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Estimating missed government tax revenue from foreign tobacco: survey of discarded cigarette packs

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ABSTRACT

Aim: To clarify the extent of use of foreign (including duty free, foreign normal retail and smuggled) tobacco, and to estimate missed government tax revenue in a geographically isolated country.

Methods: Discarded cigarette packs were collected on the streets of four cities and six New Zealand towns/rural locations between November 2008 and January 2009.

Results: Out of a total of 1310 packs collected, 42 foreign packs were identified (3.2%, 95% CI 2.4% to 4.3%). Overall, the distribution of packs by country and company was not suggestive of any clustering that might indicate smuggling. At 3.2% of packs being "foreign", the New Zealand government is losing around \$36 million per year in tobacco-related tax relative to if all this tobacco was purchased in New Zealand. For various reasons (including that it was not possible to identify packs bought duty free within New Zealand, and other New Zealand survey data indicating duty free product use at 3.8% of packs), the figure reached is probably an underestimate of the true level.

Conclusion: The New Zealand government is missing out on revenue that could be used for improving the funding of tobacco control, and smokers are being exposed to cheaper tobacco thus increasing their risk of continuing to smoke. This government and other governments can and should act at the international and national levels to end the sales of duty free tobacco.

Duty free sales of tobacco and tobacco smuggling are a major problem for public health, as both activities undermine high prices from tobacco taxation, which is a key tobacco control measure in New Zealand¹ and elsewhere.² These duty free and smuggled brands may also lack graphic health warnings, so consumers are less well informed.

The scale of smuggling has been assessed previously via a study of discarded cigarette packs in just one published study (ie, in France).³ In New Zealand there have been no studies of smuggling, and reports by customs authorities of smuggled tobacco appear rare, with the last report we identified being in 2002.⁴ New Zealand is geographically isolated (2000 km from Australia) and appears to have a relatively effective Customs service, judged by the development of various indigenous illicit drugs industries over the decades.^{5,6}

Duty free purchases have been investigated in a national New Zealand tobacco use survey (NZTUS) in 2006, which asked: "Thinking about the packet of cigarettes that you are currently smoking, where did you get it from?"⁷ It found 3.8% gave duty free as the source (95% CI 2.5% to 5.1%). One of the three major tobacco companies

operating in the New Zealand market reported for the 2008 year that its duty free sales in New Zealand⁸ were 7.1% of its total sales by volume. To further clarify the scale of foreign tobacco use (including duty free, foreign normal retail and smuggled tobacco) in New Zealand, and to estimate missed government revenue, we undertook a study of "foreign" cigarette packs.

METHODS

As part of a separate study that was primarily on cigarette pack health warnings, we collected discarded cigarette packs in four cities and six New Zealand towns/rural locations between November 2008 and January 2009. Collection was by 3 of the authors, colleagues (n = 10) and a paid student. All packs seen in the street were collected, no matter how damaged (but packs in garbage receptacles were not included). At the collection time, none of those collecting the packs anticipated studying the "foreign" pack issue (as the focus was on a study question concerning health warnings on packs). When abstracting information on each pack, the "foreign packs" were easily recognised as: (i) they lack the distinctive graphic warnings required in New Zealand; and (ii) they all lack the use of Māori language as part of the New Zealand health warning. Information on these "foreign packs" was then recorded and analysed.

For the purposes of this article we define "duty free sales" as being from foreign duty free stores (ie, not New Zealand duty free stores where it is required that packs have specific graphic health warnings and which could not be separately identified in this study). By "foreign normal retail" we mean purchased in a normal retail outlet in a foreign country and brought in to New Zealand for personal use. By "smuggled" packs we mean those which have been brought into the country en masse for purposes of onward sale, but where normal excise tax has not been paid in New Zealand.

RESULTS

Evidence around smuggling

Out of a total of 1310 packs collected, there were 42 foreign packs identified (3.2%, 95% CI 2.4% to 4.3%). According to details on the packs, Australia was the most frequent source of these packs, but 12 other countries/regions were involved (table 1). Other than British American Tobacco (BAT) (50% of the packs) and Philip Morris (17% of the packs), none of the other named companies produced more than two of the packs found. Marlboro (one of the most popular brands for counterfeiting and smuggling)⁹ was the brand for six packs but these

came from three different localities (Australia, China and the European Union). Overall, the distribution of packs by country, brand and company (table 1) was not suggestive of any obvious clustering that might indicate substantial smuggling activity associated with a particular company's products.

Foreign packs and graphic health warnings

Graphic health warnings were present on 22 of the 42 packs (52%) with all of these being warnings required in the Australian market (ie, some were made for this market in China, Germany and Korea).

