK	4.16	2%

The price of cigarettes and level of smuggling in countries of the European Union

Country	Price \$ '97	Smuggling
Spain	1.20	High
Portugal	1.75	Probably Medium
Greece	2.06	Medium
Italy	2.07	High
Luxembourg	2.12	Probably Medium
Netherlands	2.43	Medium
Austria	2.69	High
Belgium	2.95	Medium
Germany	3.02	High
France	3.38	Low
Finland	4.26	Probably Low
Ireland	4.27	Low
UK	4.35	Low
Denmark	4.55	Probably Low
Sweden	4.97	Low

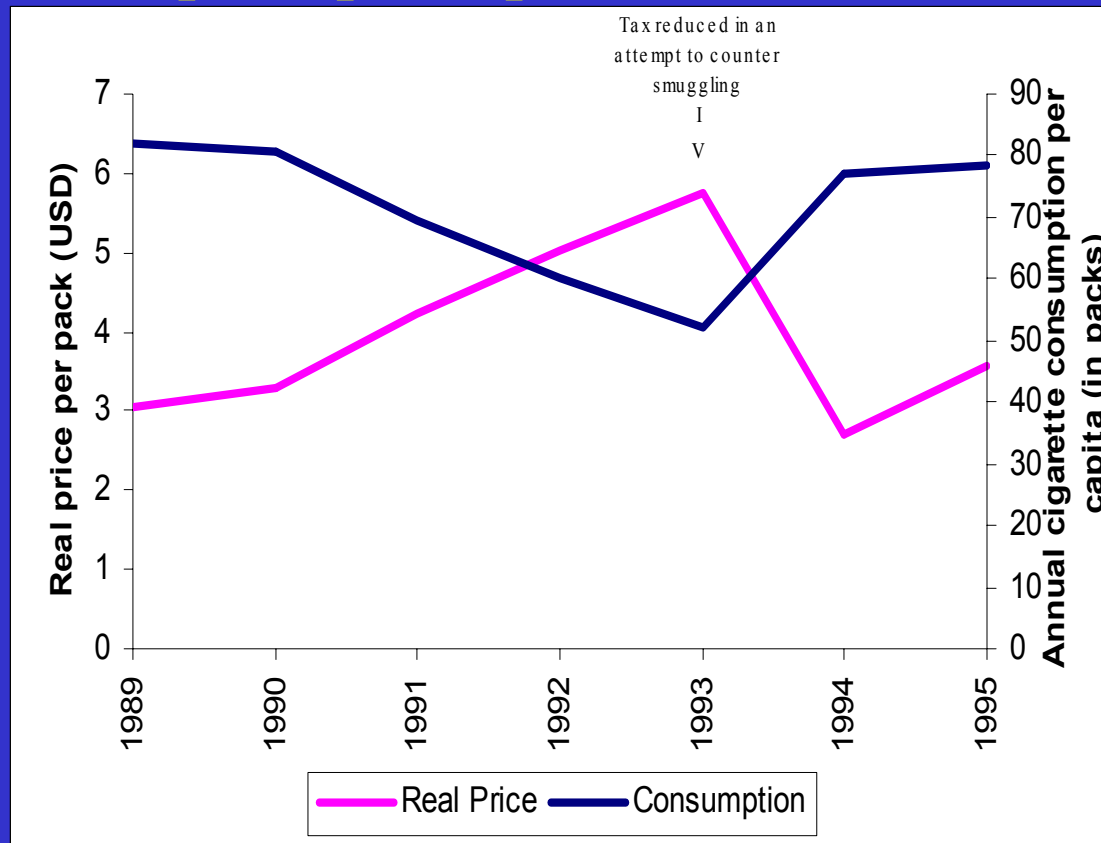
Source: *The Economics of Tobacco Control in Southern Africa Chapter 10* by Luk Joossens

Control of Smuggling

- Countries need not to make a choice between higher cigarette tax revenues and lower cigarette consumption
 - Higher tax rates can achieve both
- Effective control measures of smuggling exist
 - Focus on large container smuggling
 - Prominent local language warnings and tax stamps
 - Increase penalties
 - Licensing and tracking of containers
 - Increase export duties or bonds
- Multilateral tax increases help combat smuggling

Lower tax rates in Canada in response to smuggling

Real price of cigarettes and annual cigarette consumption per capita, Canada, 1989-1995



Source: Jha and Chaloupka, 1999

Smuggling and Tax Revenue

Percent of revenue increases from a 10% tax increase, taking smuggling into account

<u>Country</u>	<u>Unilateral</u>	<u>Multilateral</u>
France	+5.8	+7.0
Germany	+2.6	+4.7
Spain	+8.6	+9.1
17 Countries	+6.9	+8.2

Source: * Econometric estimates from Merriman et al, 2000

Tobacco Importance to the Economy

- A significant economic *presence* does not imply significant economic *dependence*.
- Spending on tobacco is rarely important to an economy.
 - *Money not spent on tobacco will be spent on other goods and services instead, thereby creating a comparable number of jobs.*

Real costs = costs of transition to alternative products.

ITEN Project

ITEN builds research capacity in low- and middle-income countries

by supporting a formal network of economists, epidemiologists, social scientists and other tobacco control experts

What Can ITEN Offer

- **Research capacity building and identifying research priorities**
- **Support research grant applications**
- **Peer reviews and dissemination of research results (ITEN web page)**
- **Investigate the most effective tobacco control policies**
- **Help with translating research results into public policies**