



research paper series

Internationalisation of Economic Policy

Research Paper 2003/19

**Why Take on the Tobacco Industry:
The Political Economy of Government
Anti-smoking Campaign**

Zhihao Yu



Leverhulme Centre
for Research on Globalisation and Economic Policy

The Author

Zhihao Yu is Assistant Professor of Economics at Carleton University and External Research Fellow in the Leverhulme Centre for Research on Globalisation and Economic Policy.

Why Take on the Tobacco Industry: the Political Economy of Government Anti-smoking Campaign

By Zhihao Yu

Abstract

This paper shows that government anti-smoking campaign can benefit the government in the political bargaining with the tobacco industry by reducing the latter's alternative welfare. Although the equilibrium regulation on the tobacco industry increases as a result of government anti-smoking campaign, the political contribution from the tobacco industry will not necessarily go down. Anti-smoking campaign reduces the welfare of the tobacco industry but its potential loss of not lobbying increases. When the incumbent government/politician becomes more hungry for political contribution, it increases its effort in anti-smoking campaign and this could induce more political contribution from the tobacco industry under some plausible conditions.

JEL classification: D72, I18

Key Words: Political Economy, Anti-smoking Campaign, Political Contribution, Special Interest Groups

Outline:

1. Introduction
2. Industrial Regulation and Political Capture
3. The Game of Anti-smoking Campaign
4. Motivation for Anti-smoking Campaign
5. Concluding Remarks

Non-technical summary

Each year tobacco industry spends millions of dollars on political contribution and some of its firms are the major donors in the agri-business sector as a whole. For instance, Philip Morris gave more than \$3.4 million in 1999-2000, making it the largest contributor in the agri-business sector and the 14th largest contributor overall. In the past, however, governments at all levels have increased regulations on the tobacco industry (e.g. imposing high taxes, restricting tobacco advertising, etc.). This could result from the growing political pressure from anti-smoking activists (e.g., anti-smoking interest groups or the public). It could also be the case that governments are simply trying to correct the negative externality of smoking but this view is not shared by all. See more discussion about this in Section 4. But why do governments spend millions of dollars each year to launch mass-media anti-smoking campaigns to attack the tobacco industry? For example, in the late-1960s the U.S. Federal Communications Commission launched a major anti-smoking message broadcast under the so-called Fairness Doctrine. More recently, in 1995 California, among several other states, spent \$12 million on anti-smoking advertising. When government politicians initiate these anti-smoking programs, are they not afraid of losing political contribution from the tobacco industry? This paper searches for answers to these questions and suggest some alternative explanations based on pure political motivations of the government.

I use the Nash bargaining approach as a basic framework to model the interaction between an incumbent government/politician and the tobacco industry, in which political contribution from the industry is used as a transfer payment to compensate the government for its regulation/policy that deviates from the public's most preferable level. In the model anti-smoking campaign changes the median-voter/public's demand on the level of government regulation on the tobacco industry. The paper investigates the effects of government anti-smoking campaign and its political motivation.

The paper derives four main results that yield new insights on the political interaction between an incumbent government and a special interest group. First, government anti-smoking campaign raises the public's demand for a tougher regulation on the tobacco industry. The tougher regulation demanded by the public reduces the industry's alternative welfare (if not lobbying), which benefits the government in the political bargaining with the tobacco industry. Second, although the equilibrium regulation on the tobacco industry increases as a result of government anti-smoking campaign, the political contribution from the tobacco industry will not necessarily go down. For instance, as long as the equilibrium level of regulation is not 'over-adjusted' (i.e. more-than-proportionate) to the change in the public demand, the political cost for the government would be higher and therefore it has to be compensated by more political contribution from the tobacco industry. Third, anti-smoking campaign reduces the welfare of the tobacco industry but its potential loss of not lobbying increases. The latter is precisely due to the fact that anti-smoking campaign reduces the industry's alternative welfare. Fourth, when the incumbent government/politician becomes more hungry for political contribution, it will increase its effort in anti-smoking campaign. The reason for this is that when government politicians become more \$-hungry, effectively they care less about the opposition from the public. Therefore, the political cost of a rise in the public demand for a tougher regulation becomes smaller, this leads to a further increase in the equilibrium effort of government anti-smoking campaign. We show that such anti-smoking campaign induced by \$-hungry politicians indeed could bring in more political contribution under some plausible conditions.

