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THE CASE FOR OFSMOKE: THE POTENTIAL FOR PRICE CAP REGULATION OF TOBACCO TO RAISE £500M PER YEAR IN THE UK

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Abstract

Objective—A system of price-cap regulation has previously been suggested to address the market failure inherent to the tobacco industry. This would benefit public health directly (for example, by making it extremely difficult for the industry to sell cut price cigarettes or use price as a marketing strategy) and indirectly (for example, by reducing the money industry has available to spend on marketing and lobbying). This paper explores the feasibility of applying such a scheme in the UK.

Methods—The impact of price-capping is modelled using optimistic and conservative scenarios, each with different assumptions, and using 2009 and 2010 profit data for the major companies selling tobacco in the UK. The models are used to calculate by how much profit would be reduced through the imposition of price caps, and thus how much revenue could be raised in additional taxes, assuming the end price the consumer pays does not change.

Results—Tobacco companies enjoy massive profit margins, up to 67%, in the UK. The optimistic scenario suggests a potential increase in UK tobacco tax revenue of £585.7m in 2010 (£548.4m in 2009), while the conservative model suggests an increase in revenue of £433.6m in 2010 (£399.2m in 2009). This would be approximately enough to fund, *twice over*, UK wide anti-tobacco smuggling measures and smoking cessation services in England including the associated pharmacotherapies.

Conclusions—Applying a system of price cap regulation in the UK would raise around £500m per annum (US\$750m). This is likely to be an under-estimate because of cautious assumptions used in the model. These significant financial benefits, in addition to the public health benefits that would be generated, suggest this is a policy that should be given serious consideration.

Keywords

Tobacco industry; tobacco tax and price; regulation; market failure

INTRODUCTION

Tobacco is an addictive product with few substitutes, and the worldwide market is dominated by a small number of large transnational tobacco companies (TTC) which are

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Competing Interests

None known for either author

able to enjoy considerable amounts of market power. As such, the manufacture and sale of tobacco products in almost any market is going to be uncommonly profitable.[1] To correct this market failure we previously outlined the case for imposing price caps on the wholesale prices tobacco manufacturers are able to charge for their products (not on the end-price the consumer faces) using the system of RPI-X regulation widely used in the utilities sector.[1] Such a scheme would generate numerous public health benefits (box 1) and also allow governments to capture a significant proportion of the excess profits the industry currently enjoys, as tobacco taxes would need to rise to offset any reductions in the price manufacturers are able to charge (box 1). Given the inherent appeal of the policy suggestion, there is growing interest its implementation in various markets including the UK, Ireland and New Zealand.[2–4]

Box 1

The Price Cap Scheme and the benefits it would bring

The price cap scheme

A RPI-X price capping scheme would set the maximum prices tobacco manufacturers' could charge based on how prices in the economy have generally changed (the RPI – Retail Price Index - element), an assessment of the genuine costs each firm faces in its production and operations allowing for a reasonable return on the capital employed, and an assumption about the productivity improvements it would be expected to make (the X element). It is important to stress that the price being capped is the wholesale price manufacturers charge to retailers, not the price the consumer pays in the shop. The manufacturers' profits are thereby reduced while the price the consumer pays would not change (assuming the government simultaneously increases tobacco excise rates to compensate for the wholesale price reductions). In essence the regulation would seek to mimic some effects of a competitive market where firms face strong pressure to be efficient in their operations and would generally only make enough profits to just keep them involved in the industry. For this to take place a regulatory agency, The Office for Smoked Tobacco Regulation (Ofsmoke) let's say, would need to be created so that it could investigate the sector and devise appropriate price caps.

