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RESEARCH ARTICLE

The Single Cigarette Economy in India - a Back of the Envelope Survey to Estimate its Magnitude

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Abstract

Background: Sale of single cigarettes is an important factor for early experimentation, initiation and persistence of tobacco use and a vital factor in the smoking epidemic in India as it is globally. Single cigarettes also promote the sale of illicit cigarettes and neutralises the effect of pack warnings and effective taxation, making tobacco more accessible and affordable to minors. This is the first study to our knowledge which estimates the size of the single stick market in India. Materials and Methods: In February 2014, a 10 jurisdiction survey was conducted across India to estimate the sale of cigarettes in packs and sticks, by brands and price over a full business day. Results: We estimate that nearly 75% of all cigarettes are sold as single sticks annually, which translates to nearly half a billion US dollars or 30 percent of the India's excise revenues from all cigarettes. This is the price which the consumers pay but is not captured through tax and therefore pervades into an informal economy. Conclusions: Tracking the retail price of single cigarettes is an efficient way to determine the willingness to pay by cigarette smokers and is a possible method to determine the tax rates in the absence of any other rationale.

Keywords: Tobacco epidemic - smoking initiation - prevalence - single stick - tobacco taxation - India

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Introduction

Sale and use of single cigarettes (also called singles or loosies) is widely acknowledged as a driver of the smoking epidemic in India (Reddy et al., 2004). Single cigarette make the habit of smoking accessible and affordable. Smoking of cigarettes, bidis and other smoked forms are the single largest cause of preventable death among adults in India with more than 1.2 million dying annually (Jha et al., 2008).

Singles are preferred by smokers as it helps to conceal their habit since it is largely unacceptable publically in India. Singles give vendors a perverse incentive to extract extra margins. For cigarette companies singles make it easier to promote new brands and conduct market research on customers at the point of sale. Since the early 1960s cigarettes are available in kiddie packs (packs of 10s) which facilitate singles sale. Industry estimate suggest that in 1991, single sales constituted 65% of the total cigarette market (British American Tobacco, 1987). In 2001 and 2011, these made for 71% of all sales (ERC, 1997; Euromonitor, 2012).

In effect a single cigarette market neutralises four important tobacco control strategies - protecting minors, pictorial warnings, support quitting and effective taxation. Students are vulnerable to an early initiation of tobacco use as they leave school and enter into the world of adulthood and will be seeking avenues to express their maturity, thus take up such habits as smoking that is perceived as adult behavior (Binu et al., 2010). An easy affordability of loose cigarettes is an enabling factor for students and minors.

Pictorial warnings and images are meant to help users to visualise the nature of tobacco-related diseases. They should make them aware that tobacco use can cause serious illnesses and can kill the user (Karinagannanavar et al., 2011). Government of India stays confirmed to protect the right of an individual to maintain a healthy life by implementing legislation for displaying strong pictorial health warnings (PHWs) on tobacco packages as evidence based measure to warn the user and thus empower the consumer to save their lives from the growing tobacco menace (Aruna et al., 2010). However, single cigarette sale defies the whole purpose of displaying PHWs on packages.

Internal documents of India's largest cigarette manufacturer reveal that it has strategically encouraged the sale of single sticks (British American Tobacco). In

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September 2000, a report by British American Tobacco stated that smaller packs "may encourage underage smoking", but "a pack of 10s can support moderation and even encourage quitting among heavy smoking adults" (British American Tobacco, 2006). A 2013 report by an equity research firm states that pictorial health warnings and plain packaging pose no risk to India's cigarette companies since it is primarily a single stick market (Indian Infoline, 2013). Singles also help cigarette companies to absorb taxes and cushion any tax rise on price which is paid by smokers (IL&FS Investmart, 2008). Industry and vendors delay passing on any as it buffers any significant increase tax which is passed on to the consumer.

