DISCUSSION PAPER

POTENTIAL BEHAVIOURAL SHIFT: SIZE OF CIGARETTE PACKS

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Introduction

Proposals for reinstating the 10-stick pack of cigarettes have resurfaced, having been legislated for prohibition in 2004 and eventually enforced six years later in 2010. Behind this web of complexity, a multitude of social aspects have to be considered which include current smokers, the risk of new potential smokers and the price to sustain this incessant habit. On one hand, the argument which calls for smaller cigarettes packs attempts to draw upon the unrelated problem of illicit smuggling and poses it as a makeshift and impulsive solution to the thriving black market for illegal cigarettes. On the other hand, the stand for maintaining the ban on the 10 pack is founded on the recommendation by the World Health Organisation's (WHO) Framework Convention on Tobacco Control (FCTC)[1], which Malaysia ratified in 2005. The reasoning behind this emphasises reducing the affordability of cigarette packs for young people and minors. Based on this logic, government regulation appears straightforward in tackling the problem by limiting the minimum number of cigarette sticks to 20 per packet, a solid policy which is enforced in developed countries such as the United Kingdom who most recently implemented the limit in May 2017[2] and Australia who pioneered this policy. Nevertheless, any resolution for this issue will have behavioural implications on smokers and their habits which may not be obvious for observation. Hence this paper seeks to highlight and analyse the potential behavioural shift in smoking based on cigarette pack sizes.

[1] World Health Organisation, WHO Framework Convention on Tobacco Control, p. 15.
[2] Smoking law changes: Ban on 10-packs of cigarettes comes in on 21 May 2017 with plain packaging made mandatory.

Behavioural economics of smoking

"The number of cigarettes per pack is a much larger factor in smoking habits than commonly perceived"

Aside from the conventional arguments surrounding illicit cigarette trade and ever-increasing sin taxes, the impact of a policy on smokers' consumption choice is often overlooked. In a landmark study, Kotnowski and Hammond (2013) investigated the internal documents of tobacco companies between 1973 to 2002 to analyse insider information within the industry on consumer behaviours and perception with regards to product attributes. Their findings concluded that variations in pack size, shape and opening style influenced risk perception and brand appeal, thus increasing cigarette sales. Tellingly, the number of cigarettes per pack is a much larger factor in smoking habits than commonly perceived. In itself, the conscious act of smoking is an example of ill-advised decisions which exhibit how people are prone to making choices which are not in their best interests. It exerts a heavy psychological burden, termed cognitive dissonance, on smokers who face the dilemma of enjoying immediate gratification while poisoning the people in their vicinity, which often includes loved ones and themselves.

On the topic at hand, cigarette packs in Malaysia are currently only sold in boxes of 20 but very little is known about how this policy impacts cigarette consumption by existing smokers and, as health advocates profess, this deters new smokers. Empirical evidence is relatively scarce on this matter although several pioneering studies have produced a range of riveting results. For instance, positive behaviour shifts such as self-imposed limits and a desire to eventually quit smoking are commonly associated with preference for smaller cigarette packs (Marti & Sindelar, 2015), a notion which goes against conventional wisdom. This argument stems from the availability of an option for smokers to regulate their behaviour by adhering to a pre-commitment of a smaller cigarette pack in efforts to reduce the number of sticks they smoke. Such an approach is known to be effective in limiting cigarette consumption and also extends to other aspects of life such as expenditure and eating.

Moreover, a compelling study in the UK by Farrell et al. (2010) conducted a large scale nationwide survey on smokers and found that smokers gauge and regulate their smoking consumption based on the number of packs rather than the number of cigarette sticks. By investigating the impact of smaller packs, the study concluded that smokers measure their consumption according to the choice of pack sizes available in the market (Farrell et al., 2010). Furthermore, another study on single cigarette sticks in Mexico produced evidence that it is used by adult smokers as part of a harm reduction strategy and an alternative to packs (Thrasher et al., 2009). These findings constitute significant evidence which lends credence to the Prospect Theory[3] in behavioural economics regarding the market choices offered to smokers.

Nevertheless, scientific evidence and studies carried out by the WHO reveals an opposite effect for youths and minors, particularly those considered potential smokers. The FCTC recommends that the sale of single cigarettes or small packs be prohibited as a preventive measure to decrease its affordability and thus accessibility

[3] Prospect Theory: An Analysis of Decision under Risk (Kahneman & Tversky, 1979)

to young people[4]. At the fundamental level, the prevalence of single cigarette purchases by minors is largely attributed to the ease of access to such products (Jarvis & McNeill, 1990). Johnston, O'Malley and Terry-McElrath (2004) examined this notion amongst 8th to 12th grade student in the US, highlighting that their last purchase was less than the minimum pack of cigarettes available. The study further emphasises that policies which reduce youth access to loose cigarettes such as stricter age confirmation of buyers may have a significant impact. Additionally, Kotnowski & Hammond (2013) discovered that packets which were rounded, oval, slim and in the form of a booklet are particularly appealing to the younger generation, with these attractive features coming in small pack sizes. Thus, based on this evidence, cigarette packs which are too small in size may also cause dire side effects by exhibiting excessive appeal to the most vulnerable target group, potential smokers amongst the youth.

