RESEARCH PAPER

Paradoxical increase in cigarette smuggling after the market opening in Taiwan

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Objectives: To assess the magnitude of cigarette smuggling after the market opened in Taiwan.

Methods: Review of tobacco industry documents for references to smuggling activities related to Taiwan and government statistics on seizure of smuggled cigarettes.

Results: The market opening in 1987 led to an increase in smuggling. Contraband cigarettes became as available as legal ones, with only a small fraction (8%) being seized. Being specifically excluded from the market-opening, Japan entered the Taiwan market by setting up a Swiss plant as a legal cover for smuggling 10–20 times its legal quota of exports to Taiwan. Smuggling in Taiwan contributed to increased consumption of foreign brands, particularly by the young. Taiwan, not a member of the World Health Organization, was excluded from the East Asian 16-member "Project Crocodile", a regional anti-smuggling collaborative effort to implement the Framework Convention on Tobacco Control.

Conclusions: Taiwan showed a sharp increase in smuggling after market liberalisation. Being excluded from the international community, Taiwan faces an uphill battle to fight smuggling alone. If Taiwan remained as its weakest link, global efforts to reduce tobacco use will be undermined, particularly for countries in the East Asian region.

Under governmental monopoly on marketing tobacco for nearly a century, the consumption of foreign cigarettes was virtually non-existent in Taiwan (less than 2% of total cigarettes consumed) until 1987 when the market was forced open by the United States.¹ Foreign tobacco, with its market share jumping to 18% within a year, became increasingly available and quickly increased to constitute more than half of the Taiwanese market in 15 years.^{2–3} Given this rapid expansion and availability of legal imports, the issue of smuggling should have been of prime importance for tobacco control. Smuggling is generally expected to reduce in a free market environment, having removed barriers to access of foreign cigarettes. On the other hand, tobacco tax is usually the single biggest component of retail price, so there remains great incentives for smuggling by avoiding that large tax. The balance of these countervailing forces would be of interest, and yet its implication has never been carefully analysed before. By tracking official statistics and exploring tobacco industry documents, this study attempts to address why, how, and to what extent smuggling came about after the market was liberalised, its associated impact on tobacco control, and the difficulties Taiwan encountered in launching anti-smuggling activities.

METHODS

Using the key word "Taiwan", internal tobacco industry documents stored in the Legacy Library at the University of California, San Francisco⁴ and in the Guildford and Minnesota collections of British American Tobacco (BAT)⁵ documents were searched, revealing a total of 2890 documents and 950 documents, respectively. These were manually reviewed for any reference to smuggling, including the screening of covert code terms used within the tobacco industry, in their efforts to avoid the use of the word "smuggling". The code words widely practised in this industry included the use of words such as "tax-free", "parallel import", "GT" (general trade), "partial duty paid", "transit", "duty not paid" (DNP) or "contraband". Documents came mainly from three companies: Philip

Morris, British American Tobacco (BAT), and RJ Reynolds (RJR). By and large, smuggling data related to Taiwan from these three companies were quite compatible with each other, reflecting their validity, although occasional inconsistencies, such as when addressing market share estimates, were encountered. Data from Taiwan Tobacco and Wine Monopoly Bureau (the Monopoly Bureau), a branch of the Finance Department of the government, and the Customs Office were used to compile the annual amount of cigarette consumption,² legal cigarette imports,⁶ and seizures from intercepted smuggling.² Tobacco Country Profiles⁷ published by the American Cancer Society was the source for market changes within the other Super 301 countries that opened the market during this time.

RESULTS

Smuggling quantity

Before the market opening, a small amount of foreign cigarettes were legally imported under high tariffs. At the same time, smuggling existed, as evidenced by the amount seized in 1986—4800 cases, amounting to 9% of imported cigarettes in that year (table 1). Relative to the amount of imports consumed, this level of smuggling was not insignificant, and yet it was minimal compared with those in later years. Within two years after the market opened, when legal imports increased 10-fold, the seized amount of contraband, as shown in table 1, also rose nearly 10-fold. Internal industry documents estimated that the increase in smuggled volumes outpaced the increase in legal imports, as seized contrabands only represented a variable fraction of the total, and for at least three years, the smuggled volumes were found to surpass the legal imports. By aggregating and compiling industry estimates, supplemented by official seizure data between 1988 and 1995, smuggled cigarettes amounted to an average of 78% (ranging from 52–138%) of total legal imports. As a result, the smuggling-related loss in tax revenue was as much as the actual revenue gained from legal imports, with an average of 89% (52–138%) of the tax actually collected.

