

SmokeLess New Zealand

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Tax tobacco products in proportion to their death risk

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Recommendation to the Minister of Finance to tax tobacco in line with the death risk

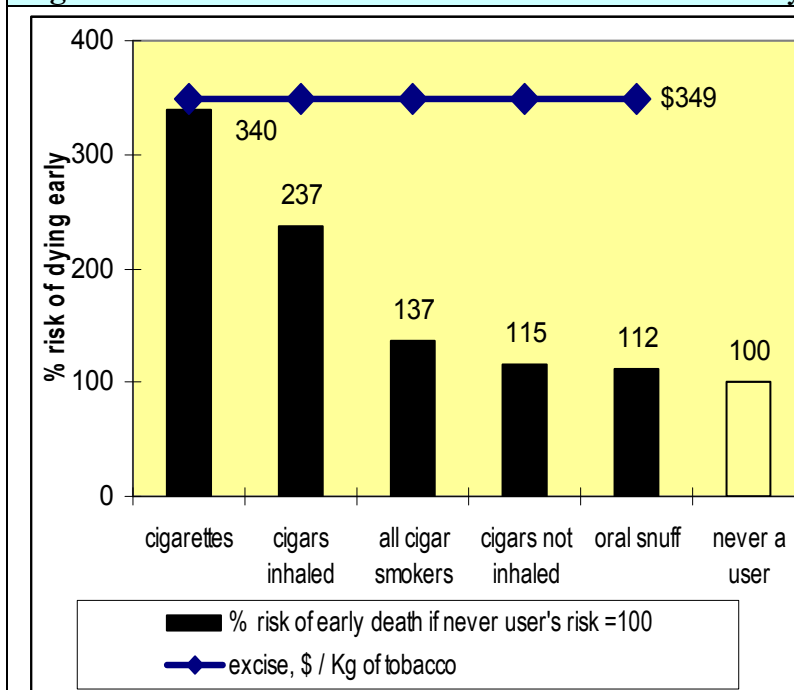
Tobacco tax rates are currently levied as a flat 35 cents per gram of moist tobacco. To align the tax rate with the mortality risk of using each class of product, and the moisture content, would result in these changes:

- ~~Cigarette tobacco (RYOs): Double the excise rate from 35 cents to 70 cents a gram.*
- ~~Cigarettes, cigar and pipe tobaccos: Leave unchanged at the current 35 cents a gram.
- ~~Snuff: Decrease the tax rate 90%, from 35 cents to 3 cents per gram.

- Table 1 suggests increase by a factor of 2.2. Recommendation based on doubling for simplicity.

FACT: THE CURRENT EXCISE RATE IS FLAT ACROSS ALL TOBACCO PRODUCTS BUT THE DEATH RISK VARIES GREATLY BY PRODUCT CLASS

Figure 1. Flat excise tax rate and the variation in mortality risk across tobacco products