[4] World Health Organisation (WHO). The scientific basis of single cigarettes: evidence for drug pushing?

The potential behavioural shift of current smokers

"The majority of smokers are educated on the health risks associated with smoking and express a latent desire to eventually quit..."

With both sides of the argument outlined, what are the expected outcomes of cigarette pack size and how will it affect current smoking habits? By using a behavioural economics model to analyse this phenomenon, it may unveil potential positive shifts in current smoking behaviour. The majority of smokers are educated on the health risks associated with smoking and express a latent desire to eventually quit but are held back by an addiction which was induced by an impulsive decision.

During instances of decision-making, people naturally apply their personal and existing heuristics, which are mental shortcuts, to ease the process of making a choice. This factor is imperative in analysing how much a smoker decides to consume, with the size of the cigarette pack being the main focus. A standard example is the notion of bounded rationality which suggests that people seek to optimise their decisions and select the best options for their own welfare but are unable to do so because of limited or defective cognitive abilities (Thaler & Sunstein, 2008). This is an inherent characteristic of smokers who are rationally aware of the damaging risks associated with smoking but choose to do so regardless of the known information. Boundedly rational individuals face limits in resolving complex choices and in processing intuitively logical information (Simon, 1991).

In fact, many smokers express the desire to eventually quit, regret their decision to start smoking and do not recommend their friends to take up the habit (World Health Organization, 2008). Nevertheless, although the majority of smokers are highly educated on the health risks of smoking, they continue to do so persistently. Such sentiment can be attributed to optimism bias and overconfidence bias (Weinstein & Klein, 1996) which guide a smoker's self-assurance of pursuing a physically toxic behaviour. The former refers to a person underestimating the adverse effects of future events whereas the latter indicates that an individual overestimate their willpower and decision-making prowess to ultimately quit.

Leading on from that, hyperbolic discounting refers to the changing preferences of people over an extended period of time, highlighting how instant gratification is weighted disproportionately more favourable (Laibson, 1997). For this matter, a smoker's preference is described as time-inconsistent due to behaviour which is limited by weak self-control. To put it simply, individuals reveal a tendency to make present-day decisions which are inconsistent over time where their future selves would prefer not to have made the same choice due to the consequences suffered thereafter (Thaler, 1981). The most urgent consequence of this mental fallacy is that it generates temporary preferences for immediate and small rewards (smoking) over later and larger ones (long term health). People undervalue the value of future rewards by discounting it in the present day, by a factor which rises based on the length of delay (Ainslie, 1992).

Another instance is that of anchoring which is the cognitive bias of heavily weighting a point of reference and making subsequent decisions based on that (Oechssler, Roider & Schmitz, 2009). With cigarettes only available in packs of 20, smokers limit themselves by anchoring their habit and committing to smoke, for example, only one

pack a day. They may practice this for a number of reasons such as money management or consumption limitation.

This ties in with the heuristic of inattention and refers to the tendency of people to restrict their mental processes to a subset of choices which are currently available (Golman, Hagmann & Loewenstein, 2017). Inattention may lead individuals to allocate insufficient importance to certain information, possibly leading to poor decisions. In practice, the government has decided to disallow small cigarette packs and restrict the sale of tobacco to one size of 20 sticks per pack, thereby minimising the effect of this limitation.

The availability of cigarettes in one pack size also plays a role in the notion of information cascade, which is a form of herd behaviour (Schiller, 1995). Accordingly, individuals are prone to imitating the decisions of predecessors despite personal knowledge which points to another choice. In this instance, vulnerable groups and youth are heavily influenced into smoking habits by their peers and role models. Thus with the sole availability of a single pack size, the choices of new smokers are restricted to one option.

In conjunction with that, the status quo bias points to the fact that individuals tend to place disproportionate importance on the current state of affairs which resultingly guides their preferences unless the incentive to switch is sufficiently compelling (Thaler & Benartzi, 2004). This bias reasonably explains the consumer inertia observed in several industries and is certainly noticeable in the tobacco market, particularly the illegal black market. As smokers are accustomed to the price and consumption of a pack of 20 cigarettes, it presents economic opportunities for modifying this consumer inertia to possibly curb smoking habits and increase government revenue.