Article 6 the WHO's Framework Convention on Tobacco Control (FCTC) recommends comprehensive policies and effective enforcement strategies to eliminate single stick sale and "kiddie packs" (soft packs of 10 cigarettes), yet few countries have put in place policies to arrest these. In 2009, only 67 countries (57% party to the FCTC) had policies to prevent the sale of cigarettes individually or in a kiddie pack (World Health Organisation, 2009). By 2012, two-thirds of the Parties (84) had policies in place (World Health Organisation, 2012). Despite India being party to FCTC, it does not restrict the sale of single or sale through kiddie packs.

The enormous single cigarette market has the propensity to intensify the tobacco addiction, and has and will continue to increase the spread of disease and death. This is largely because single cigarettes have received little attention from policymakers and it remains understudied by researchers. This is the first survey conducted to estimate the sale of single cigarettes in India.

Materials and Methods

The purpose of this study is to estimate the proportion of cigarettes sold as single sticks and as packs, and derive the size of the single economy. Three prominent tobacco vendors were selected in ten jurisdictions of India (Shimla, Goa, Jaipur, Baroda, Agartala, Jorhat, Chennai, Indore, Patna and Delhi). These jurisdictions represent the four regions of the country. The survey was conducted for one full business day from February 15-28, 2014. No changes in taxes (excise or value added tax) were announced or transferred on cigarette products during the period of the study which could have impacted retail price. A single observer visited each vendor and recorded the number and selling price of cigarettes (pack and single cigarette). Observers were given a simple checklist of 20 leading brands (by segment, filter/ non-filter, length and price) that were locally available and the transactions were recorded for the price paid (for stick or pack) for each brand sold. Observations were made at other vendors by different observers the following business day. Validation of data was done by comparing the information from all three vendors, and in case of any discrepancy in retail price, vendors were interviewed to confirm the correct price. Prior informed consent was taken from local municipal officials to interview vendors. Data was doubled-entered in Microsoft Excel independently by the three observers for all transactions observed which was validated by their supervisor (the co-authors of this paper). The data from each jurisdiction (total single sticks sold by region and jurisdiction, Figure 1) was used to derive a national estimate of sale (by segment and brand, table 1). To derive the total number of sticks sold by segment and brand, we use data from a leading market research agency (Euromonitor International, 2012), and therefore the volume and revenue of the single stick market is estimated using a back-of-the-envelope method (table 1).

Ethical approval for conducting the survey and interviews was taking from The International Union Against Tuberculosis and Lung Disease' Ethical Advisory Group (The Union EAG) in December 2013 (application 213/2013).

Results

Based on the data collected from 10 jurisdictions, we estimate that nearly 75% (59 - 87%) of all cigarettes are sold as single sticks, valued at nearly Rs. 359 billion (table 1).

Our survey results show that there is a wide variation in the proportion of single cigarette sale across jurisdictions. In terms of proportion the economy segments (short, filter and non-filter) and Super Kings are most purchased as singles. Vendor interviews reveal that the high volumes of singles sale in the premium segment (Super Kings) is experimentation of new and existing users who aspire to become regular smokers of these cigarettes, but is currently smoked occasionally by them. Goa, among all jurisdictions has the lowest proportion of single cigarette sales and higher pack sales.

Across brands there is minor variation in pack and singles price. Our survey reveals that the profit margin (retail price of single stick minus unit price of a stick when sold in pack) for vendors is relatively uniform within a jurisdiction (variation of 5 to 9%) but varies across jurisdictions (from 7 to 25%). The 20 brands surveyed also showed a variation in pack price (9% to 16%) across jurisdictions.

Limitations

There are some methodological limitations of this study. First, there is variation across price of pack and

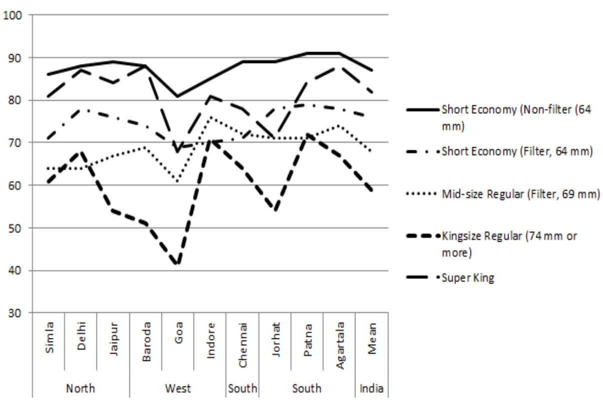

Figure 1. Percentage of single cigarette sale to total sale across 10 jurisdictions

