

## HM Treasury: Tobacco levy consultation

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### Consultation response from the Centre for Competition Policy

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The document has been edited by Dr Anna Rita Bennato following discussions held in the Centre and it has the broad agreement of the group of contributors.

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## Consultation Response

### *Introduction*

The loss in social welfare yielded by the consumption of tobacco products has been one of the most disputed topics among policy makers and academics. Governments have been invited to design effective mechanisms, with the dual objective of being able to raise tax revenues and affect individual smoking behaviour either by reducing cigarettes' consumption or by stimulating quitting behaviour.

Despite the common belief that an increase in the taxation rate should deter smoking behaviour, the empirical evidence has not supported such relationship (see Calliston and Kaestner, 2014). Furthermore, though the statutory incidence of a tax weighs on the producer, it is not necessarily the agent facing the full burden of the tax. The incidence of taxation, that is how much of the tax is shared between consumers and producers, is

determined by several factors, such as the market characteristics and number of firms present in the market. Economists have long-recognized that in markets with competition the amount of a tax introduced on producer output is shifted on to the consumer entirely. This result is even more certain when an industry is characterized by free entry and exit. With elastic supply and inelastic demand, it is more likely that firms increase the price by the same measure as the new tax. In the opposite market structure - monopoly - the proportion of the tax shifted towards consumers depends on the demand elasticity and marginal production cost which determine the monopolist's potential to absorb part of the tax. However, when certain extreme demand conditions are met, consumers end-up paying more than 100% of the tax (this effect is known in the economic literature as 'overshifting'). The pass-on of the tax becomes less clear when markets are characterized by imperfect competition. Here also price cross-effects need to be taken into account, as shown in Bennato and Mariuzzo (forthcoming CCP working paper). From their analysis, it emerges how the interaction between heterogeneous tax rates and products of different quality, in a market with asymmetric characteristics, affects consumers differently. More precisely, consumers whose demand is less elastic bear the change in the taxation system (differentiated to homogeneous taxation). Besides, in a market where products are imperfect substitutes because of price interdependence, changes in the taxation rate affect the underlying competition in the market, and thus the firms' price and possibly entry and exit decisions.

Given the peculiarity of the product object of this open consultation, it is important to bear in mind the aforementioned features of the tobacco industry. The number of firms along with the range of products available in the market (i.e. cigarettes, cigars, hand-rolling tobacco, pipe tobacco and chewing tobacco, etc.) affect consumer switching behaviour, and subsequently the incidence of the new taxation system, and then tax revenues.

When analysing consumer behaviour in this market, it is important to also consider the role played by the brand name and consumer loyalty, as they jointly identify consumers flexibility to switch to a different product within the same country of residence (i.e. from cigarettes to hand rolling tobacco, or snuff) or the same product from a border country. Tobacco consumers, especially cigarette smokers, are price sensitive, and because of the addiction to the product, they are willing to invest a greater amount of time and resources to price searching. This latter attitude implies that tobacco excise taxes are shifted toward consumers who do not engage in price searching (i.e. young smokers, or lighter smokers). On these last consumer types, the change in taxation is passed more than one-for-one (DeCicca, Kenkel, and Liu, 2013).

### **Answers to the specific questions**

Below we provide answers to the specific questions posed in the open consultation.

**Question 1:** *Is it appropriate to define the tobacco market as products on which tobacco excise duty is paid?*

**Answer:** In addition to the list of products included in the category "tobacco" defined on page 5, Section 2.2. of the open consultation, we suggest including e-cigarettes, whose long-term effect on public health is still under investigation. E-cigarettes have become rapidly popular, due to the possibility of using e-cigarettes in places where smoking is prohibited (Britton and Bogdanovica, 2014). Following the recent revision of the European Tobacco

Products Directive (2014/40/EU) issued last year by the European Commission, we recommend grouping all products that contain nicotine, substance considered to be toxic, which creates addiction and potential health and safety risks (among other works see Cryer, et. al, 1976). However, products containing nicotine, but designed to promote quit smoking behaviour such as chewing gum with nicotine or nasal spray, should be excluded from the list. The suggested approach permits to incorporate all tobacco products consumed for not medical purposes, excluding thus herbal cigarettes, whose consumption may be related to medical/therapeutical scopes. Besides, under the proposed method the e-cigarettes are included, targeting so a product assumed to be responsible for the increasing consumption behaviour of younger smokers, and “non-real” smokers (European Commission, 2014). E-cigarette were originally marketed as a health promotion category as believed to facilitate smoke quitting behaviour. It is nowadays obvious that they do not belong to such category and should be assimilated to the other nicotine products.