1. Introduction

Each year tobacco industry spends millions of dollars on political contribution and some of its firms are the major donors in the agri-business sector as a whole. For instance, Philip Morris gave more than \$3.4 million in 1999-2000, making it the largest contributor in the agri-business sector and the 14th largest contributor overall.¹ In the past, however, governments at all levels have increased regulations on the tobacco industry (e.g. imposing high taxes, restricting tobacco advertising, etc.). This could result from the growing political pressure from anti-smoking activists (e.g., anti-smoking interest groups or the public).² But why do governments spend millions of dollars each year to launch mass-media anti-smoking campaigns to attack the tobacco industry?³ When government politicians initiate these anti-smoking programs, are they not afraid of losing political contribution from the tobacco industry? This paper searches for answers to these questions and suggest some alternative explanations based on pure political motivations of the government.

I use the Nash bargaining approach as a basic framework to model the interaction between an incumbent government/politician and the tobacco industry, in which political contribution from the industry is used as a transfer payment to compensate the government for its regulation/policy that deviates from the public's most preferable level. In the model anti-smoking campaign changes the median-voter/public's demand on the level of government regulation on the tobacco industry. The paper investigates the effects of government anti-smoking campaign and its political motivation.

The paper derives four main results that yield new insights on the political interaction between an incumbent government and a special interest group. First, government

¹See www.openscrets.org. Date visited: 20 May 2003.

²It could also be the case that governments are simply trying to correct the negative externality of smoking but this view is not shared by all. See more discussion about this in Section 4.

³For example, in the late-1960s the U.S. Federal Communications Commission launched a major anti-smoking message broadcast under the so-called Fairness Doctrine. More recently, in 1995 California, among several other states, spent \$12 million on anti-smoking advertising (Pechmann and Reibling, 2000). Also see Hu, Sung, and Keeier (1995).

anti-smoking campaign raises the public's demand for a tougher regulation on the tobacco industry. The tougher regulation demanded by the public reduces the industry's alternative welfare (if not lobbying), which benefits the government in the political bargaining with the tobacco industry. Second, although the equilibrium regulation on the tobacco industry increases as a result of government anti-smoking campaign, the political contribution from the tobacco industry will not necessarily go down. For instance, as long as the equilibrium level of regulation is not 'over-adjusted' (i.e. more-than-proportionate) to the change in the public demand, the political cost for the government would be higher and therefore it has to be compensated by more political contribution from the tobacco industry. Third, anti-smoking campaign reduces the welfare of the tobacco industry but its potential loss of not lobbying increases. The latter is precisely due to the fact that anti-smoking campaign reduces the industry's alternative welfare. Fourth, when the incumbent government/politician becomes more hungry for political contribution, it will increase its effort in anti-smoking campaign. The reason for this is that when government politicians become more \$-hungry, effectively they care less about the opposition from the public. Therefore, the political cost of a rise in the public demand for a tougher regulation becomes smaller, this leads to a further increase in the equilibrium effort of government anti-smoking campaign. We show that such anti-smoking campaign induced by \$-hungry politicians indeed could bring in more political contribution under some plausible conditions.

Recently there is growing research interest in the effects of mass media on public policies (e.g., Besley and Burgess, 2001, 2002; Strömberg, 2001, 2002). However, the focus of that literature is different from the present paper. For example, Besley and Burgess examine the effects of mass media on the government responsiveness to the public needs in India. Strömberg investigates the role of mass media on public policy with the media being a profit-maximizing agent in providing information to the public. While these studies show that how the presence/role of mass media could affect government policy, the focus of my studies is on how the government and interest groups could engage in public persuasion (through the media) to benefit themselves in the political interaction among them.

The current paper is more related to Grossman and Helpman (2001) and Yu (1999).

Grossman and Helpman investigate the issue of ‘educating voters’ in an electoral-competition model with active special interest groups. Their focus is on the timing of communication of interest groups with voters, namely, ‘early communication’ will allow the parties to react to any changes in the political climate that result from the group’s communication with the voters, which otherwise would not be possible with ‘late communication’.⁴ There the issues of lobbying and educating the public, however, are discussed separately in their study. Yu (1999) extends the common-agency framework in Bernheim and Whinston (1986) and Grossman and Helpman (1994) to study how opposing interest groups engage in both ‘direct’ (lobbying the government) and ‘indirect’ (persuading the public) competition to influence government policy, and the interaction between these two kinds of political competition. Unlike these studies, however, the current paper focuses on how governments could engage in public persuasion to benefit themselves in the political interaction with special interest groups.