The public health benefits

As we explain in our previous paper, a system of price cap regulation could bring numerous public health benefits. These occur both because of the reduction in profits and the incentives this engenders, and because a regulatory agency charged with capping tobacco manufacturers' prices would be required to investigate all aspects of the tobacco industry, thus exposing it to greater scrutiny than ever before. Most obviously price cap regulation could prevent the tobacco industry from using price to market its products or undermine the impact of tobacco excise policies[5–7] because maximum prices would now be set by the regulator and reduced industry profits would significantly impair its ability to cut any prices below these. Price differences between brands/products would therefore be mainly based on the costs of production rather than attempts to segment the market by price which should significantly reduce the problem of down-trading to cheaper brands/products. Indeed, the suppression of pricing strategy from the arsenal of the TTC would be a complementary policy to other tobacco control measures as it would essentially prevent the companies from using price changes as a defence in response to public health measures such as plain packaging, and might even reduce their future resistance to such measures as their profitability becomes partially insulated from them, as the price caps set would take account of the impact of such measures. Furthermore, price cap regulation could offer a means of controlling other unwanted industry practices such as price fixing, cigarette smuggling, and marketing to the young as the regulator

would be able to identify such activity and then take it into account when setting the price caps. For example, by forbidding or tightly restricting the marketing budget if the companies are marketing to children. Companies could be regulated based only on their legal activities (so that they don't benefit from illegal activities such as smuggling) and potentially even penalised for any undesirable activity in order to provide a strong incentive to act responsibly. There is also significant potential to generate indirect public health benefits through the reduction in the money the industry has available to spend on lobbying or fighting public health measures.

Source: [1]

This paper aims to demonstrate the feasibility of applying such a price cap scheme to all markets by considering in some detail how it would work in the exemplar market of the UK. To do this we first determine how much profit the tobacco companies operating in the UK currently make, and then calculate by how much this would be curtailed by price caps and thus what additional tax revenue such a scheme could raise. We take into account the costs of running the regulatory agency that would need to be established to run the scheme.

METHOD

General Approach

Existing regulatory agencies have significant resources including access to the data necessary to set appropriate price caps for the firms in their industries.[8–12] Without such resources and detailed data, our numbers will inevitably be estimates. To that end we present two scenarios; a conservative scenario (in revenue terms) using relatively unsympathetic assumptions to represent the lower bound of possibilities, and an optimistic scenario using more benevolent assumptions to present more of a best-case scenario. To develop these scenarios we assume the final price consumers face would not change on the basis that any reductions in manufacturers' prices would be offset by equal rises in tobacco taxes. Governments might raise taxes beyond this level, but such a decision would fall outside the direct effects of price cap regulation being investigated herein. Therefore, since the final price to the consumer is not being changed, we assume that sales are not affected by the decision to implement price caps.

We utilise profit data for the companies currently selling tobacco in the UK to calculate how much profit would be reduced through the imposition of price caps, and thus how much additional tax could be raised. Data for 2010 and 2009, the two most recent years available, are used. We assume that all of the costs the tobacco firms currently report are legitimate costs as we were unable to obtain data as to where the firms incur their reported costs.

We obtained market share data broken down by product type (cigarettes, hand-rolled and pipe tobacco) for each major company operating in the UK for the 2009 and 2010 calendar years from Euromonitor.[13] These were then weighted by product-type share of the total tobacco market to give overall company market share figures. Data on company profits for the closest matching financial years were obtained from the annual reports of the major TTC operating in the UK with additional data obtained via Companies House. However, as most TTCs present only regional data on profits, in several instances we had to calculate likely UK performance as outlined below.

Profitability of Imperial Tobacco

Imperial accounted for 44.3% of the UK tobacco market in 2010 and made adjusted operating profits from tobacco in the UK of £614m from net revenue of £911m; a margin of more than 67% (£1 equalled approximately US\$1.50 as of March 2012). Thus, for every £1

the company receives after paying all tobacco duties, 67p of it is taken as profit. In the 2009 financial year with a market share of 42.9%, the equivalent figures were £601m profit from revenues of £893m, also giving a margin of over 67%.^[14]

Profitability of Japan Tobacco International (JTI)

JTI had a market share of 35.2% in 2010 and 35.8% in 2009 but does not provide performance data for the UK market alone, instead including it within the wider Western Europe area. However, JTI is represented in the UK by its Gallaher Limited subsidiary and accounts for this firm are a matter of public record. UK sales, including duty, were £4,344m in 2010 and £4,253m in 2009, representing 94.8% and 95.1% respectively of the company's total revenue in those years, and giving operating profits of £345m and £312m respectively. ^[15] To calculate profit margins, we need to remove duty from the company's revenue. Duty is given only for total sales, so we assigned to the UK market a proportion of total duty paid in line with the UK revenues as a proportion of total company revenues (i.e. 94.8% in 2010). This suggests a net revenue of £889.67m in 2010, generating a profit margin of 38.8% given the £345m profit. In 2009 net revenue was £854.78m, implying a profit margin of 36.5%.

