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The effect of rapidly increasing cigarette prices on smoking patterns across the income spectrum: Some evidence from South Africa

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Some stylised facts

- Smoking prevalence in high-income countries has decreased sharply since the 1960s
 - At its peak smoking prevalence was high among all sections of the income distribution
 - In HICs smoking prevalence among the high-income individuals decreased much more rapidly than among poorer individuals
- The same pattern does not hold in low- and middle-income countries
 - In many LMICs smoking prevalence is higher among the rich
 - Rapid economic growth is making tobacco more affordable to the poor
- The detrimental impact of tobacco (in terms of its opportunity cost and health impact) is carried disproportionately by the poor

The situation in South Africa

- Classified as an upper-middle income country by World Bank
- Modest economic growth (3-4%) since democratic transition in 1994
- Huge and increasing income inequalities
- Tobacco control has been a public health priority since 1994
- Aggregate cigarette consumption has fallen by more a third since 1994
- Major driver: sharp increase in retail price, driven by excise tax increases

What South Africa can teach us

- Between 1990 and 2000 the principal driver of SA's tobacco control strategy was an increase in the excise tax, which led to very substantial increases in the price of cigarettes
- After 2000 the price of cigarettes increased at a much lower rate, and strong legislation became effective

Questions

1. How did the various income groups' consumption patterns respond to the rapid increases in cigarette prices between 1990 and 2000?
2. How did the consumption patterns change after 2000 when non-price TC interventions became more prominent?

Percentage of households that spend money on cigarettes, by income quartile

	1990	1995	2000
Q1 (poorest)	46	42	22
Q2	54	46	31
Q3	51	45	34
Q4 (richest)	43	44	34

Source of data: Income and Expenditure surveys

Comments:

- Large decrease in proportion of households that buy cigarettes
- The decrease is the greatest among the poorest households

Percentage of moderate and heavy smoking households, by income quartile

	Percentage of households spending more than X per cent of total household income on cigarettes					
	5 %	10 %	5 %	10 %	5 %	10 %
	1990		1995		2000	
Q1 (poorest)	29	14	26	12	15	9
Q2	28	14	20	7	20	10
Q3	17	5	16	5	19	10
Q4 (richest)	5	1	7	2	12	4

Comments:

Source of data: Income and Expenditure surveys

- Among the very poor (Q1) the percentage of households spending more than 10% (or 5%) of their total spending on cigarettes has decreased
- Among middle-income groups (Q2 and Q3) and the rich (Q4) the proportion of households that are heavy users has increased

Explanation:

- The poor are price sensitive and reduce consumption in response to price increases
- The rich are much less price sensitive and simply spend more on cigarettes when the price increases

There has been some substitution from cigarettes to RYO tobacco, especially among the poor

	Cigarettes	Pipe and other tobacco	Other tobacco products
Income quartile Q1			
1990	92.5	5.1	2.4
1995	88.4	9.3	2.3
2000	77.9	18.7	3.4
Income quartile Q2			
1990	94.5	2.4	3.1
1995	95.0	3.4	1.6
2000	91.1	7.1	1.8
Income quartile Q3			
1990	95.5	1.6	2.9
1995	96.4	1.1	2.5
2000	96.4	2.1	1.5
Income quartile Q4			
1990	94.8	1.9	3.3
1995	95.8	1.1	3.1
2000	95.0	0.9	4.1

The issue of excise tax regressivity

- Since the poor in many countries smoke more and spend a relatively larger proportion of their income on tobacco, the excise tax tends to hurt them more
- Is this a rationale not to increase the excise tax?
- Evidence has shown that the poor are much more price responsive than the rich
- Thus an increase in the excise tax may actually reduce the regressivity of the tax

Average percentage of household income spent on cigarette excise taxes, for urban smoking households only

	1990	1995	2000
Q1 (poorest)	1.71	1.79	3.17
Q2	1.54	1.29	2.84
Q3	0.96	1.06	2.61
Q4 (richest)	0.49	0.66	1.53

Source of data: Income and Expenditure surveys

Comments:

- For people unable to quit, the excise tax amount has increased quite sharply over the period 1990 to 2000
- But the poor tend to have a much higher tendency to quit smoking when faced with higher excise tobacco prices

Relative burden of the excise tax, for urban smoking households only

	1990	1995	2000
Average	100	100	100
Q1 (poorest)	144	150	126
Q2	129	108	113
Q3	80	89	104
Q4 (richest)	41	55	61

Source of data: Income and Expenditure surveys

Comment

- Among smoking households, the poorest households (Q1) carried a significantly higher excise tax burden in 1990 than the richer households
- However, between 1990 and 2000 the **relative** burden of the poorest households decreased, while the relative burden of the richer households increased
- Thus the tax has become less regressive

Relative burden of the excise tax on cigarettes, for the proportion of urban households that were smoking in 1990

	1990	1995	2000
Average	100	100	100
Q1 (poorest)	144	153	98
Q2	129	103	106
Q3	81	88	113
Q4 (richest)	41	63	78