Excise rate dates from Dec. 2005. For most recent rate, see www.customs.govt.nz

Risk estimates

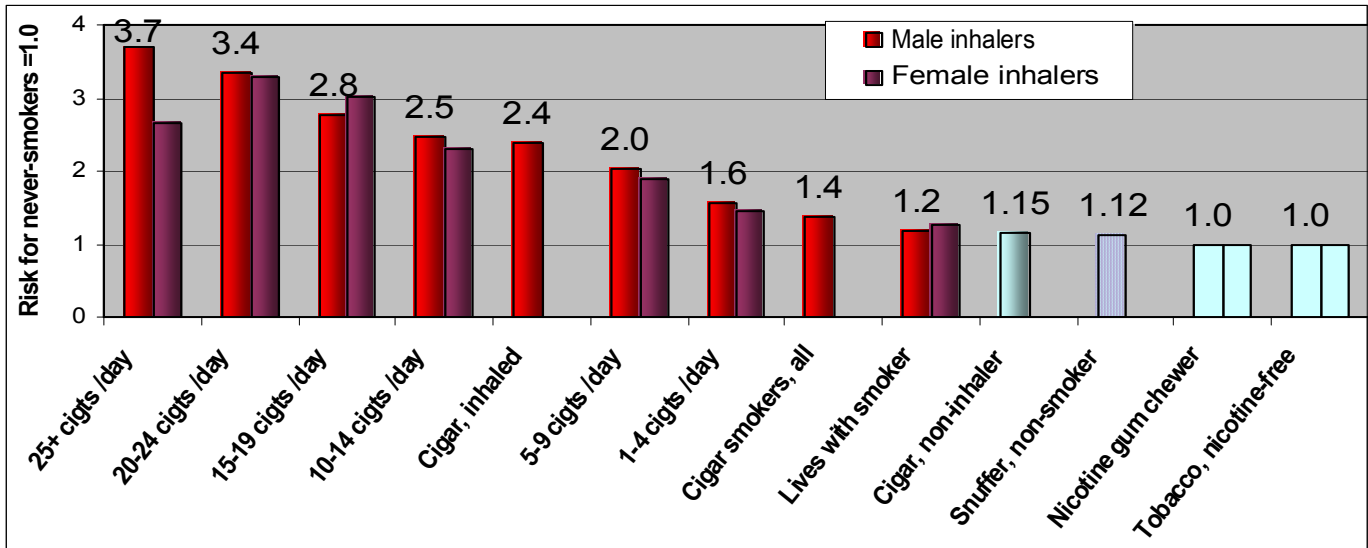
Cigarette smoking risks: Bjartveit K, Tverdal A. Health consequences of smoking 1-4 cigarettes per day *Tobacco Control* 2005; 14: 315-20, based on follow-up of 43,000 Norwegians from 1970s to 2002.

Cigar smoking risks: Cigars, health effects and trends. Monograph 9, National Cancer Institute USA, 1998, based on follow-up of 1 million US subjects for 12 years, including 22,000 cigar smokers, in Cancer Prevention Study I, 1959-72. Adjusted for the inhalation rates in cigar only smokers (the majority) and cigar smokers who formerly smoked cigarettes.

Comment: The tobacco excise rate should be proportional to the death risk, to encourage continuing tobacco users to switch away from the most dangerous types of tobacco product.

FACT: THE RISKS VARY GREATLY BY TOBACCO PRODUCT AND HOW IT IS USED

Figure 2. Relative mortality risk from smoking, inhaling, snuffing, or abstaining from tobacco



Sources:

Cigarette smoking risks: Bjartveit K, Tverdal A. Health consequences of smoking 1-4 cigarettes per day Tobacco Control 2005; 14: 315-20, based on followup of 43,000 Norwegians from 1970s to 2002.

Cigar smoking risks: Cigars, health effects and trends. Monograph 9, National Cancer Institute USA, 1998, based on follow-up of 1 million US subjects for 12 years, including 22,000 cigar smokers, in Cancer Prevention Study I, 1959-72.. Chewing cigars lit or not, is less dangerous than living with a smoker (who smokes inside), provided the smoke is not inhaled into the lungs.

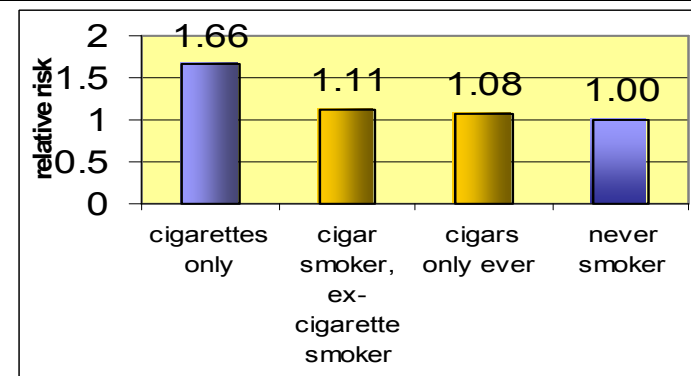
Second hand smoke risk: Hill S, Blakely T, Kawachi I, Woodward A. BMJ 2004 988-89 (24 April). Based on fate of never smokers whether living with a smoker or not in 1996 NZ census.

