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The illicit trade in cigarettes: Can we determine large increases in illicit activity from excise revenue data? A case study of South Africa

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The illicit trade problem in South Africa

- Types of illicit activity: smuggling and counterfeiting
- The industry claims illicit trade is a very big and increasing problem
 - Counterfeiting has become more prominent in the popular press in recent years
 - The legal industry is undermined by illegal operators
 - Government is losing excise tax revenues
 - The link with organised crime
- The industry's incentive is clear:
 - Further excise tax increases will make the problem worse
 - Government should impose measures to stop illicit trade, especially counterfeiting

The scale of the illicit trade problem

2006: TISA “illicit trade has grown from zero ten years ago to 20% of the total South African market

2007-2010: TISA estimates the illicit market share as 20% of the market

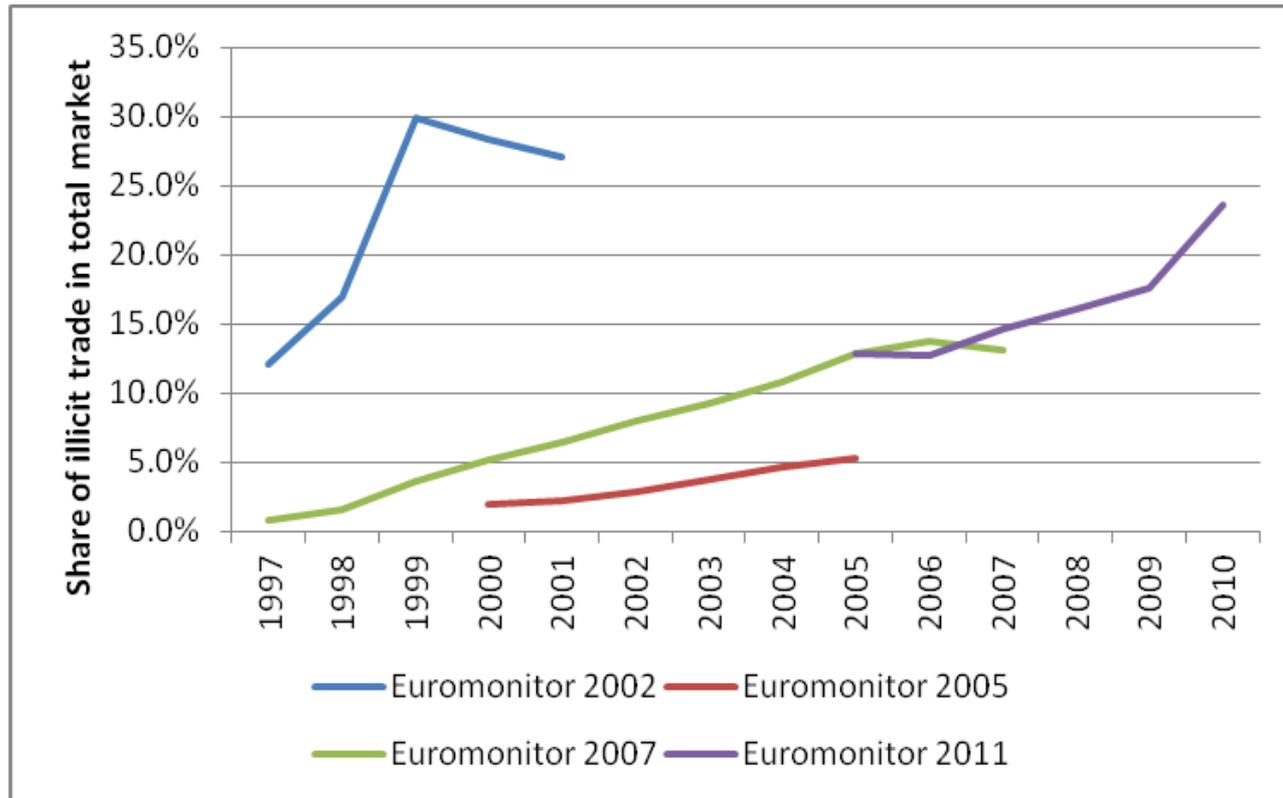
2011: TISA estimates the illicit market as 25% of the South African market