Profitability of Philip Morris International (PMI) and British American Tobacco (BAT)

PMI accounted for 7.9% of the market in 2010 and 8% in 2009, but doesn't provide UK specific data since it reports on an EU basis. For this region tobacco net revenue was US \$8,983m in 2010 generating operating income of US\$4,502m, and for 2009 net revenue was US\$9,041 with operating income of US\$4,506m.^[16] Operating income is a similar accounting measure to the operating profit of the UK based companies, implying an EU profit margin of 50.11% in 2010 and 49.84% in 2009.

BAT accounted for 7.6% of the market in 2010 and 7.3% in 2009 but again does not provide UK data, reporting instead for Western Europe. In 2010 BAT reported adjusted operating profits for Western Europe of £1,054m on net revenues of £3,419m, a margin of almost 31%. In 2009 the same figures were profits of £994m on net revenues of £3,884m, a margin of more than 25.5%.^[17]

We note that while both PMI and BAT have subsidiaries operating in the UK, Philip Morris Limited and BAT UK Limited respectively, the reported figures for these companies are such that they can't possibly represent their full dealings in the UK given their market share and the finances reported by other TTCs.^[18,19]

Given the lack of UK specific figures for both PMI and BAT, we estimated their UK profitability based on their wider European operations. We know that Imperial accounted for 44.3% of the UK market in 2010, earning revenues of £911m in the process. This implies that each 1% market share is worth £20.56m in net revenue. Using 2009 data, the figure is £20.81m. This suggests that in 2010 PMI made revenues of £162.42m given a market share of 7.9%, earning profits of £81.39m given a margin of 50.11%. For BAT, a 7.6% market share implies revenues of £156.26m, and a profit margin of almost 31% implies profits of £48.2m. For 2009, we calculate that PMI, earned £166.48m in revenue, generating profits of £82.97m, and BAT had revenues of £151.91m generating profits of £38.74m.

Profitability of the Remainder of the Market

The remainder of the UK market, accounting for 5% in 2010 and 6% in 2009, consists of a variety of relatively small companies and own label products.^[13] The situation with profitability in this category is unclear but given the small market share, it will have very little impact on our overall results. We therefore assume that the profitability of this segment

is relatively low and thus would not be affected by the imposition of price caps under either scenario.

Profits allowed under the Price Cap system

Under an RPI-X system, firms are allowed to charge a price high enough to allow them to make sufficient profits to cover all legitimate costs and make a small return. Therefore, we assume that the firms make such a profit by pricing at the maximum levels allowed by their price caps because, as previously suggested[1], a low price strategy would be an unviable response since it would lead to even lower profits. In order to determine an appropriate level for this profitability, we use data on the profitability of large European transnational firms operating in the more competitive non-tobacco consumer staples market segment as a benchmark (see Table 1).

A considerable number of comparator consumer staple companies have profitability in the range of 12% to 20% EBITA (earnings before interest, taxation and amortisation expenses have been deducted, as a proportion of its total revenue) (Table 1). EBITA is a similar measure of profit to the adjusted operating profit measure utilised above. In our conservative scenario we therefore assume that the companies would be allowed to make returns of 20%, whilst our best-case scenario assumes a 12% return. We assume this rate of return would be allowed on current revenues as this approach is the nearest we can get to RPI-X regulation with the data available.

The Costs of Regulation

As with existing UK regulators, the cost of the tobacco regulatory agency – Ofsmoke, let's say - could be covered by the industry itself through fees and levies paid by tobacco companies. These fees are generally set such that the regulator breaks-even. As a guide for the cost of Ofsmoke, we consider relevant existing regulators (Table 2).

These vary quite considerably, depending upon the nature of the market and the scope of the regulator in question. Given Ofsmoke would only be regulating tobacco products, it would be more akin to the regulators also operating in single markets such as Ofwat, the ORR or Postcomm. Therefore, using the budgets for these regulators as a guide, we estimate a budget for Ofsmoke of £15m in our optimistic scenario and £45m in our conservative scenario for both 2009 and 2010.