Risks of snus Taking tobacco by mouth (snus) involves a small residual risk, at least 10 times less risky than cigarette smoking. Levy DT et al. Cancer Epidemiology, Biomarkers and Prevention 2004; 13: 2035-42; estimated on NZ data at 5% of cigarette risks.

Risks of nicotine gum. Taking nicotine by mouth carries zero extra risk. Murray RP, et al. Safety of nicotine polacrilex gum used by 3094 participants in the Lung Health Study. Chest 1996; 109: 438-45. Followed for 5 years, compared with 1900 controls. No increase in hospitalization or mortality in the nicotine gum chewers.

CIGARETTES ARE MUCH MORE DANGEROUS THAN CIGARS

Figure 3 . Cigarette and cigar smoking risks of dying early compared with not ever smoking.



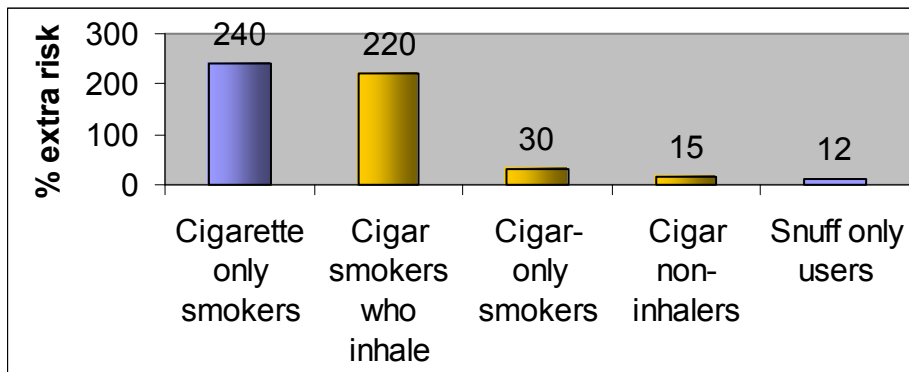
- This graph compares the risks of smoking cigarettes with all cigar smokers, including those who inhale the cigar smoke.
- The cigar smokers who have been cigarette smokers have increased risk due to their past cigar smoking.
- The 5-15% of cigar smokers who inhale the smoke into their lungs, have a risk 90% of that of cigarette smokers.
- The cigarette smoke relative risk is lower than in more recent studies, possibly due to less second hand smoke exposure of never smokers in recent years.

Cigar smoking risks: Cigars, health effects and trends. Monograph 9, National Cancer Institute USA, 1998, based on follow-up of 1 million US subjects for 12 years, including 22,000 cigar smokers, in Cancer Prevention Study I, 1959-72

Clearly, as Figure 3 shows, the risk of the average cigar smoker is one-sixth or less than that of cigarette smokers.

FACT: CURRENTLY A FLAT RATE OF TAX APPLIES PER GRAM OF TOBACCO CONTENT

Figure 4. The extra percentage risks of smokers or snuffers dying early (based on no extra risk for never smokers.)



1. *Cigarette smoking risks*: Bjartveit K, Tverdal A. Health consequences of smoking 1-4 cigarettes per day. Tobacco Control 2005; 14: 315-20, based on followup of 43,000 Norwegians from 1970s to 2002. Assumes 20-2 cigarettes per day. This shows that the risk of smoking 20-24 cigarettes a day was 3.4 times the risk of never smoking, or as we show it here, and excess risk of 240%.

2. *Cigar smoking risks due to inhaling*: Cigars, health effects and trends. Monograph 9, National Cancer Institute USA, 1998, based on follow-up of 1 million US subjects for 12 years, including 22,000 cigar smokers, in Cancer Prevention Study I, 1959-72. This publication provided cigar risks as a fraction of cigarette smoking risks, which was then applied to ref. 1) above. Inhaling cigar smoke resulted in 90% of the mortality risk of cigarette smoking.