Table 1 The legal and smuggled cigarette market in Taiwan

Year	Legal market	Legal imports (% of market)	Smuggled estimates (% of legal Imports)	Amount seized (% smuggled)	Estimated tax revenue lost as % of actual revenue from legal imports (US\$ in million)
1986	3119	52 (2%)	NA	4.8	
1987	3427	580 (17%)	NA	17	
1988	3678	576 (20%)	553 (96%)	45.1 (8%)	96% (\$168 million)
1989	3489	526 (18%)	570 (108%)	36.5 (6%)	108% (\$187 million)
1990	3506	573 (16%)	791 (138%)	57.4 (7%)	138% (\$249 million)
1991	3556	505 (14%)	660 (131%)	1.4 (0%)	131% (\$224 million)
1992	3570	1141 (28%)	708 (62%)	129.7 (18%)	62% (\$241 million)
1993	4373	1461 (33%)	760 (52%)	67.4 (9%)	52% (\$248 million)
1994	3672	814 (22%)	588 (72%)	38.1 (6%)	72% (\$192 million)
1995	3791	1019 (27%)	544 (53%)	27 (5%)	53% (\$172 million)
Average 1988–1995	3704	827 (22%)	647 (78%)	50 (8%)	89%

Source: British American Tobacco⁹ 12 51 Monopoly Bureau²
Unit: 1000 cases (1 case = 500 packs = 10000 cigarettes)

The proportion of smuggled versus legal imports varied among tobacco companies. For example, 14% of BAT products and 17% of Philip Morris products in Taiwan were illegal in 1993⁸ by the industry's own account, while the proportion from Japan Tobacco International (JTI) was several times higher, 92% in 1992, 86% in 1993 and 70% in 1994.^{9–11} Reasons for such a large proportion of smuggling by JTI will be explained later, but the ratio reflected smaller amounts of legal imports from JTI. Nevertheless, in one given year, JTI products reportedly contributed up to 90% of the total cigarette contraband in Taiwan.^{12 13}

Price and preference of contraband

In Taiwan, some contraband cigarettes were reportedly able to fetch higher prices than their legal counterparts. A market survey from Philip Morris in 1995 stated prices for legal Mild Seven were NT\$35–50, with the median at NT\$40, while for smuggled Mild Seven, NT\$50–70, with the median at NT\$60,¹⁴ or 50% more expensive than legal cigarettes. Other contraband brands like BAT were sold at 11–22% above retail prices for legal products.⁹ This paradoxical or unthinkable phenomenon came about because “smuggled cigarettes were perceived by consumers as genuine imports and offering superior quality, and generally command a premium price”.^{11 14} By bypassing the custom, contrabands were believed by many smokers to be fresher than otherwise. One outcome of these higher priced cigarettes on top of the tax evaded was the much higher trade margins for the retailers than legal imports, with “market” margins from 15% to over 30% for the former but fixed at 8% for the latter by law,^{11 12 15} providing more incentives for contraband sales at the retail outlets.

Aided and abetted by the growing smuggling, a shift in smoker preferences and an increase in consumption for these smuggled brands occurred. Young adult smokers (aged 18–24) increasingly preferred foreign brands over domestic, from near zero before market opening to 64% by 1994, of which 34% preferred Mild Seven. Given the massive smuggling by JTI, the consumption of Mild Seven surged and led its attractiveness to becoming the leading brand smoked by the youth.¹⁶ Adult smoking rates increased by 14% and 52% among males and females, respectively, within three years of the market opening.¹⁷ Likewise, per capita cigarette consumption increased by 10%, from 1604 pieces to 1758 pieces, within one year of the market opening.^{18 19} By 1995, while the per capita consumption was 11% above pre-opening levels, Taiwan added one million smokers smoking foreign brands. These post-opening changes exceeded the estimate made by Chaloupka and Laixuthai, who reported an average of 10%

consumption increase among the four Asian countries upon market opening.²⁰

Contraband distribution system

To be successful in smuggling, contraband cigarettes need a distribution system for retailing.²¹ Upon market opening, foreign tobacco companies took advantage of the fledgling betel quid vending kiosks at that time, and asked them to sell imported cigarettes, hitherto limited to licensed vendors. Quite a few smokers purchased their cigarettes from these betel quid kiosks, growing all over the island (27.5%).²² The business of these stalls or kiosks²³ was boosted by the addition of foreign cigarettes sales and led to a rapid increase in its number.³ These betel quid vendors soon became the distribution venues for smuggled cigarettes.^{11 24} As much as 90% of retail outlets openly displayed smuggled cigarettes,¹¹ particularly favoured by young adults (56%), aged 18–34.²⁴ As these kiosks provided a fertile ground for Japanese cigarettes, US trade representatives expressed specific concerns to Taiwan, in regards to allowing unlicensed vendors selling cigarettes, both legal and illegal, as one major issue during the 1992 trade negotiations.^{1 11}

Contraband confiscation rates

Between 1988 and 1995 an estimated average of 8% of contraband was intercepted by law enforcement (table 1). This meant that 92% of smuggled product successfully penetrated the market. During these years, smuggling cost Taiwan \$1.68 billion dollars from foregone tax revenue, an amount almost equal to the actually collected tax revenue from cigarettes. To alleviate smuggling losses, government launched a series of auctioning for these confiscated cigarettes.² Such an action triggered repeated protests by the US, as these auctions were tantamount to promoting smuggled products from Japan.^{11 23 25} After 1993, the Monopoly Bureau responded by destroying the seized products instead. As soon as the destruction started, however, the amount of confiscations sharply decreased to less than one half while levels of smuggling remained (table 1).