Among many different approaches in the political-economy literature,⁵ the Nash bargaining solution has proven to be a very useful approach to analyze the political interaction between one special interest and the government. For example, Maggi and Rodriguez-Clare (1998) and Qiu (2001) use this approach to study Free Trade Agreements when governments are subject to lobbying from domestic industries. Shleifer and Vishny (1994) use this approach to model the interaction between a government and a firm to study privatization in Russia. The spirit of the Nash bargaining approach is actually similar to that of the common-agency approach since the equilibrium government policy in both approaches maximizes the joint welfare between the special interest group and the government.⁶

The rest of the paper is organized as follows. Section 2 characterizes the political-equilibrium of the Nash bargaining solution between the tobacco industry and the incumbent government. Section 3 analyzes the effects of government anti-smoking campaign on

⁴‘Early communication’ (*resp.* ‘late communication’) means releasing information to voters before (*resp.* after) political parties have committed to their positions on pliable policy issues.

⁵See Hillman (1989) and Rodrik (1995) for surveys in political-economy models, and Persson and Tabellini (2000) for an excellent textbook in political economy.

⁶See more discussion about this in Yu (2000, pp.1077).

the above political equilibrium. Section 4 discusses a possible motivation behind the anti-smoking campaign. Section 5 provides some concluding remarks.

2. INDUSTRY REGULATION AND POLITICAL CAPTURE

Suppose that r is the level of government regulation on the tobacco industry. The industry profit is a function of r with $\pi'(\cdot) < 0$ and $\pi''(\cdot) < 0$. The tobacco industry is politically organized as a special interest group, which provides political contribution, C , to an incumbent government for favorable government policy. Therefore, the net welfare for the tobacco industry is $W_I = \pi(r) - C$

Suppose that r_p is the level of government regulation that is considered to be optimal by the median-voter/public.⁷ The incumbent government cares about the ‘political cost’ of its policy that deviates from r_p . Following Yu (1999), the objective function of the incumbent government/politician is assumed to take the following form:

$$G = C - aM(r - r_p), a > 0 \quad (1)$$

where parameter a is the relative weight attached to the political cost, $M(\cdot)$, which is defined as a symmetric U-shape function with $M(0) = M'(0) = 0$ and $M''(\cdot) > 0$.

The political-equilibrium level of government regulation on the tobacco industry is determined through a Nash bargaining process between the tobacco industry and the government. When the tobacco industry does not provide political contribution (or the bargaining breaks down), the government optimally chooses $r = r_p$, and hence $G = 0$ and $\pi = \pi(r_p)$. They serve as the threat-point level of ‘welfare’ for the government and the tobacco industry: i.e. $\underline{G} = 0$ and $\underline{W}_I = \pi(r_p)$.

The net gain from participating (or the potential loss of not participating) in the Nash bargaining process is $W_I - \underline{W}_I$ for the tobacco industry, and $G - \underline{G}$ for the government.

⁷To avoid unnecessary details, here I just assume r_p but in Yu (1999) I derived the optimal level of policy for the median-voter (or the public).

The Nash bargaining solution solves the following maximization problem:

$$\max_{r,C} (G - \underline{G})^\beta (W_I - \underline{W}_I)^{1-\beta} \quad \text{or,} \quad \max_{r,C} [C - aM(r - r_p)]^\beta [\pi(r) - C - \pi(r_p)]^{1-\beta} \quad (2)$$

where $\beta \in (0, 1)$ represents the bargaining power of the incumbent government relative to the tobacco industry and is assumed to be a constant.

Following the standard Nash bargaining solution of solving (2), it is straightforward to obtain the next proposition that characterizes the political-equilibrium level of government regulation and political contribution.