Since regulation would result in the reduction of the UK operating profits of the tobacco companies, an additional 'cost' of regulation is the reduction in corporation tax paid in the UK. In 2009 and 2010 the rate of UK corporation tax was 28%. We therefore assume as a cost a sum equal to 28% of the corporate profits forgone due to regulation. For instance, if regulation resulted in a reduction of profits by £100m, we assume an associated loss of corporation tax of £28m as a cost of regulation.

RESULTS

Industry Profitability and Potential for increased tax revenue

Applying the methodology and data collected as described above, we estimate that both scenarios generate significant reductions in industry profits, and thus scope for increased taxes (Table 3 and 4). Under our conservative scenario, we estimate a reduction in industry profits of £664.7m compared to actual performance in 2010 and £617.0m compared to 2009, while in our best-case scenario these figures increase to £834.2m and £782.5m respectively.

Once the costs of regulation are taken into account, the increase in tobacco tax revenues would be somewhat lower (Table 5). Under our optimistic scenario in 2010, we estimate a reduction in corporation tax of £233.6m (£219.1m in 2009). With £15m to pay for the regulator, this leaves a potential increase in tax revenue of £585.7m (£548.4m in 2009). Under our conservative case in 2010 we estimate deductions of £45m for the costs of the regulator and £186.1m for corporation tax (£172.8m in 2009), suggesting a potential increase in revenue of £433.6m (£399.2m in 2009).

DISCUSSION

Given the difficulties of getting accurate data, our intention is not to establish a definitive set of figures but simply to demonstrate the broad feasibility of price cap regulation using the UK as an exemplar. The results (table 5) suggest that price caps could give the UK government scope to raise tobacco taxes by approximately £500m (US\$750m) annually without affecting the price the consumer pays. This represents an increase of around 5% compared to the estimated £10,000m tobacco tax revenue in 2008/09 or £10,500m in 2009/10.[20] This isn't a huge proportionate increase and such sums could therefore also be raised by a new profit tax or by simply raising tobacco taxes without the use of price caps. However, unlike these other schemes, additional tax revenue from price capping comes as part of a suite of public health benefits (Box 1) and is also likely to be accepted by voters given that they will face no additional costs personally. Moreover, £500m still represents significant revenue, being sufficient to pay *twice over* for UK wide anti-smuggling measures (£96.5m in 2008/9), smoking cessation services in England (£74m in 2008/09) and the associated pharmacotherapies (£56.4m in 2008/09).[21] Such sums therefore represent a significant argument for tobacco price caps to be an exception to the current political trend in many countries for less regulation and smaller government, particularly in the current climate when many governments are running significant budget deficits.

There are several reasons why our figures are likely to under-estimate the revenue potential of price capping. First, it is unlikely that all the costs the firms currently face would be accepted as legitimate (for example, money spent on marketing might be deemed inappropriate), and reduced operating costs imply greater scope for tougher prices caps. Second, it has been announced that the UK rate of corporation tax is due to fall to 23%, meaning that the associated cost would be lower. Furthermore, because companies are able to claim various deductions from the operating profit used to calculate corporation tax in this paper, the tax actually being paid is likely to be lower than assumed.

Third, the UK tobacco market is widely believed to be one of the most profitable in Europe. [22] Therefore, our assumption that PMI and BAT are only as profitable as their European average likely underestimates their actual UK profitability. The same might also be true for JTI, as before it purchased Gallaher Group Plc, Gallaher reported EBITA margins for the UK of 53.2% in 2004 and 54.1% in 2005.[23] These margins are around 15% higher than we assumed, and it is unlikely that margins will have reduced by this much in a market showing increasing profitability. Furthermore, we assumed that the non-TTC share of the UK market was not profitable enough to be affected by price caps when in reality some of these firms might be highly profitable.

Fourth, when calculating the profit allowed under price-caps, existing firm revenue was used as the basis for the calculations. These revenues include both costs and profits, so using these actually allow the firms a profit margin on both their costs and their existing profits. Therefore, the real profit margins allowed in our estimates are somewhat higher than the 20%/12% figures quoted. This suggests there would be scope for a tougher regulatory regime and even higher tax revenues.