Smuggling in other Super 301 countries

Four countries (Japan, South Korea, Thailand and Taiwan), known as Super 301 countries,^{1 20} opened their cigarette markets in the late 1980s.^{1 20} All four countries saw their market shares of foreign cigarettes increase, but the largest increase occurred in Taiwan (table 2). From opening to 2000, the market share jumped from 2% to 48% in Taiwan, while in Japan, South Korea and Thailand the increases were much smaller, from 5% to 24%, from 0.1% to 9%, and from 2% to

Table 2 Comparison of market share changes among the four Asian Super 301 countries after market opening

Year market opened	Japan (1987)	Taiwan (1987)	South Korea (1989)	Thailand (1990)
Year before market opened	5%	2%	0.1%	2%
1990	13%	16%	5%	3%
1995	18%	27%	14%	13%
2000	24%	48%	9%	18%

Sources: Annual Statistical Report of the Monopoly Bureau (Taiwan data); British American Tobacco (Japan and Korea in 1993); Tobacco Control Country Profiles, ACS⁷ (Japan and Korea in 1990, 1995); BATUKE⁵² (Thailand).

18%, respectively. One reason for this 2–5 times larger market share of foreign imports in Taiwan came from the result of massive smuggling. Although data on other Super 301 countries are sketchy, the level of smuggling reported in the industry documents seemed to have paralleled the amount of legal imports.^{13–26} Taiwan, caught off guard and lacking a comprehensive tobacco control policy, had earned the unenviable position of having the largest smuggled cigarette market among them, constituting an average of 78% of the legal imports and 17% of the total market.

Complicity of tobacco companies in their roles in smuggling

Smuggling was extensively discussed as part of the business plans of tobacco companies. Quotes were selected from the internal documents and shown in table 3, arranged according to the 4 P's of social marketing: price, place, product, and promotion.²⁷ These quotes provided strong evidence that tobacco companies were directly involved in aiding and abetting in the various phases of the smuggling process, with some having business units specifically responsible for this "transit" operation.^{11–28–30} In addition, because of the unique situation of Taiwan in selectively opening the market to the US and European tobacco companies, such restriction promoted the smuggling phenomenon. Due to an unfavourable trade imbalance, Japan was excluded from the cigarette market opening.¹¹ In desperation, JTI resorted to smuggling to gain a competitive position with other foreign companies.³¹ JTI set up a small manufacturing plant in Switzerland as a legal cover for importing to Taiwan,^{11–12} and smuggled between 10–20 times the legal quota of their main product Mild Seven, as estimated by competitors of JTI.^{11–15} It would be inconceivable to smuggle such a large quantity for a number of years without the direct involvement of JTI. This type of smuggling operation is characteristic of an extended version of the "umbrella operation",^{32–33} as described by Collin *et al*,³⁴ where "a token legal presence [in Switzerland] enabled marketing and promotional activities to be undertaken in support of contraband [in Taiwan]". In other words, JTI set up production in European facilities, first in Switzerland and later in Manchester, UK,³¹ serving as legal cover for justifying the large presence of smuggled cigarettes, which would otherwise be faced with prohibition in the market place. Because of the geographic distance, only a small amount of European-made cigarettes could be produced and shipped to Taiwan. The bulk of the products, as expected, were logistically more efficient to come either directly from Japan or locations in closer vicinity, by way of smuggling. The fact that over 80% of Mild Seven, the leading foreign brand in Taiwan, was smuggled product provided strong evidence that JTI had to be involved in the process.¹¹

DISCUSSION

This study is the first to document one of the unexpected effects of market opening: the extent of smuggling and the complicity of tobacco companies in a country during transition from a governmental monopoly to a liberalised and competitive market. This paper unveils the massive smuggling that occurred after foreign cigarettes became legally available, an unthinkable phenomenon. Although smuggling was also encountered in other Super 301 countries,^{13–35} its magnitude in Taiwan was by far the largest, once referred to as the "smuggler's paradise".¹⁰ The effect of smuggling lingered on far beyond the immediate period of market opening and, as of 2002, or 15 years later, more than half of the import-smoking young smokers purchased smuggled products.²⁴ The impact of smuggling on the youth was devastating as it affected preference and increased consumption of the foreign brands. Evidence, shown in table 3, has been compelling that tobacco companies were intimately involved, aided and abetted, or directed smuggling activities, in order to circumvent legal quotas, to increase their immediate profits, and to expand their long-term market share.^{8–10–12–14–21–32–34–36} The success of JTI experience attested to the fact that these objectives have been largely achieved, resulting in extraordinary financial gains and market domination by this tobacco company for an extended period of time.^{3–11–27}