**Question 2:** *What would be the consequences of using volumes of tobacco cleared in the previous year in order to calculate total market size?*

**Answer:** Before providing a precise answer, we would like to question what the HM Treasury means by “volumes of tobacco cleared”. Does it imply the total amount of units of tobacco products sold in all categories over the previous year? Or does it mean total revenues? A misinterpretation can lead to different results in terms of potential tax revenues to collect. We would prefer the use of total revenues of the tobacco products sold in the previous year, as proxy of the tobacco market size. This is because the use of total units sold, as measure of the market size, could hide some anticompetitive behaviour (i.e. illegal market sharing agreements among manufacturers), which would let suppliers manipulate their market share. For example, recently the CMA has welcomed the judgment of the High Court related to illegal agreements formed between some tobacco manufacturers and retailers over the period 2003 - 2010. This illegal conduct has involved several contracting arrangements between different economic agents located along the tobacco product distribution chain. By manipulating quantity and prices, these agreements resulted in a damage for the market competition.<sup>1</sup> Previous period revenue is a good base to calculate market shares, particularly in industries where market shares are rather stable period to period. It is important to be aware of the effect of entry and exit, but even with this in mind market shares are not expected to vary much year-to-year.

One additional advantage of using previous period revenues to compute market shares is that they are inclusive of brand values and perceived quality. Product quality is often embedded in the brand name. We can expect that the incidence of taxation weighs more on products whose brand is less popular, along the lines discussed in Bennato and Mariuzzo (2015). The use of the total revenues approach would permit a greater tax contribution from suppliers, whose brand name is well-established, and for that reason having a greater dominion (in term of revenues) in the market.

**Question 3:** *Are there any other metrics that you would prefer were used to calculate total market size? If so, why?*

**Answer:** Not really, we are supportive of the idea of using previous period revenues as base to compute the market shares.

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<sup>1</sup> More details on the investigation on <https://www.gov.uk/government/news/cma-statement-on-high-court-judgment-in-tobacco>.

**Question 4:** *What are the practical difficulties in splitting the total market into 2 distinct parts:*

- *cigarettes; and*
- *HRT and other products subject to tobacco duty?*

**Answer:** The practical difficulties that could arise in splitting the tobacco market in two segments is that it may unsettle the underlying level of competition in the market, creating a distortion in the market, without an obvious justification and with some risk for the tax revenue.

**Question 5:** *Which of option (i) and (ii) as set out in paragraph 2.14 is your preferred option?*

**Answer:** The use of previous or current year as layout for the identification of the total market size would each lead to a list of pros and cons. We begin by discussing the current year method. One pros is that it allows for adjustment in deterministic demand cycles or recessions/booms that may distort previous year market shares. This type of exercise needs to be conducted by an independent authority, which could expose the Treasury to extra consulting costs. Moreover, it will consist of an estimation of the amount of revenues, and not on the actual value. On the other hand, previous year revenues could be retrieved by the HM Treasury, saving money on the consultancy. As mentioned earlier, this method is fast and has many advantages when market shares are rather stable year-to-year.

**Question 6:** *Do you agree that the corporation tax system provides the best mechanism for returning and paying the tobacco levy?*

**Answer:** For this question, we do not have the expertise.

**Question 7:** *What are the alternative approaches?*

**Answer:** For this question, we do not have the expertise.

**Question 8:** *The government welcomes views on the expected impacts of the levy on consumer prices. Question 9: Would the levy have any other impacts on consumers that have not been considered in this document? Question 10: Would the levy have any other market impacts?*

**Answer to questions 8, 9 and 10.**

Given the commonalities among the three questions above, a combined answer is provided. As mentioned in the introduction the pass-on of a tax depends on the level of competition in the market, along with the demand and cost characteristics. Economists already know that under a monopoly market if production cost rises, or industry demand becomes more elastic, the producer internalizes part of the incidence of taxation. Also, if the market is characterized by imperfect competition, a rise in the production costs (or a reduction of the quality products) leads to more intense price competition, and by this means firms shift the level of incidence of taxation onto consumers.