3. *Cigar smokers in general* in ref. 2. had 15% of the risk of cigarette smokers in Ref 1, giving an excess risk from cigars of 37% above that of never smokers.

4. *Cigar smoking without inhaling* was 6% the risk of smoking cigarettes, or 15% extra risk over that of never smokers (whose baseline risk is 100%).

5. *Risks of snus* The risks of using snus are 10% of the risks of cigarette smoking according to Levy DT et al. Cancer Epidemiology, Biomarkers and Prevention 2004; 13: 2035-42, after these data were applied to New Zealand mortality statistics. This equates to a 12% extra risk over and above the risks for never smokers.

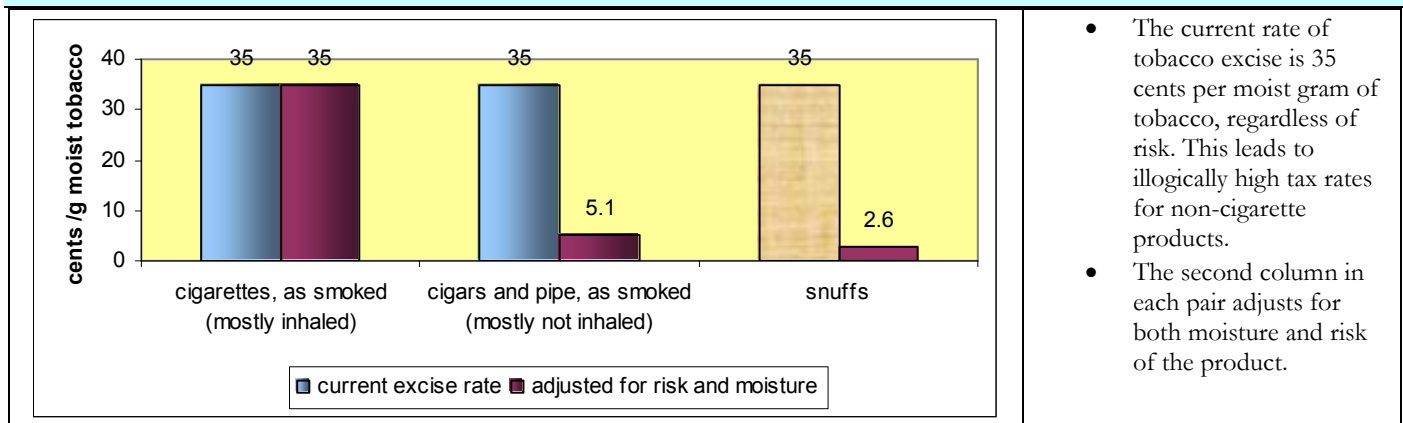
Table 1. Risk to regular tobacco users per gram of dry tobacco consumed daily

	% moisture	Excess risk of daily lifetime use	Daily dose moist g	Daily dose dry g	Excess risk per gram dry tobacco	Tax per gram of moist product if cigarette tax rate unchanged
	A	b	c	d=(100-a)*c/100	e=b/d	35*e/20.7
Cigarette tobacco	19	240	6.6	5.3	45.3	76
Cigarettes	13.5	240	13.4*	11.6	20.7	35
Pipe tobacco	19	37	16	12.96	2.9	5
Cigars	12	37	16	14.08	2.7	5
Moist oral snuff	50	12	10	5	2.4	4
Nasal snuff	33	12	10	6.7	1.8	3
Dry oral snuff	25	12	10	7.5	1.6	3

Source: Figure 3. For moisture content: <http://www.ndp.govt.nz/tobacco/tobaccoreturns/2004/analysis/analysis-2004-tablesa-e.pdf>

* based on 18.3 cigarettes daily, of 0.73g tobacco each. Fraser T, McRobbie H et al. Evaluation of Smokestop an internet based smoking cessation programme. Auckland, 2006. www.smokeless.org.nz/ryotax.htm

Figure 5. The January 2006 excise rate for tobacco products, and revised rates assuming that cigarette tax rate stayed at 35 cents a gram, and other product rates were adjusted in line with mortality risk, and moisture content.