Finally, one might even consider the extreme situation where Ofsmoke takes the tough stance of regulating the entire industry on the basis that it could be run as profitably as Imperial Tobacco, currently the most profitable firm in the UK market. If this were the case we calculate that under our optimistic scenario the net gain to government would be more than £800m per year in both 2010 and 2009.

We can think of only one reason why our figures might over-estimate the potential revenue from price capping. Two of the four companies dominating the market are UK based, and so the government could lose additional tax revenue if lower corporate profits resulted in lower dividend payments to shareholders and thus UK taxes paid thereon. However, the standard rate of tax on corporate dividends is 10% in the UK so even if this was the case, it wouldn't fundamentally alter the outline sums identified in this paper. Indeed, even if our models were wrong by 50% (for example, because it also transpires that the financial risk attached to these companies requires a higher level of return than assumed herein), £250m would still be raised without increasing the price consumers pay. These scenarios seem unlikely so on balance our estimates probably significantly underestimate the potential for additional tax revenue associated with price caps.

In conclusion, we have used available profit data for the UK tobacco market to illustrate the potential of applying a price-capping scheme to the prices manufacturers are able to charge. We then used this to outline the potential fiscal benefits to the UK in terms of the extra tobacco taxes that could be generated without affecting the price to end consumer. Although the data available to us are not ideal, in constructing our model we have taken assumptions that are likely to have underplayed the potential of price cap regulation, and as such we feel confident that our estimates for a net increase in tax revenue of around £500m per year are reasonable, and if anything, under-represent the true potential. Such a scheme could be applied in any country where tobacco companies enjoy significant market power and are therefore able to make excessive profits. Although the sums generated would differ from country to country, it is likely that it would have potential to capture significant sums for governments at a time when most are in need of extra funds. Given the wider health benefits that would also be generated (Box 1) and also the political benefits inherent to not changing the price that consumers pay, this policy should be given serious consideration.

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WHAT THIS PAPER ADDS

- As a result of the market power enjoyed by transnational tobacco companies, the sale of tobacco is unusually profitable. Previous work has established that imposing utility style price caps on manufacturers' tobacco prices has theoretical potential to address this market power, curb excess industry profits and bring numerous potential public health benefits.
- This paper demonstrates the feasibility of applying a system of price-cap regulation in the UK tobacco market.
- It shows the high profitability of the transnational companies that dominate the UK market (Imperial Tobacco, for example, has profit margins in the UK of 67%, making it one of the most profitable companies in the country).
- Even once the costs of regulation have been taken into account, it is estimated that applying a system of price caps in the UK would raise significant additional revenue, approximately £500m (range £433.6m - £585.7m) in 2010. This would be approximately enough to fund *twice over*, UK wide anti-tobacco smuggling measures, and smoking cessation services in England, including the associated pharmacotherapies to help people stop smoking.
- Governments wishing to raise revenue and prevent the tobacco industry from undermining tobacco control policies (for example by offering cut price cigarettes to undermine the impact of excise and other policies) should give further consideration to a system of price-cap regulation.

Table 1

Profitability (measured using EBITA Margin (%)) for Europe's two major tobacco companies and comparator European consumer staple companies

	FY10A	FY11E	FY12E	FY13E
BAT *	0.335	0.353	0.358	0.364
Imperial Tobacco	0.390	0.396	0.396	0.400
Diageo	0.285	0.296	0.304	0.310
Pernod-Ricard	0.257	0.254	0.252	0.256
SABMiller	0.183	0.195	0.199	0.205
Heineken	0.150	0.158	0.162	0.171
Carlsberg	0.172	0.173	0.178	0.179
C&C Group	0.206	0.190	0.203	0.207
Britvic	0.127	0.116	0.121	0.129
AB Foods	0.090	0.085	0.085	0.088
Danone	0.154	0.147	0.148	0.149
Nestle	0.140	0.137	0.154	0.155
Unilever	0.153	0.154	0.155	0.157
Premier Foods	0.147	0.154	0.157	0.156
Tate & Lyle	0.118	0.117	0.123	0.123
Reckitt Benckiser	0.268	0.259	0.256	0.260
L'Oreal	0.163	0.165	0.169	0.172
Henkel	0.131	0.134	0.139	0.140
Beiersdorf	0.125	0.101	0.117	0.122
Non-Tobacco Average	0.169	0.167	0.172	0.175
Non-Tobacco or alcohol Average	0.147	0.143	0.148	0.150

Source: Various Citigroup 'Consumer Staples business analyst investment reports.