Hence to address the cognitive limitations of people, the government could use a soft paternalism approach which refers to policymaking by designing the choice architecture of the market to facilitate better decisions from smokers. By considering the aforementioned factors, formulating a policy with modest interventions which addresses these mental limitations might nudge smokers towards more rational and optimal decisions.

Practical analysis

The nation and society is seemingly divided regarding the debate on the size of cigarette packs that should be sold in the market. Recent troubles in the tobacco market caused by the illicit trade of smuggled cigarettes have prompted calls to review the availability of cigarette pack sizes sold in stores. Both sides of the divide have expressed contrasting opinions on the issues which they stand for; rights groups, health activists and social advocates dismiss the need for a smaller cigarette pack in the interest of public health whereas the tobacco industry and retailer associations lobby for the return of the 10 pack to boost their sales and profits in self-seeking interest.

There has been minimal research carried out to establish empirical evidence to determine the optimal policy in deciding the size of cigarette packs that would benefit society the most. By analysing the behavioural sciences of smoking to base our recommendations on solid research, certain preliminary observations could point policymakers in the right direction.

The 10-stick cigarette pack should not, by any means, be reintroduced to the market. It is not productive to present a perfectly substitutable option to smokers which encourages both affordability and accessibility. The issue of the illicit trade of smuggled cigarettes are an entirely different issue and do not belong in the debate of cigarette pack sizes, which is solely focused on public health.

Nonetheless, this debate has raised questions about the status quo and could be an avenue to examine several opportunities. Based on compelling research evidence and contrary to popular opinion amongst health advocates, the introduction of a smaller, 14 pack might offer substantial benefits if it is accompanied with a ban on the current 20 pack. Though this may seem counter-intuitive based on current sentiment, the reasoning behind this proposal is rooted in a review of behavioural economics literature in relation to smoking. The government currently has a commendable policy for restricting the sale of cigarette packs to one size to effectively limit the choices of smokers, and this could potentially be further improved.

To outline this premise, most smokers are generally aware of the dangers of smoking and consciously desire to eventually quit but are held back by overconfidence in their willpower. Thus, they turn to self-control to monitor and gradually minimise their cigarette consumption. Smoking, as with any other habit, is a routine act and people tend to anchor their daily or weekly consumption to a certain unit, which in this case is a pack of cigarettes.

For example, whether a smoker commits to one pack per day or four packs per week, the smoker is consuming that amount multiplied by 20. Given, it can be half a pack for light smokers or three packs for chain smoker. Establishing that smokers measure and control their consumption by anchoring on the unit of packs, a 14 pack would present a non-obstructive opportunity for disciplined smokers to cut back on smoking while maintaining their routine. Moreover, a 14 pack is not directly substitutable with a 20 pack because doubling pack consumption to make up for the reduced sticks per

pack is not a feasible choice both physically and monetarily. This lends credence to the reason why the 10 pack must not be reintroduced as it would present a directly substitutable option to maintain current smoking habits.

This leads on to the goal of breaking the existing status quo bias and consumer inertia. People inherently value the current situation disproportionately more favourably and desire to maintain status quo. Thus, the effect of reducing the only available cigarette pack size from 20 to 14 forces smokers to adjust habits in line with the only available choice. Furthermore, such a policy would disrupt consumer inertia and allow customers to re-evaluate their purchase options because the product has been altered rather significantly. In addition to that, this may result in a possible side effect of simultaneously affecting consumer inertia in the illegal black market.

Moving on, the reason that this policy would be attractive to the government is the opportunity to further increase revenue from the sin tax. If the price of the 20 pack is proportionately scaled down to fairly reflect the price of a 14 pack, it would drastically reduce the price of a cigarette pack. This is a critical element because smokers are currently anchored on the price of a 20 pack and are willing to pay that amount, so reducing the price would reset their price gauge and establish a larger margin for the government to systematically increase the tobacco tax over many years.

Essentially, it is imperative to maintain the availability of cigarette packs in only one size to limit the effect of an individual's inattention to multiple options and information cascading from predecessors. Hence if there is any talk of introducing a smaller cigarette pack, it must be accompanied by a ban on the current 20 pack. By comprehensively taking into account the psychological and behavioural biases of human nature in relation to smoking, it would not be an unreasonable proposition to re-introduce a smaller sized 14 pack while simultaneously banning the 20 pack. The logic behind this supposition is based on the existing situation and outstanding circumstances.

Overall, every policy is a powerful nudging tool for the government to promote desirable behaviour through the design of choice availability. The policy of enforcing plain packaging on cigarette packs should not be delayed any longer as it has been proven to significantly decrease cigarette consumption by reducing the visual appeal of boxes. With such a high impact transpiring from a seemingly small change, the size of cigarette packs could hold a similar degree of influence. Further behavioural studies in Malaysia would reflect an even clearer picture of how such a policy can elicit a shift in smoking consumption.

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