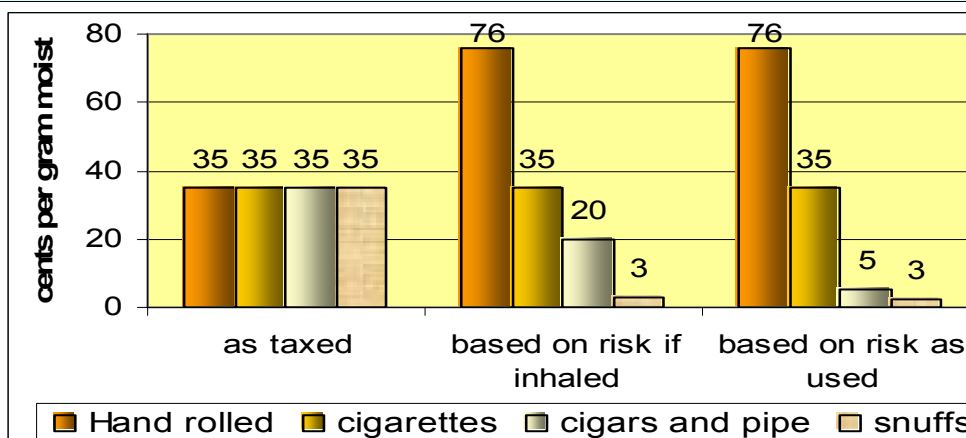


- The current rate of tobacco excise is 35 cents per moist gram of tobacco, regardless of risk. This leads to illogically high tax rates for non-cigarette products.
- The second column in each pair adjusts for both moisture and risk of the product.

Source: Figure 3 and Table 1.

- **Cigar smokers** For all cigar smokers combined, whether inhalers or not, cigar excise rates should be only 15% that of the cigarette excise rate, instead of 100% as at present.
- Allowing for the fact that 10% of cigar smokers inhale moderately or deeply, the overall risk for cigar smokers who inhale more than slightly is equal to smoking about 10 cigarettes a day. Therefore there is a case for levying a cigar rate that is close to that on cigarettes.
- **Pipe tobacco** risks and excise rate is assumed to equal the cigar rate, as the smoke is harsh and alkaline in both cases.
- **The risk of snuff** is assumed to be 5% of that of smoking 20 cigarettes a day.(Figure 1), and the tax 7% of the cigarette rate, after allowing for moisture.
- **Revenue.** As the non-cigarette products constitute only 1% of all tobacco use, any loss of revenue can be easily made up by a small increase of the cigarette excise rate.

Figure 6. A. The January 2006 excise rate for tobacco products, 35 cents per gram of tobacco. B. Revised excise rates assuming that cigarette tax rate stayed at 35 cents per gram and other product rates were adjusted in line with each product’s relative mortality risk, and if cigars inhaled. C. Cigars as used, inhaled or not, and in line with the moisture content of each tobacco product.



Between 5% and 15% of cigar smokers inhale.¹ If the tax was based on the supposition that new cigar smokers all inhaled, then the tax on cigars should (from Fig 2 above), be equal to $(2.4-1)/(3.4-1) = 58\%$ of the current rate for cigarettes.

Cost to Government

- 99% of all tobacco sold is as cigarettes, or RYO cigarette tobacco. This form of tobacco use carries the highest risk to the smoker, and the highest cost to society and to Vote Health.
- Under 1% is sold as cigar tobacco. Snuff is permitted for nasal use but not for oral use.
- Less tax on snuff would encourage smokers to switch to less harmful ways of using tobacco. Revenue would be little affected, as 99% of revenue is from cigarettes.

1. Five percent of those who had only smoked cigars, and 15% of those who had previously smoked cigarettes, inhaled cigar smoke moderately or deeply into the lung, with a risk of 50-90% that of cigarette smoking. *Cigars . Health effects and Trends*. Monograph 9. US National Cancer Institute 1998, p.108, 113.