Proposition 1 (i) *The political-equilibrium level of government regulation is*

$$r^o = \arg \max J = \pi(r) - aM(r - r_p) \quad (3)$$

where J is the ‘joint welfare’ between the tobacco industry and government ($J \equiv W_I + G$);

(ii) *The equilibrium level of political contribution is*

$$\begin{aligned} C^o &= \beta[\pi(r^o) - \pi(r_p)] + (1 - \beta)aM(r^o - r_p) \\ &= \beta(J^o - \underline{J}) + aM(r^o - r_p) \end{aligned} \quad (4)$$

That is, the equilibrium level of regulation on the tobacco industry is chosen to maximize their joint welfare. The equilibrium level of political contribution first covers the government’s political loss (since $r^o < r_p$) and then gives the government β share of the increase in the joint welfare. Therefore, the equilibrium level of welfare for the tobacco industry becomes $W_I^o = \pi(r^o) - C^o$ and for the government, $G^o = C^o - aM(r^o - r_p)$.

3. THE GAME OF ANTI-SMOKING CAMPAIGN

Now suppose r_p , the level of government regulation that is considered to be optimal by the public can be changed/shifted by government anti-smoking campaign. Specifically, assume that r_p is a function of T with $r_p'(T) > 0$, where T is the tax money from the Treasury to fund the anti-smoking campaign. The political cost of using tax money from the Treasury is $\gamma(T)$ with $\gamma(0), \gamma'(\cdot) > 0, \gamma''(\cdot) > 0$. Note that $\gamma(T)$ is generally smaller than T since

the incumbent government/politician is spending the tax money rather than his/her own political contribution on anti-smoking campaign. Suppose that prior to the above Nash bargaining process, there is another stage of the game in which the government choose T to maximize the following objective function,

$$\max_T G^o - \gamma(T) \quad (5)$$

Proposition 2 *Although anti-smoking campaign reduces the joint welfare, it can benefit the government. Specifically, (i) $dJ^o/dT < 0$; (ii) $dG^o/dT > 0$ if and only if $aM'(r^o - r_p) - \pi'(r_p) > 0$.*

Proof: (i) Using (3) and the envelope theorem, we have

$$dJ^o/dT = aM'(r^o - r_p)r'_p < 0 \quad (6)$$

where $M'(r^o - r_p) < 0$ since $r^o < r_p$.

(ii) Using (1) and (4), we have

$$\begin{aligned} G^o &= C^o - aM(r^o - r_p) \\ &= \beta(J^o - \underline{J}) \\ &= \beta[J^o - \pi(r_p)] \end{aligned} \quad (7)$$

since $\underline{J} = \underline{W}_I + \underline{G} = \pi(r_p)$. Then, using (3) and the envelope theorem, we obtain

$$\begin{aligned} \frac{dG^o}{dT} &= \frac{dG^o}{dr_p} \frac{dr_p}{dT} \\ &= \beta[aM'(r^o - r_p) - \pi'(r_p)]r'_p \quad \blacksquare \end{aligned} \quad (8)$$

From (7), the intuition for the results can be understood as follows. Government anti-smoking campaign raises r_p . This increases the government's political cost at the margin and hence reduces the equilibrium joint welfare. However, a higher level of r_p also lowers the tobacco industry's welfare and hence the joint welfare at the threat-point. As long as the effect on the political cost of the government (the first term in the bracket in eq. 8) is less than that on the profit of the tobacco industry (the second term in the bracket), the

government is better off. Notice that here what the government essentially does is to reduce the tobacco industry's alternative welfare (or welfare of the outside option). By doing so, the government can improve its equilibrium welfare even though the relative bargaining power, β , remains the same.⁸

For the rest of our analysis, we assume that $aM'(r^o - r_p) - \pi'(r_p) > 0$ holds. Therefore, the optimal level of anti-smoking campaign (in terms of the amount of the Treasury money used) is determined by the following equation,

$$T^* = \arg \max C^o - aM(r^o - r_p) - \gamma(T) \quad (9)$$

As illustrated in the next proposition, the effect of anti-smoking campaign on the equilibrium level of regulation is straightforward.