Source of data: Income and Expenditure surveys

Comments:

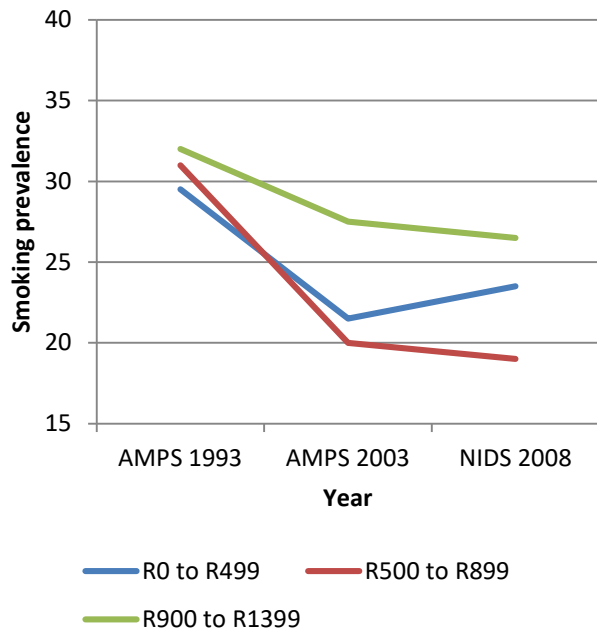
- This table takes account of both changes in consumption in smoking households and the fact that some households are not buying cigarettes any more
- By 2000 the excise tax was nearly proportional across the four income quartiles, while it was very regressive in 1990

What happened after 2000?

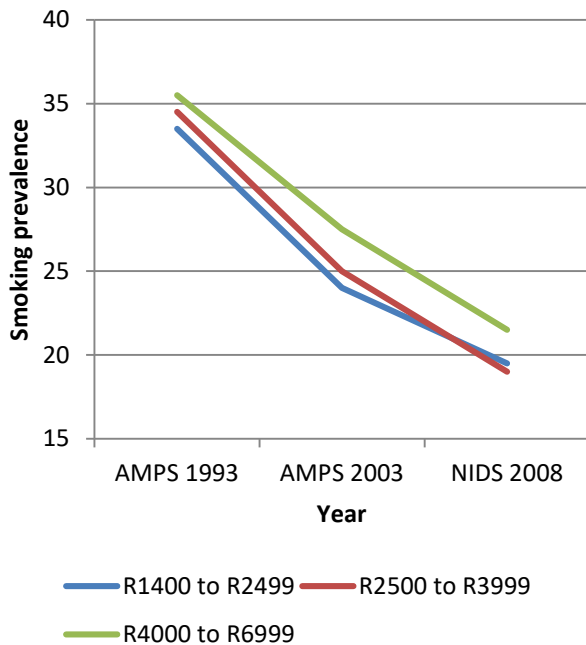
- 2001: Tobacco Products Control Amendment Act of 1999 implemented
 - Banning of tobacco advertising and sponsorship
 - Clean indoor air legislation
- Since about 2002 the excise tax and retail price increases moderated
- Strong economic growth between 2002 and 2008
- Cigarettes became more affordable
- Expansion of the government grants reduced extreme poverty

Smoking prevalence among different household groups, 1993, 2003 and 2008

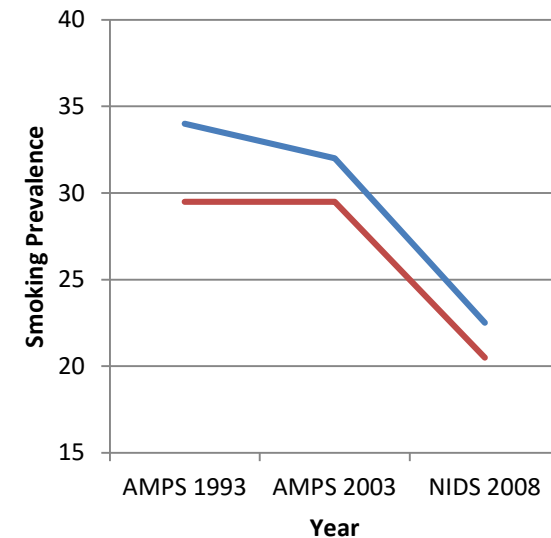
Low income



Middle income



High income



Source, Tascha Terblanche, 2011

Conclusion

- In South Africa different population groups respond quite differently to large increases in cigarette price
 - The poor:
 - Quitting smoking altogether
 - Switching to roll-your-own
 - Reducing number of cigarettes consumed (although expenditure increases)
 - The rich:
 - Limited change in cigarette consumption
 - Greater expenditure on cigarettes
 - No switching to roll-your-own
- After 2000 smoking prevalence among the rich fell, but stayed largely the same among the poor
 - This is consistent with a notion that the rich respond more to non-price measures, while the poor respond more to price (and other economic, e.g. income) incentives