Missed revenue related to foreign packs

The foreign packs nearly all lacked information that would indicate whether they were sold as duty free product (since such markings are not routinely mandated). But here we assume that all foreign tobacco products represent lost tax revenue to the New Zealand government (which theoretically could ban any tobacco from being carried across its borders and stop all duty free sales within its borders). Given this, if 3.2% of tobacco consumed in New Zealand is via foreign packs, the government is losing around \$36 million per year in tobacco-related tax, relative to if all this tobacco was purchased in local shops instead ($((\$1104 \times 100/96.8) - \$1104)$ where it is assumed for this calculation that the current total tax take is around \$981 million of excise/customs duty, plus goods and services tax (GST) of \$123 million).¹⁰

DISCUSSION

Interpreting the results

The methods by which the 3.2% of "foreign" packs came into New Zealand could include: (i) being smuggled; or (ii) being bought in a foreign country by travelling New Zealanders or tourists (probably mainly as cheaper duty free, but also as routine priced "foreign normal retail" packs from the country of departure). The distribution pattern of the packs and the NZTUS survey data suggests that very few are smuggled. Under a worst case scenario assumption that all the non-Australian packs were counterfeit and smuggled, this would be 1.8% of packs (23/1310).

Nevertheless, the proportion of foreign packs identified is still a concern as it means that some smokers (tourists and returning travellers) are not exposed to the full local New Zealand price of

tobacco, and so may have less motivation to quit or cut down their consumption. It is also a problem in terms of missed government revenue.

Our calculations of missed tax revenue are conservative, in that they do not include the excise duty and sales tax (GST) on New Zealand branded duty free tobacco products sold to travellers at duty free stores in the arrival areas of New Zealand international airports. We could not identify these products as they have standard New Zealand graphic health warnings and no special markings. The 2006 NZTUS results (3.8% of packs consumed are duty free) probably largely reflect this New Zealand source, as it is much easier for incoming travellers to buy cartons of cigarettes on arrival compared to buying them in the country they left from (and then having to pack them in luggage and carry them).

Limitations

This study did not involve random sampling from around the country and hence may have included areas in that were under or over-represented by tourist numbers and by New Zealanders who travel overseas. A further, larger random sample would provide greater certainty in the results. We also lacked the expertise to identify if any of the packs may have been counterfeit.

Another area of underestimation of "foreign packs" may arise from New Zealand-exported tobacco to the South Pacific that is brought back into New Zealand. Our survey may not have detected such product if it had New Zealand graphic health warnings (eg, the Cook Islands requires either Australian or New Zealand warnings on its tobacco products).¹¹ In contrast, we might have slightly overestimated the foreign packs from Australia in that we have subsequently noticed (in June 2009) one brand of cigarette packs with Australian government health warnings for sale in New Zealand. Nevertheless, at the time of our street collection our surveillance of in-store product did not identify any such sales.

Policy implications

While the results do not suggest significant proportions of smuggled tobacco packs in New Zealand, the government and tobacco control workers should not assume that this situation will continue. The potential for internationally comprehensive "coding and tracking" systems for detecting smuggled and contraband products,¹² needs to be pursued if only to prevent

Table 1 Country or region of origin of the "foreign" cigarette packs out of 1310 street-collected packs

Country/region of origin	No. of packs	Percentage	Named tobacco companies per country/region
Australia	19	45.2	4
China	7	16.7	4
Korea	2	4.8	2
Malaysia	2	4.8	2
Fiji	2	4.8	1
European Union	1	2.4	1
Germany	1	2.4	1
Hong Kong (China)	1	2.4	1
Indonesia	1	2.4	1
Philippines	1	2.4	1
Singapore	1	2.4	1
USA	1	2.4	1
Not stated	3	7.1	2
Total	42	100.0	22

What this paper adds

- Duty free sales of tobacco and tobacco smuggling are a major problem for public health, as both activities undermine high prices from tobacco taxation, which is a key tobacco control measure. One way to explore these issues is via research on discarded cigarette packs, though we found only one such published study using this data source.
- In this paper we showed that it was possible to provide an estimate for the proportion of "foreign packs" from street-collected discarded cigarette packs. We also showed that such a data source could provide information around the possibility of smuggling and the substantial missed government revenue from tobacco tax. An implication of the latter is that government action to eliminate duty free tobacco sales could improve the funding of tobacco control, and reduce the extent of smokers being exposed to cheaper tobacco.

Brief report

New Zealand being a source of smuggled tobacco for other places. For example transport to specific Pacific Islands is sometimes most readily undertaken via New Zealand (eg, to Samoa).

The consumption of tobacco purchased duty free or in foreign countries with lower priced tobacco represents significant missed revenue that could be used to fund improved tobacco control programmes and other health services. Where this "foreign" tobacco is of a lower cost than in New Zealand, smokers are at greater risk of continuing to smoke, compared to if they were paying New Zealand prices. The options for New Zealand and other countries to address this situation include a changed international agreement on duty free tobacco (through the Framework Convention on Tobacco Control process). New Zealand could also explore bilateral approaches with Australia to mutually remove duty free tobacco sales. A further option would be for countries to adopt a license system for tobacco retailers, and then to not license duty free shops to sell tobacco.

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