Year	Illicit sales in billion sticks (BAT numbers)	Legal sales in billion sticks (BAT numbers)	Implied total sales in billion sticks (BAT numbers)	Illicit market share (percentage)	Legal sales in billion sticks (official numbers)
2008	3.1	25.1	28.2	11.0	25.3
2009	4.6	23.1	27.7	16.6	24.2
2010	6.3	21.0	27.3	23.1	21.6

Source: BAT, 2010

Euromonitor also indicates that illicit trade is increasing

It has also had to rescale its estimates a few times



Euromonitor indicates its source as “industry”

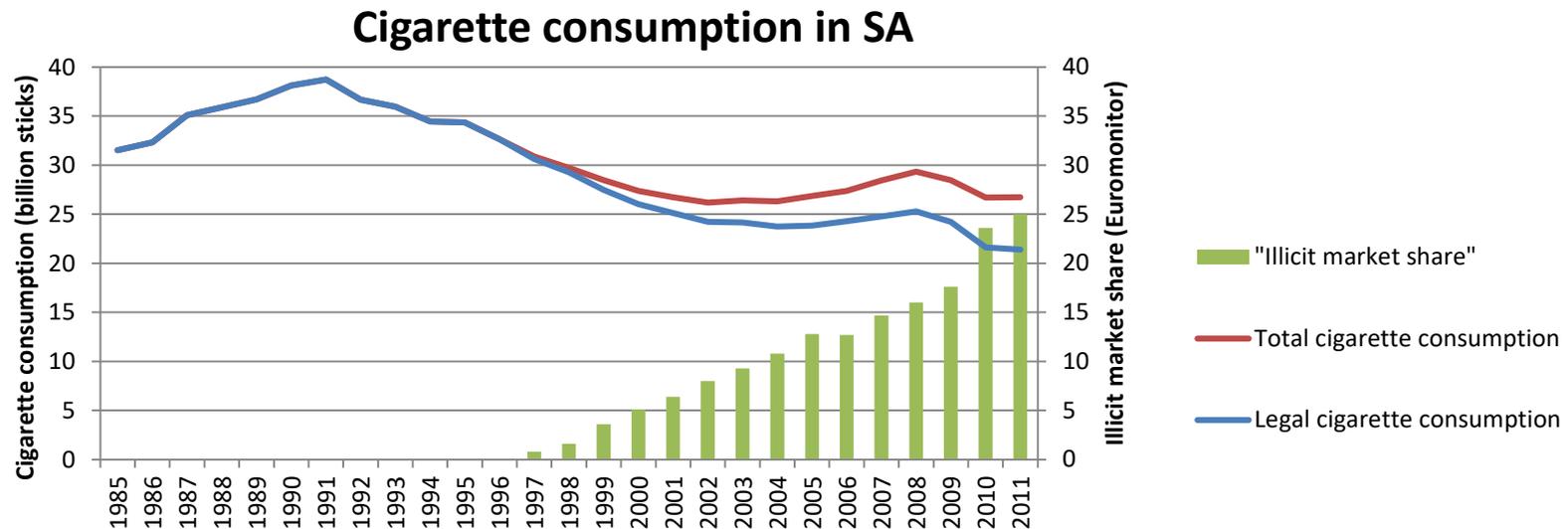
How believable are the numbers cited by the industry?

If the Euromonitor figures are correct, it implies that total cigarette consumption in SA would have increased by 12% between 2002 and 2008

Official (tax-paid) sales increased by 4.3% between 2002 and 2008

The environment is not conducive for rapid increases in smoking:

- Tough legislative environment
- Rising prices of cigarettes
- Stagnant (even decreasing) smoking prevalence



The problem

- We cannot easily get believable data on the magnitude of the share of illicit cigarettes, without doing comprehensive and expensive surveys
- The question addressed in this paper:
 - Can we determine, from official sources, whether cigarette consumption has decreased to the extent that it becomes a significant problem for government revenue?

If illicit trade in tobacco becomes an increasing problem, one would expect the following:

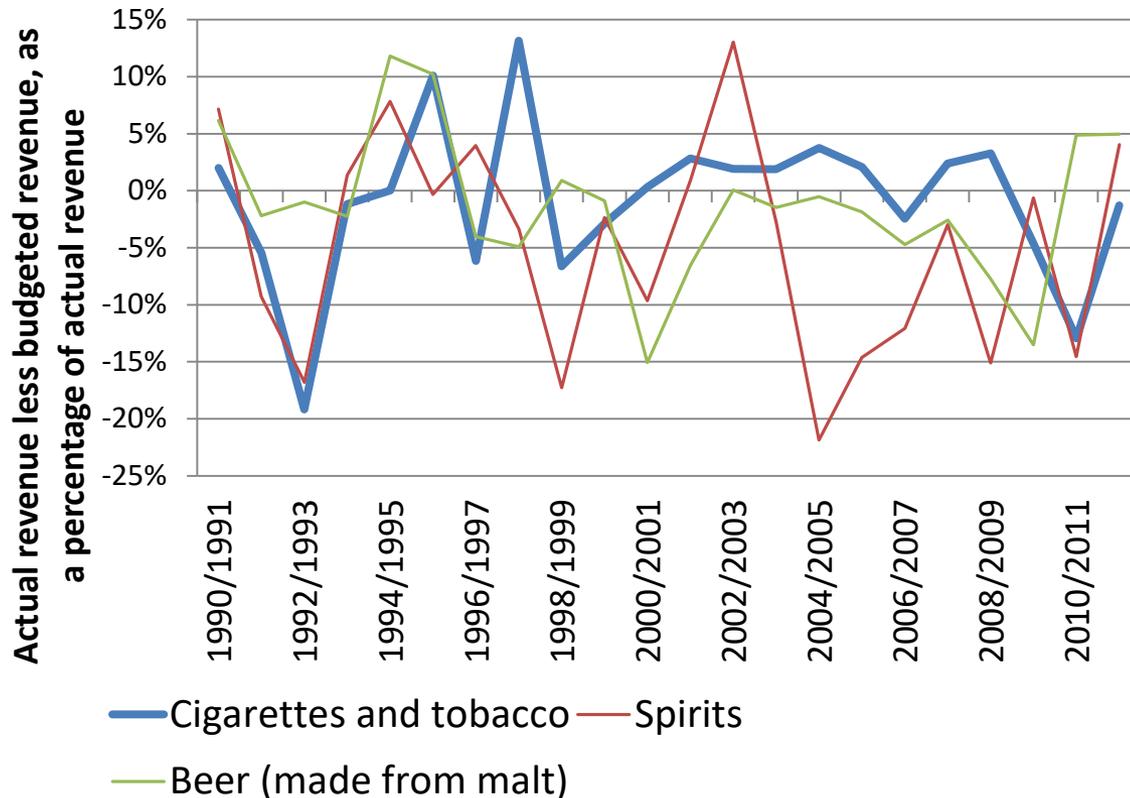
- Large deviations in actual revenue from budgeted revenue
- Consistent over-budgeting of revenues (and thus disappointing actual revenues)
- Changing budgetary expectations over time

How large are the deviations from budget, on average?

Theil's U-coefficient: zero = no deviation; large U-coefficient = large deviation, on average

Financial years by decade	Beer made from malt	Spirits	Cigarettes and tobacco products
1950/51 to 1959/60	0.090	0.090	0.221
1960/61 to 1969/70	0.133	0.049	0.040
1970/71 to 1979/80	0.093	0.140	0.047
1980/81 to 1989/90	0.084	0.115	0.034
1990/91 to 1999/2000	0.058	0.087	0.083
2000/01 to 2011/12	0.066	0.112	0.049

There is no evidence that the Treasury officials were consistently over-budgeting tobacco revenue