To the general public, it seems counter-intuitive to see massive smuggling upon liberalisation of the market. Market opening lowered the tariffs and the price of foreign cigarettes, and, along with competition, low cigarette price was maintained.³ Smokers in Taiwan, having easier access to these products, gradually developed their taste and preference for the imports. When the demand for imports grew, with more smokers seeking these products, so grew the market for smuggled ones.^{3–11–13–16–27} This seemed to be a fundamental reason for the smuggling increase, as expanding market would attract more contraband business, a highly profitable endeavour. However, additional reasons accelerated the smuggling increase, and produced a magnitude of smuggling as large as the one seen in Taiwan.

First, these tobacco companies (such as JTI and BAT), in direct competition with one another for profit and market share, resorted to smuggling in order to gain an advantage over each other. BAT, in its business report, considered smuggling as a primary "profit contributor".³⁰ JTI smuggled for expanding market share. By applying the "umbrella operation", Mild Seven came from behind and overtook all others²⁷ and became the preferred brand for the young.¹⁶ In retrospect, smuggling may not have been so rampant in Taiwan if the Taiwan market were not selectively opened. Once the market was opened to Japan in 1995, "JTI shifted products to legal channel".^{11–14}

Second, when the market opened, foreign tobacco companies created nationwide retail outlets for the distribution of their products.^{3–11–23–37} The fledgling betel quid stalls received a big boost in business when they were asked to sell cigarettes, a 10-fold larger business than selling betel quid.³⁸ These retail outlets became the hot bed for contraband sale, with over 90% selling smuggled cigarettes.¹¹ These betel quid kiosks, a product of market opening, continued to act as the prime distribution networks for the smuggled products.²⁴ With the higher trade margins,¹¹ street sellers selectively promoted contraband over the legal products.

Third, the market opening provided a legitimate legal front for smuggling.³⁸ By presenting an assortment of cigarettes, contraband took cover under legal products in retail shops, hitherto unavailable. As noticed by BAT in Thailand, "Since market liberalization, the transit business (smuggling) has expanded tremendously under the legal cover front."³⁵

Table 3 Statements and comments by tobacco companies regarding smuggling issues in Taiwan

Category	Document title (year)	Statement/comment	Company involved
Price	Marketing presentation on Taiwan (1994) ¹¹	"Consumers perceive contraband as genuine imports which have a higher quality than the legal products, and are willing to pay higher price for contraband."	Philip Morris
	Market research report on Taiwan (1991) ¹⁵	"Unofficial Japanese imports grew substantially. They are perceived by consumers as offering superior quality, and generally command a premium price."	Philip Morris
Place	Marketing presentation on Taiwan (1994) ¹¹	"Lack of law enforcement (led to) smuggled products (Marlboro) openly displayed and sold in over 90% of the retail outlets."	Philip Morris
	Japan Tobacco, world's third largest tobacco company, builds new empires (1993) ³¹	"Selling to Taiwan (of Japanese brands) was our main purpose for buying Manchester Tobacco Company (in UK). Gaining market share in the UK is certainly difficult if not impossible." Toru Sato, manager, JT International.	Japan Tobacco, Inc
	BAT Corporate newsletter (1995) ⁵³	"The counterfeiters were caught during actual production of fake packs State Express 555, ...Marlbor,... Mi-Ne and Mild 7. Twenty containers of printed packaging materials were also seized at the port, intended for shipment from Taiwan."	BAT
Product	Marketing presentation on Taiwan (1994) ¹¹	(1) "Contraband products are preferred by consumers." (2) "Over 80% of Mild Seven volume is smuggled into Taiwan, with higher margins for retailers...Japanese Mild Seven have flourished with no direct sale force, (but) unofficial imports have wide distribution and trade support." (3) "Unofficial imports of Marlboro from various sources like Mexico, Philippines and Australia entered Taiwan..."	Philip Morris
	Consumer Response Program (1994) ²⁸	"What is the difference between Taiwanese tax stamped 555 and non-Taiwanese 555? Do different companies manufacture it? No, GT (smuggled products) is produced in the same factory and on the same machines as Taiwan product!!"	BAT
	Tobacco strategy group performance review (1994) ⁵⁴	"We have developed Project Turnkey (promoting tax stamp product in Taiwan) to reinforce the legal product (555) with an emphasis on quality assurance. The brand has suffered from an increase in transit (smuggling)."	BAT
	An internal memo by MJ Walter (1993) ²⁹	"The major problem in Taiwan is the reported large quantities of parallel KENT showing up in the market ...due to lax government control."	B&W
Promotion	Marketing strategy 1993–1997 ³⁰	"The General Trade business (Smuggling) continues to be BAT's primary profit contributor. BAT will continue to invest support monies as opportunities exist in these markets to ensure continued growth of our trademarks."	BAT
	Marketing presentation on Taiwan (1994) ¹¹	(1) "The reputation of a smuggler's paradise is the last thing that Taiwan wants as it is preparing to re-enter the international organizations like GATT and the United Nations." (2) "Contraband cigarettes do not carry any required health warnings. It should also be the concern of the consumer organizations."	Philip Morris
	Market research report on Taiwan (1991) ¹⁵	"Taiwan made no concerted effort to control parallel imports, despite substantial tax revenue loss."	Philip Morris
	Memo on "Response to (developing) guidelines" to deal with smuggling or counterfeit by Duncan (1995) ⁵⁵	"Eradication of counterfeit cannot be a major objective for us, and the guidelines should read "minimize the impact of counterfeit on volume and profit and protect the brand's integrity".	BAT