Proposition 3 *Anti-smoking campaign increases the equilibrium level of regulation on the tobacco industry, i.e. $dr^o/dT > 0$.*

Proof: The first-order condition for (3) is

$$\pi'(r^o) - aM'(r^o - r_p) = 0 \quad (10)$$

Total differentiation of (10) yields

$$\begin{aligned} \frac{dr^o}{dT} &= \frac{dr^o}{dr_p} \frac{dr_p}{dT} \\ &= -\frac{aM''}{\Delta_J} r_p' > 0, \end{aligned} \quad (11)$$

where Δ_J is the second-order condition for (3). ■

Anti-smoking campaign raises r_p and hence increases the government's political cost at the margin. Consequently, the equilibrium r^o will have to be adjusted upwards at the margin. How this is going to affect the level of political contribution? From (1) and (8), we

⁸As will become clear, unlike the current analysis, the effects of a change in the bargaining power are much simpler. For instance, an increase in β will not affect r^o and J^o , but it will increase C^o and consequently, G^o will be higher but W_I^o and $W_I^o - \underline{W_I^o}$ will be lower.

have

$$\begin{aligned}\frac{dC^o}{dT} &= \frac{dG^o}{dT} + aM' \left(\frac{dr^o}{dr_p} - 1 \right) r'_p \\ &= \beta [aM'(r^o - r_p) - \pi'(r_p)] r'_p + aM' \left(\frac{dr^o}{dr_p} - 1 \right) r'_p\end{aligned}\quad (12)$$

Therefore, after rearranging we have

$$\begin{aligned}\frac{dC^o}{dT} &\geq 0 \text{ if } \frac{dr^o}{dr_p} \leq 1 + \beta \left(\frac{\pi'(r_p)}{aM'} - 1 \right); \\ \frac{dC^o}{dT} &< 0 \text{ otherwise.}\end{aligned}$$

Notice that $\frac{\pi'(r_p)}{aM'} > 1$ and therefore, we have the following proposition.

Proposition 4 *Government anti-smoking campaign will not necessarily reduce the political contribution from the tobacco industry. A sufficient condition for an increase in political contribution is $dr^o/dr_p \leq 1$.*

From (11) notice that dr^o/dr_p is positive, and it measures the adjustment of the level of government regulation on tobacco industry in response to a change in the public demand. A rise in r_p will increase the political cost for the government as long as r^o does not increase more than proportionately. Then, the government has to be compensated by more political contribution.

Corollary 1 *As long as the equilibrium level of regulation on the tobacco industry is not ‘over-adjusted’ to the change in the public demand (i.e. dr^o/dr_p is not greater than one), government anti-smoking campaign will increase political contribution from the tobacco industry.*

The next proposition shows that independent of whether the tobacco industry reduces or increases its political contribution, its welfare is reduced. However, the potential loss of not providing political contribution increases as a result of government anti-smoking campaign.

Proposition 5 *Anti-smoking campaign reduces the welfare of the tobacco industry but its potential loss of not lobbying increases. That is, $dW_I^o/dT < 0$ and $d(W_I^o - \underline{W}_I)/dT > 0$.*

Proof: (i) Since $W_I^o = \pi(r_o) - C^o$, using (12) and (10) we obtain

$$\begin{aligned}
\frac{dW_I^o}{dT} &= \pi'(r^o) \frac{dr^o}{dT} - \frac{dC^o}{dT} \\
&= \pi'(r^o) \frac{dr^o}{dr_p} r'_p - \beta[aM'(r^o - r_p) - \pi'(r_p)]r'_p - aM' \left(\frac{dr^o}{dr_p} - 1 \right) r'_p \\
&= r'_p [\pi'(r^o) - aM'] \frac{dr^o}{dr_p} - \beta[aM' - \pi'(r_p)]r'_p + aM' r'_p \\
&= aM' r'_p - \beta[aM' - \pi'(r_p)]r'_p < 0
\end{aligned}$$

(ii). Since $\underline{W}_I = \pi(r_p)$, following part (i) we have

$$\begin{aligned}
\frac{d(W_I^o - \underline{W}_I)}{dT} &= aM' r'_p - \beta[aM' - \pi'(r_p)]r'_p - \pi'(r_p)r'_p \\
&= r'_p(1 - \beta)[aM' - \pi'(r_p)] \\
&= r'_p(1 - \beta)\{[\pi'(r^o) - \pi'(r_p)] - [\pi'(r^o) - aM']\} \\
&= r'_p(1 - \beta)[\pi'(r^o) - \pi'(r_p)] > 0 \quad (\text{since } r^o < r_p \text{ and } \pi''(\cdot) < 0) \blacksquare
\end{aligned}$$

The intuition for the results can be easily explained. Anti-smoking campaign reduces the tobacco industry's alternative welfare (at the threat-point), which increases its net gain in the Nash bargaining process, *ceteris paribus*. This increase in the net gain of the tobacco industry will be shared by the government. Therefore, accordingly W_I^o will be reduced but by a less-than-proportionate change.