* Data for BAT is EBIT margin (meaning that it includes the costs of amortisation) which reports a slightly lower level of profitability than equivalent EBITA Margin figures.

Table 2

The annual administration expenses of various UK regulators (millions of pounds)

	Year to 31st March 2010	Year to March 31st 2009
The Office of Gas and Electricity Markets (Ofgem) http://www.ofgem.gov.uk/	51.1	42.0
The Water Services Regulation Authority (Ofwat) http://www.ofwat.gov.uk/	17.2	15.0
The Office of Rail Regulation (ORR) http://www.rail-reg.gov.uk/	29.6	32.3
The Postal Services Commission (Postcomm) http://www.psc.gov.uk/	8.0	9.7
Ofcom (regulator and competition authority for communication industries) http://www.ofcom.org.uk/	121.6	124.1

Source: [8–12]

Table 3

2010 UK Tobacco Industry actual Profitability* and Profits with Regulation

	Imperial	JTI	PMI	BAT	Total**
Market Share (%)	44.3	35.2	7.9	7.6	95.0
Revenue (£ million)	£911.0	£889.7	£162.4	£156.3	£2,119.4
Profit actually made (£ million)	£614.0	£345.0	£81.4	£48.2	£1,088.6
Profit rate actually achieved	0.674	0.388	0.501	0.308	0.514
Profit when capped at 20% of actual revenue (£ million)	£182.2	£177.9	£32.5	£31.3	£423.9
Implied reduction in profits from 2010 level (£ million)	£431.8	£167.1	£48.9	£16.9	£664.7
Profit when capped at 12% of actual revenue (£ million)	£109.3	£106.8	£19.5	£18.8	£254.3
Implied reduction in profits from 2010 level (£ million)	£504.7	£238.2	£61.9	£29.4	£834.2

Source: Authors' calculations using various sources as outlined in the text.

* Actual profit figures for Imperial, remaining profit figures are estimates as outline earlier in the article.

** Total market share doesn't sum to 100% since we are assuming that the profitability of the companies comprising the remainder of the market would not be affected by the imposition of price caps

Table 4

2009 UK Tobacco Industry actual* Profitability and Profits with Regulation

	Imperial	JTI	PMI	BAT	Total**
Market Share (%)	42.9	35.8	8	7.3	94.0
Revenue (£ million)	£893.0	£854.8	£166.5	£154.9	£2,069.2
Profit actually made (£ million)	£601.0	£312.0	£83.0	£34.9	£1,030.8
Profit rate actually achieved	0.673	0.365	0.498	0.225	0.498
Profit when capped at 20% of actual revenue (£ million)	£178.6	£171.0	£33.3	£31.0	£413.8
Implied reduction in profits from 2009 rate (£ million)	£422.4	£141.0	£49.7	£3.9	£617.0
Profit when capped at 12% of actual revenue (£ million)	£107.2	£102.6	£20.0	£18.6	£248.3
Implied reduction in profits from 2009 rate (£ million)	£493.8	£209.4	£63.0	£16.3	£782.5

Source: Authors' calculations using various sources as outlined in the text.

* Actual profit figures for Imperial, remaining profit figures are estimates as outline earlier in the article.

** Total market share doesn't sum to 100% since we are assuming that the profitability of the companies comprising the remainder of the market would not be affected by the imposition of price caps

Table 5

Calculations of the potential increase in yearly UK tobacco tax revenues due to price-cap regulation

	2010		2009	
	Optimistic Scenario	Conservative Scenario	Optimistic Scenario	Conservative Scenario
Reduction in profits due to regulation (million)	£834.2	£664.7	£782.5	£617.0
Implied reduction in corporate taxes at 28% (million)	-£233.6	-£186.1	-£219.1	-£172.8
Cost of Ofsmoke regulator (million)	-£15.0	-£45.0	-£15.0	-£45.0
Potential net increase in taxes (million)	£585.7	£433.6	£548.4	£399.2

Source: Authors' calculations using various sources as outlined in the text.