BAT, British American Tobacco; B&W, Brown & Williamson.

Fourth, the lax law enforcement and the tolerance of the general public to the problem of smuggling in Taiwan played a critical role in arriving at the "smuggler's paradise" situation.^{11 15 39–41} The experience reflected the need for a strong and comprehensive tobacco control programme in dealing with the smuggling issue. Without the goal as tobacco control, counter-smuggling efforts, launched more as a means for preventing tax loss,⁴² would only be short-lived. This is particularly difficult as trafficking contraband cigarettes cannot be viewed as a major crime. The effect of a major crackdown ordered by the prime minister in early 1990s was never sustained, as its effectiveness lasted for a limited period of time, long enough to feed the media coverage.¹⁵ For the first few years, the seized products were auctioned off to the best bidders and sold back to the market to recover the financial loss.^{1 11 25 43} In this way, virtually all smuggled cigarettes succeeded in reaching the consumers, and the low seizure rates encouraged more smuggling.

The practice of auctioning off contraband by the government may seem innocent and reasonable on the surface, but, in fact, it was counter productive to tobacco control.²⁴ Auctioning at below-market prices not only promoted the

market share of that particular foreign brand, but also stimulated their consumption.⁴⁴ The increased consumption of the particular brand attracted more smuggling of that brand. On the other hand, auctioning generated significant revenue,² which not only made up for part of the loss in excise tax, but was also able to provide financial incentives for the law enforcers. When auctioning ceased and contraband started to be destroyed,⁴⁵ confiscation rates dropped sharply in the wake of disappearance of incentives, in turn encouraging more smuggling to occur. In retrospect, destruction of seized products should be pursued in lieu of auctioning, but the incentive programme should also be continued to encourage seizure, with funding sources from placing penalties on the smugglers and the associated tobacco companies.

The 10–22% of the proportion of smuggling on the entire cigarette market witnessed in Taiwan in the 1990s were two to three times higher than the 6–8.5% estimated smuggling rate worldwide by Merriman *et al.*²⁶ This massive smuggling occurred despite the fact that cigarette prices in Taiwan have been rated as one of the lowest in the world, particularly taking into account the cost of living.^{46 47} This apparent

paradox is supportive of the belief that an increase in cigarette prices or the amount of tax is not necessarily a major factor in its relationship with the extent of smuggling.^{39–40} Many countries with higher-priced cigarettes saw very little smuggling, while some lower-priced countries had more smuggling.²⁶ The transparency of the governmental policy, or the lack thereof, and the commitment to cracking down on smuggling have been more important in determining the extent of smuggling.²⁶

The smuggling data in this paper came from internal industry documents. Actual smuggling data are notoriously difficult to obtain, let alone verify. This is because of the illicit nature of smuggling; such data are generally considered to be clandestine. Official statistics from seizure represent only that which was intercepted, usually a relatively small portion of the total amount. The industry, by being involved as the supplier, kept statistics for business reasons. Accuracy was required for internal planning, manufacturing and marketing considerations, and for projecting company's revenue. Some of the data used in this paper were corroborated among several companies, making this conceivably the reasonable source of smuggling statistics.

While governmental commitment is essential, the nature of enforcement efforts against tobacco smuggling requires an extensive transnational coordination. This is one of the most important reasons why the World Health Organization (WHO) worked toward a treaty-like convention (Framework Convention on Tobacco Control, FCTC), fostering international collaboration for an issue traditionally viewed as a domestic programme within individual countries. Taiwan, not a member of WHO, was excluded from the East Asian 16-member "Project Crocodile", a regional anti-smuggling effort to embrace the spirit of FCTC.⁴⁸ As its stated goal, setting up an improved communication system to monitor suspicious shipments crossing borders is essential to control transnational smuggling syndicates, who may use other jurisdictions as a safe harbour. The international community working to fulfil the FCTC requirements could be adversely impacted if Taiwan continued to be excluded from the international collaboration. For global anti-smuggling efforts to be successful, all countries must collaborate, share information and work in concert. An effective counter-smuggling strategy will only be as successful as its weakest link. If Taiwan were to become a "smuggler's paradise," global efforts to reduce smuggling and to reduce tobacco use will be undermined, particularly for countries in the East Asian region.