With this regard, we want to recommend an accurate analysis of the tobacco market characteristics in the UK, before introducing a new taxation system. The analysis needs to be based on the identification of the number of suppliers in the market, along with the type and quality of the product supplied. This information plays a determinant role in the effectiveness of the new taxation. In particular, if the aim consists of making manufacturers and importers to contribute to the cost produced by the smoking behaviour in England (see page 3 of the consultation call), then it is crucial to study the market structure of this

industry in the UK, before any policy intervention is introduced. As anticipated in the introduction of this document, this approach would prevent firms passing on the burden of the rise in taxation to consumers. If the market is characterized by the presence of a few big firms with ability to decide market prices (oligopoly), versus by several firms each of them supplying different products perceived by consumers as potential substitutes, then we have to be aware that the application of the same taxation system will bring to opposite results for consumers. How the burden of the tax is shared among agents (consumers and suppliers), and then the expected level of revenues, is affected by changes in relative output prices. Several studies demonstrate that under imperfect competition a tax overshifting onto consumer's prices is more likely (see among others Besley and Rosen, 1999). Differentiating their own goods, producers earn some monopoly power, and their ability to pass the new tax toward consumers is influenced by other firms' strategies.

From a first glance, it seems that monopolistic competition is the market structure that better describes the tobacco industry in the UK. The varieties of products and packets size available in the market suggest that suppliers extend their product portfolio according to consumer demand elasticity. With regard to this aspect, we recall the analysis developed by Bennato and Mariuzzo (2015). Their research shows, theoretically and empirically, how the interaction between a differentiated taxation and different quality products, along with other market characteristics weighs on consumers differently. Since high quality firms react to the change in taxation of the product supplied by their competitors, it is the consumers who buy the low quality good who bear entirely the taxation change.

In deciding which tax intervention is more appropriate, the Government needs to take into account possible anticompetitive behaviour. In 2010, the OFT found that two tobacco producers along with 10 retailers displayed an anticompetitive behaviour. Subsequently from the OFT's investigation, it appears that by means of individual agreements between producers and retailers, the price of a tobacco brand was linked to that of another producers brand.<sup>2</sup> These conducts, clearly, have affected the duty paid on the tobacco product sold over the investigated period (2003-2010), creating a distortion against consumers.

**Question 11:** *The government welcomes views on an alternative to a levy that would enable tobacco manufacturers and importers to make a greater contribution.*

**Answer:** Following up our previous discussion, to make the proposed policy intervention effective some readjustments and changes are needed. From pages 4 and 5, Sections 1.11 and 2.22 of the open consultation, we read, "...any levy would be based on market share. This means that those who benefit most from smoking activity would pay more of the levy...", and again in the same pages "...the levy would apply to all products subject to tobacco duty, including cigarettes, hand rolling tobacco, pipe tobacco, shisha, chewing tobacco and herbal cigarettes", we can deduce that the levy would assume the feature of a homogeneous taxation, applied to all tobacco products and target firm's output, measured by market share. We read this as a per unit indirect tax. In an imperfect competitive market where marginal costs are not constant, with an upward supply curve, the introduction of a per unit tax shifts the supply vertically upward by the amount of the tax, and the extent to which the tax is passed onto consumer prices depends on the slope of demand and supply curve (i.e. ability of consumers to change product consumed, and producer's ability to readjust its production). With an inelastic demand, that is when consumers still buy the product independently of its price (for example, in that case smokers more likely will reduce

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<sup>2</sup> Full details on

<http://webarchive.nationalarchives.gov.uk/20140402142426/http://www.offt.gov.uk/OFTwork/competition-act-and-cartels/ca98/decisions/tobacco>.

the consumption of other goods to sustain the price's increment of the cigarettes), the amount of the tax is passed in full to the consumer price. If consumers are willing to change product type, the consumer price will rise by less. Clearly, as the competition becomes more intense, the burden of the tax weighting on consumers increases.

Summing up, we suggest an accurate analysis of the tobacco industry in the UK. If an ad-valorem tax is preferred, we would suggest also the introduction of a price cap on the low quality product as the alternative to a levy. The use of an ad-valorem differentiated tax consists of applying a low taxation rate for low quality product, and a greater tax rate for higher quality product, having continuous increases from the low rate to the high rate for all product qualities in between. Given the market characteristics, we already know that smokers are not much willing to change their favourite brand product (inelastic demand), but lighter smoker (or younger smokers) could opt for a cheaper product. Under the scheme mentioned above (different tax rates for different quality products), the ad-valorem tax will penalize consumers more whose outside option will be not smoking. Given the peculiarity of this market, where a price increment does not work as mechanism to impede smoking, consumers in this category will face the burden of the tax, with some possible overshifting (i.e. some consumers will have to face a greater price increment, bigger than that of the tax rate). To prevent this harmful result, a price ceiling on the lower end of the market product would constrain the shifting towards consumers in this category, redirecting them toward the more expensive product. In this case, in the long run heavier smokers would choose a cheaper option, reducing the demand for expensive products. Thus, it follows, that the consumers share of the tax burden decreases with respect to the elasticity of demand.

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