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Table 1. Size of the single stick economy in India (2013-2014)

Segment	Mean price of three leading brands		Volume **	Total value (per pack) (A)	Volume of sold as single stick	Sale of singles (absolute terms)	Retail value of single sticks (B)	Net revenues from single cigarette sale by segment (C=B-A)	Notional tax loss, by segment (tax evaded per pack due to single cigarette sale)= C/A
Length (mm)	Pack price (₹.)	Single Sticks (₹.)	Total Sticks (million)	₹. (million)	%	Sticks (million)	₹. (million)	₹. (million)	%
Short Economy (Non-filter (64 mm)*	19.00	2.00	95.75	182.00	87.00	83.30	166.60	148.40	81.54
Short, economy (Filter, 64 mm)*	27.00	4.00	8936.34	24128.00	76.00	6791.62	27166.47	24753.67	102.59
Mid-size, regular (Filter, 69 mm)#	56.00	6.50	1489.39	5560.00	68.00	1012.79	6583.10	6212.44	111.73
Kingsize regular (74 mm or more)#	65.00	8.00	212.77	692.00	59.00	125.53	1004.27	969.67	140.13
Super King ##	145.00	10.00	118.21	857.00	82.00	96.93	969.28	926.43	108.10
Total (Σ)			10852.45	31419.00	74.73	8110.17	35889.73	33010.61	105.07

* pack of 10s; # pack of 10s and 20s, corrected; ## pack of 20s; ** Source: Estimated using data from Euromonitor, 2013, we presume that these volumes are applicable in 2014 as well

single sticks within and across jurisdictions.

Second, as participant observers, there may have were errors in recording price of singles during a transaction hence the information received from vendors was considered in case second and third observations were also different. Since pack price is printed, it was easily verified.

Third, although illicit cigarette sale is rampant, we do not account for these as it is difficult to validate their volume. The aim of this survey was to measure the notional loss from legally manufactured, tax paid cigarettes alone.

Fourth, a major drawback of the study is that it measures sales for just one business day and data for this is extrapolate for the entire year. This may give a less than accurate and a non-representative assessment. In absence of a globally valid methodology to measure singles sale, a back-of-the envelope is adopted.

Despite these limitations, the results presented here are conservative and yet sobering. The challenge to overcome the variation of pack and single sticks prices across jurisdictions has been addressed by averaging the volume and price of three leading brand. We find consistently that top three brands command a market size of 85% or more across all segments. Since the survey monitored sales of three vendor outlets in 10 cities, the errors in recording are compared and re-validated through repeated observation on sale of only the particular brand. As a dipstick study and a random day in a year is picked which does not prejudice the buying behaviour and therefore provides a fairly accurate estimate. In spite of these limitations, this back-of-the envelope method is a simple and effective means to derive a conservative estimate for revenues by brand and segment, and can be used by other researchers.

Discussion

This is the first study which estimates the prevalence and economic worth of the single cigarette market in India, and perhaps the world.

India's Ministry of Finance calculates tax incidence based on single cigarette but collects it on the basis of a pack price. The Government does not consider the full retail price at which single cigarette sell, as a result of which a sizeable portion of revenue is foregone. The net worth of the singles market is ₹. 35.9 billion (US$ 0.598 bn, 1 USD= 60) or nearly 30% of the excise revenues from cigarette taxes (₹.121.33 billion, US$2.02 bn in 2012-13). In effect smokers spend 105% (82 - 140%) more on purchasing single cigarettes annually. This is the willingness-to-pay and or a proxy for an effective tax rate. Our results suggest that the taxes can be raised from 82 to 140% (depending upon the segment) till such time when single stick price and pack price variance is zero or diminished. To do this a robust price tracking system is needs which will the tax planning process. As a signatory to the FCTC, the Government of India must ban the sale of single cigarettes and eliminate "kiddy packs" and renew its commitment to tobacco control through these measures.

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