There are at least two limitations of this study. First, the internal documents came mainly from American and British companies, and not from JTI. JTI, being the main perpetrator of smuggling in Taiwan, has not yet disclosed its internal documents. Our data and documents were compiled from its competitors, a potentially biased source. However, the evidence on smuggling by JTI was overwhelming and consistently observed from different companies, including the collaboration of the industry data with the official statistics. Secondly, the public release of the documents as the result of litigation, particularly after the Master Settlement Agreement,⁴⁹ made tobacco companies aware that their internal documents would be open to legal and public scrutiny. This may have led to a more discrete handling and gradual disappearance of documents related to smuggling after 1997. Perhaps this is why our smuggling information was largely limited to the first half of the decade.

One approach to control smuggling is to follow the European experience of enlisting the collaboration of tobacco companies.³⁴ In the 1990s this was resolved in the European Union's favour; Philip Morris agreed to finance anti-smuggling efforts with US\$1.2 billion over 12 years, to implement

What this paper adds

In theory, opening markets for imported cigarettes should make foreign cigarettes more readily available and reduce the number of smuggled cigarettes. However, the validity of such an assumption has not been fully researched with an actual case study.

Taiwan experienced massive cigarette smuggling after their market was opened in 1987. Contraband cigarettes flooded the market and nearly equalled the volume of legal imports, with tobacco companies directing or facilitating the smuggling process. Smuggling persisted ever since, even though cigarette prices had been low in Taiwan. Cigarette smuggling has been widely used by tobacco companies to increase their market share, to circumvent legal quota, and to increase profits. Illicit trade is a transnational activity and will undermine global tobacco control efforts. To prevent Taiwan from becoming a smuggler's paradise, the establishment of regional and global anti-smuggling collaboration under the Framework Convention on Tobacco Control is urgently needed.

stricter controls on distribution, and to be liable if its products were discovered in future smuggling confiscations.⁵⁰ By holding tobacco companies responsible, the agreement may help reduce industry-directed smuggling, as the company's intimate knowledge of smuggling will likely assist the overall tobacco control efforts.

Conclusion

The need to expand market share and increase profits by foreign tobacco companies, the availability of retail networks, the legal cover provided by the market opening, and the lax law enforcement were the main forces that led to a sharp increase in smuggling after the market was opened, contrary to an expected decrease. Smuggling increased consumption of cigarettes in general and foreign brands in particular, especially by the young. Smuggling also expanded the market share of foreign companies, eroded national revenue, and challenged the commitment of law enforcement. Confronting tobacco companies for their liabilities and involving them in reducing future smuggling activities would be a worthwhile pursuit. Further, being excluded from the international community, Taiwan faces an uphill battle to fight smuggling alone. For global anti-smuggling efforts to be successful, all countries must collaborate, share information, and work in concert. An effective counter-smuggling strategy will only be as successful as its weakest link. If Taiwan were to become a "smuggler's paradise", global efforts to reduce smuggling and to reduce tobacco use will be undermined, particularly for countries in the East Asian region.