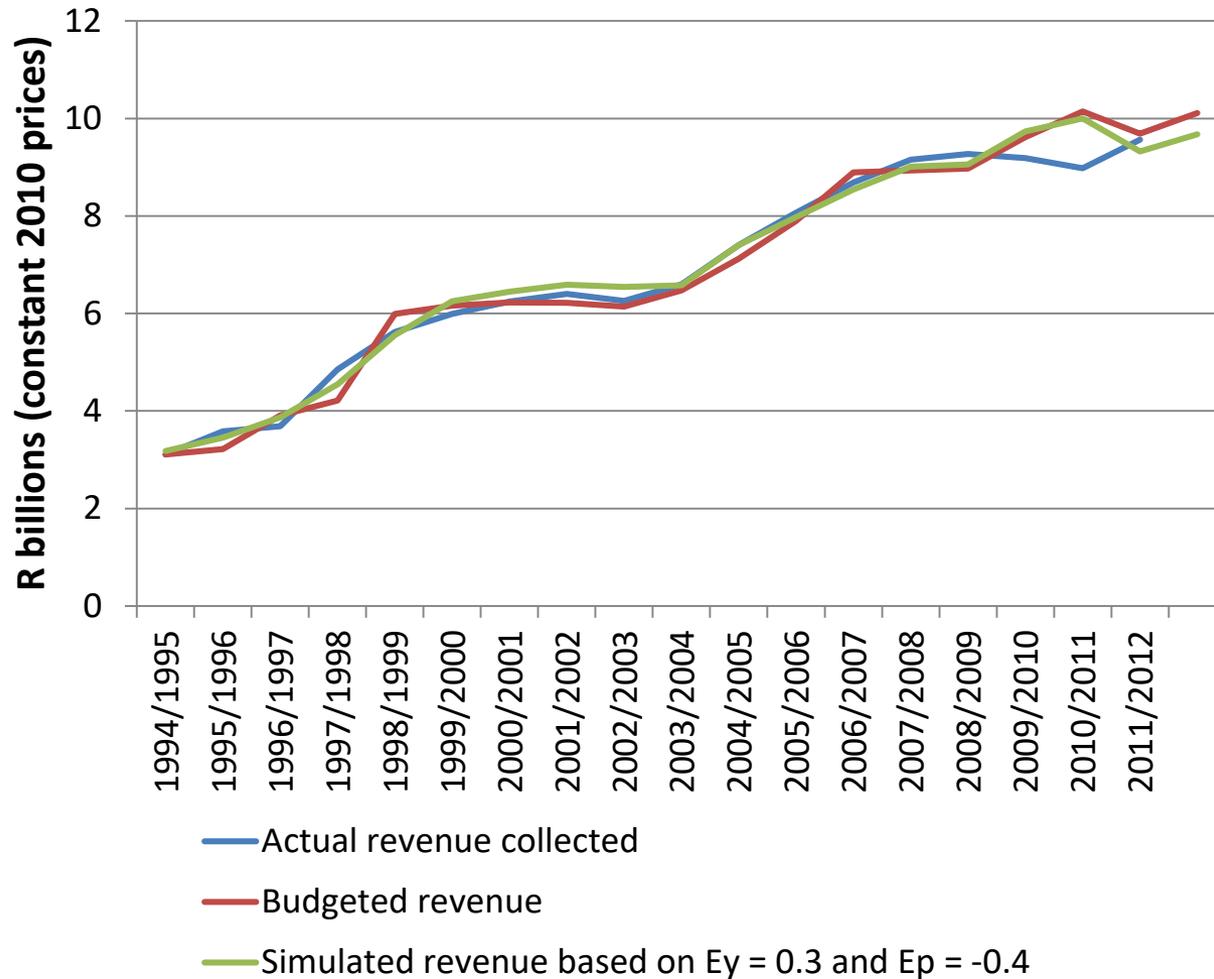
Average deviation from budget (1994/5 to 2011/12):
Beer: - 1.7%
Spirits: - 4.9%
Cigarettes & tobacco: + 0.3%

The budgeted revenues for cigarette and tobacco excise taxes were very accurate on average; for beer and especially spirits they were rather optimistic

Do the Treasury officials have a “model” when predicting excise tax revenues?

- Analysis is based on what they do, not what they say
- The two major determinants of cigarette consumption are income (GDP growth rate) and cigarette prices (and excise tax)
- Can one simulate excise tax revenues (and thus consumption) using plausible values of the income and tax elasticity of demand?
- If the simulated values closely follow the budgeted values, it implies that the demand equation is stable, and that “official” consumption figures (i.e. based on tax paid consumption) are a good approximation of actual consumption figures

Do the Treasury officials have a “model” when predicting excise tax revenues?



Comments

1. The simulated values closely follow the budgeted values over the whole period
2. The demand equation (i.e. the price and income elasticities) are stable
3. The Treasury officials have not adjusted the budgeted revenue numbers down in the latter part of the period
4. Other than a blip in 2010/11 there is no evidence that there has been a large-scale decrease in legal sales that is not explained by an increase in the excise tax or changes in GDP growth

Conclusion

- This type of study is not a silver bullet in refuting the industry's claims that there has been a large increase in illicit trade
- However, using official data, there is no evidence to suggest that increases in the excise tax has decreased the legal market by significantly more than one would reasonably expect
- Government's hesitance to increase the excise tax on tobacco on the grounds that illicit trade significantly undermines excise tax revenue has no empirical basis
- Nevertheless, government should always be vigilant in the fight against illicit trading of tobacco products