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REFERENCES

- 1 **US Department of Health and Human Services.** Section 301 of the Trade Act of 1974. In: *Reducing tobacco use: a report of the Surgeon General*. Atlanta: Office on Smoking and Health, 2000:312–5.
- 2 **Monopoly Bureau.** *Taiwan tobacco and wine statistical yearbook*. Taipei: Taiwan Tobacco and Wine Monopoly Bureau, 1961–, 2002.
- 3 **Wen CP, Cheng TY, Eriksen MP, et al.** The impact of cigarette market opening in Taiwan. *Tob Control* 2005;14(suppl 1):i4–9.
- 4 **Glantz S, Slade J, Bero L.** *The cigarette papers*. University of California Press, 1996. at <http://legacy.library.ucsf.edu/index.html> (Accessed Aug 27, 2003).
- 5 **British American Tobacco Documents Archive.** University of California, 2004. <http://www.bat.library.ucsf.edu/> (Accessed Jul 1, 2005).
- 6 **Directorate-General of Budget, Accounting and Statistics.** *Statistical yearbook of importation and exportation*. Taipei, Taiwan: Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, Taiwan, 1980–, 2002.
- 7 **American Cancer Society.** *Tobacco control country profiles*. Atlanta, Georgia: American Cancer Society, 2000–03.
- 8 **British American Tobacco.** BATCo Asia/Pacific Review. Bates No. 500045965/6050. May 1993. http://tobaccodocuments.org/guildford_misc/500045965-6050.html (Accessed Feb 22, 2005).
- 9 **Ivey T.** Letter from Trevor Ivey to Mark Syta regarding Project Hurricane - Advertising Research. Bates No. 301633512/3515. British American Tobacco., Dec 9 1992. <http://www.library.ucsf.edu/tobacco/batco/html/14700/14775/otherpages/allpages.html> (Accessed Mar 25, 2004).
- 10 **BATCo Marketing Intelligence Department.** Review of Asia-Pacific Cigarette market. Bates No. 502628789/8820., Jan 1995. http://tobaccodocuments.org/guildford_misc/502628789-8820.html (Accessed Feb 22, 2005).
- 11 **Philip Morris.** TAIWAN OB. Bates No. 2504032701/2750. 1994. <http://legacy.library.ucsf.edu/tid/vba42e00> (Accessed Nov 10, 2004).
- 12 **British American Tobacco.** Project Hurricane-Taiwan. Bates No. 301633488/3494. Nov 17 1992. <http://www.library.ucsf.edu/tobacco/batco/html/14700/14773/otherpages/allpages.html> (Accessed 25 Mar, 2004).
- 13 **Barnes JA.** Management Visit to Asia Pacific. Bates No. 513214462/4639. R. J. Reynolds, Apr 18 1995. <http://legacy.library.ucsf.edu/tid/jin30d00> (Accessed 2004, Mar 25).
- 14 **Philip Morris.** Bates Number: 2057102316/2351. May 1995. <http://legacy.library.ucsf.edu/tid/kxj96e00>.
- 15 **Philip Morris.** Taiwan. Bates No: 2500098190/8211., 1991. <http://legacy.library.ucsf.edu/tid/pyd42e00> (Accessed Mar 1, 2005).
- 16 **Philip Morris Asia Inc.** General Consumer Tracking Study Taiwan. Bates No. 2504020315/0361., Jul 1994. <http://legacy.library.ucsf.edu/tid/osz32e00> (Accessed Feb 22, 2004).
- 17 **Hsu CC, Levy DT, Wen CP, et al.** The effect of market opening on trends in smoking rates in Taiwan. *Health Policy* 2005;74:69–76.
- 18 **Directorate-General of Budget, Accounting and Statistics.** Consumption of tobacco, wine and betel nuts. *Statistical Yearbook of the Republic of China*. Taipei, Taiwan: Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, 2002.
- 19 **Smith O.** Letter to Richard McKerrow. RJ Reynolds 11 March 1992. Bates No. 250079335/, 9339.
- 20 **Chaloupka FJ, Laixuthai A.** US trade policy and cigarette smoking in Asia. National Bureau of Economic Research Working Paper No. 5543, 1996.
- 21 **Joossens L, Raw M.** Cigarette smuggling in Europe: Who really benefits? *Tob Control* 1998;88:1389–91.
- 22 **Wen CP, Tsai SP, Cheng TY, et al.** Uncovering the relationship between betel quid chewing and cigarette smoking in Taiwan. *Tob Control* 2005;14(suppl 1):i16–22.
- 23 **Noel J.** Taiwan Talks. Bates No. 632000664/0674. Brown and Williamson, Apr 22 1988. <http://legacy.library.ucsf.edu/tid/gge70f00> (Accessed Nov 10, 2004).
- 24 **Tsai YW, Sung HY, Yang CL, et al.** The behaviour of purchasing smuggled cigarettes in Taiwan. *Tob Control* 2004;12:28–33.
- 25 **Albert D.** Taiwan. Bates No. 515011058/1059. R.J. Reynolds, Jan 27 1992. <http://legacy.library.ucsf.edu/tid/slg03d00> (Accessed 25 Mar, 2004).
- 26 **Merriman D, Yurekli A, Chaloupka F.** How big is the worldwide cigarette smuggling problem. In: Jha P, Chaloupka F, eds. *Tobacco control in developing countries*. Oxford: Oxford University Press, 2000:365–92.
- 27 **Wen CP, Chen T, Tsai YY, et al.** Are marketing campaigns in Taiwan by foreign tobacco companies targeting young smokers? *Tob Control* 2005;14(suppl 1):ii38–44.
- 28 **Edenborough N.** CRP (Consumer Response Program) standard procedure and information collected in Taiwan. Bates No. 500173054/3056. British American Tobacco, Jan, 1994. <http://bat.library.ucsf.edu/tid/yzr70a99> (Accessed Jul 1, 2005).
- 29 **Walter MJ.** Note from MJ Walter to F de Andrades enclosing minutes of group co-ordination meeting. Bates No. 301581993/1997. Brown & Williamson Tobacco Corporation International, Mar 9, 1993. <http://bat.library.ucsf.edu/tid/aed61a99> (Accessed Jul 1, 2005).
- 30 **British American Tobacco.** Marketing strategy 1993–1997. Bates No. 500124923/4934. <http://bat.library.ucsf.edu/tid/bpt61a99> (Accessed Jul 1, 2005).
- 31 **Matlick DH.** R&D Strength: Japan tobacco, the world's third largest tobacco company, builds new empires. Tobacco Report. Bates No. 202058583/8586. British American Tobacco, Sep, 1993. <http://bat.library.ucsf.edu/tid/mxy11a99> (Accessed Jul 1, 2005).
- 32 **Campaign for Tobacco-Free Kids.** *Illegal pathways to illegal profits*. 2001.
- 33 **Maguire K, Campbell D.** Tobacco giant implicated in global smuggling schemes. The Guardian, Jan 31 2000. <http://www.guardian.co.uk/bat/article/0,2763,191293,00.html> (Accessed Mar 1, 2005).
- 34 **Collin J.** Complicity in contraband. *Tob Control* 2004;13(suppl 1):ii104–11.
- 35 **Traitatanobhas V.** Re: Transit Market Survey. Bates No. 400728276/8279. British American Tobacco, 13 Feb 1992. http://tobaccodocuments.org/guildford_misc/400728276-8279.html (Accessed Mar 1, 2005).
- 36 **Macalister T.** BAT accused in smuggling case. Guardian, Aug 2 2000. <http://www.guardian.co.uk/bat/article/0,2763,349602,00.html> (Accessed Feb 22, 2005).
- 37 **Lorillard.** Media Information. Bates No. 93415504/5517., May 1994. <http://legacy.library.ucsf.edu/tid/fjj53c00>.
- 38 **Wen CP, Cheng TY, Eriksen MP.** How opening the market for cigarettes led to an increase in betel quid use in Taiwan. *Public Health* 2005;119:940–4.
- 39 **Merriman D.** Economics of Tobacco Control Toolkit. Tool 7. Understand, measure, and combat tobacco smuggling. In: Yurekli A, de Beyer J, eds. *Economics of tobacco toolkit*. Washington DC, World Bank, 2001.
- 40 **Joossens L, Chaloupka FJ, Merriman D, et al.** Issues in the smuggling of tobacco products. In: Jha P, Chaloupka F, eds. *Tobacco control in developing countries*. Oxford: Oxford University Press, 2000:393–406.
- 41 **Wen CP.** Facilitating the critical process in tobacco control. *Tob Control* 2005;14(suppl 1):i1–3.
- 42 **Min Sheng Daily.** May 8 1994;Sect. 20 (In Chinese).
- 43 **Foreman D.** Taiwan. Bates No. 515011068/1069. R.J. Reynolds, Sep 18 1992. <http://legacy.library.ucsf.edu/tid/wlg03d00> (Accessed Nov 10, 2004).
- 44 **Chaloupka F, Hu TW, Warner KE, et al.** Tha taxation of tobacco products. In: Jha P, Chaloupka F, eds. *Tobacco control in developing countries*. Oxford: Oxford University Press, 2000:237–72.
- 45 **United Daily News.** Jul 17 2002;Sect. 20 (In Chinese).
- 46 **Guindon GE, Tobin S, Yach D.** Trends and affordability of cigarette prices: ample room for tax increases and related health gains. *Tob Control* 2002;11:35–43.
- 47 **Levy DT, Wen CP, Cheng TY, et al.** Increasing taxes to reduce smoking prevalence and smoking attributable mortality in Taiwan: results from a tobacco policy simulation model. *Tob Control* 2005;14(suppl 1):i45–50.
- 48 **Baston A.** Asian countries to cooperate in cigarettes smuggling fight. Dow Jones News Service. Tobacco.Org, 2004. <http://www.tobacco.org/news/166517.html>.
- 49 **Schroeder SA.** Tobacco control in the wake of the 1998 Master Settlement Agreement. *N Engl J Med* 2004;350:293–301.
- 50 **Philip Morris.** Cooperation Agreement with the EU. 2004. http://www.philipmorrisinternational.com/pages/eng/busenv/EU_agreement.asp (Accessed July 16, 2004).
- 51 **Ivey T.** Letter from Trevor Ivey to James McNeil Regarding Project Hurricane. Bates No. 301633498/3499. British American Tobacco, Nov 16 1992. <http://www.library.ucsf.edu/tobacco/batco/html/14700/14774/otherpages/allpages.html> (Accessed Mar 25, 2004).
- 52 **BATUKE.** Review of Thailand Domestic Market Initiative. Bates No. 300028752/8764. British American Tobacco., 1991. http://tobaccodocuments.org/guildford_misc/300028758-8804.html (Accessed Mar 1, 2005).
- 53 **BAT Corporate newsletter.** Taiwan Counterfeiters busted. Bates No. 602826821/6824. British American Tobacco, Jun, 1995. <http://bat.library.ucsf.edu/tid/xcs71a99> (Accessed Jul 1, 2005).
- 54 **Tobacco Strategy Group.** Tobacco strategy group (performance) review. Bates No. 203469730/9736. British American Tobacco, Jun, 1994. <http://bat.library.ucsf.edu/tid/rl40a99> (Accessed Jul 1, 2005).
- 55 **Duncan R.** Response to Guidelines. Bates No. 800269208. British American Tobacco, Jun 12, 1995. <http://bat.library.ucsf.edu/tid/oea71a99> (Accessed Jul 1, 2005).