So far we have only examined the effects of anti-smoking campaign. In the next section we try to identify a possible political reason for the government to launch anti-smoking campaign to attack the tobacco industry.

4. MOTIVATION FOR ANTI-SMOKING CAMPAIGN

It could well be the case that governments may simply want to correct externality and save lives by launching anti-smoking campaign. The normative argument for government anti-smoking campaign is certainly very important but it is not within the scope of the present model of political economy. However, the normative argument is not entirely shared by all, especially when the efficacy of government anti-smoking campaigns sometimes is not always

clear.⁹ For example, Kevin McCormack asks, “Who will decides if these efforts [government anti-smoking campaign] support positive causes or take on the trapping of propaganda and social programming?” (10/27/1997, *Adweek Eastern Edition*, pp.12).¹⁰

Government anti-smoking campaign could also result from the growing political pressure from anti-smoking activists (e.g., anti-smoking interest groups or the public). Explanations along this line would be similar to what is discussed in Yu (1999), where opposing special interest groups engage in both direct (lobbying the government) and indirect (persuading the public) political competition to influence government policy.

In this paper, we try to identify the government’s pure political motivation for launching anti-smoking campaign to attack the tobacco industry since our focus is on how the government could benefit from anti-smoking campaign in the political interaction with the tobacco industry.

Recall that $G = C - aM(r - r_p)$ from (1). A reduction of parameter a means that the incumbent government increases its weight on political contribution relative to the public opposition to its policy. Alternatively, this could mean that the incumbent government becomes more hungry for political contribution.¹¹ The next proposition shows, however, a reduction in a would increase government’s effort in anti-smoking campaign.

Proposition 6 $dT^*/da < 0$.

Proof: From (8), the first-order condition of (5) becomes

$$\beta[aM'(r^o - r_p) - \pi'(r_p)]r_p'(T^*) - \gamma'(T^*) = 0 \quad (13)$$

Total differentiation of (13) yields

$$\frac{dT^*}{da} = -\frac{\beta M'(r^o - r_p)r_p'(T^*)}{\Delta_G} < 0 \quad (14)$$

⁹See Chaloupka and Warner (2000) for a recent review on the economics of smoking, and Bulow and Klemperer (1998) for the recent issues on the tobacco settlement.

¹⁰Also see the articles by Kevin Dowd (1991) and Pierre Lemieux (2000).

¹¹Lahiri and Raimondos-Moller (2000) interpret the relative weight between political contribution and social welfare [as in Grossman-Helpman (1994) and Dixit-Grossman-Helpman (1997)] as the degree of government corruption.

where Δ_G is the second-order condition for (5). ■

The intuition is clear. A reduction of a raises the government's marginal gain from anti-smoking campaign since the political cost becomes lower. This leads to a further increase in the equilibrium effort of anti-smoking campaign.

Interestingly, such anti-smoking campaign induced by \$-hungry politicians could indeed bring in more political contribution if the condition in Proposition 4 is satisfied.

Corollary 2 $dC^o/da < 0$ if and only if $\frac{dr^o}{dr_p} < 1 + \beta(\frac{\pi'(r_p)}{aM'} - 1)$. A sufficient condition for $dC^o/da < 0$, for example, is $dr^o/dr_p \leq 1$.

5. CONCLUDING REMARKS

The paper shows that government anti-smoking campaign can result in a tougher regulation on the tobacco industry but without necessarily a reduction in political contribution from the tobacco industry. The key reason is that anti-smoking campaign increases the public demand for a tougher regulation on the tobacco industry and hence reduces the industry's alternative welfare (if not lobbying) in the political bargaining with the government. Anti-smoking campaign lowers the welfare of the tobacco industry but raise the industry's potential loss of not lobbying.

More generally, this paper focuses on the government's strategy of engaging in public persuasion in order to benefit from the political interaction with special interest groups. In that sense, this is a companion paper to Yu (1999), where I focus on how special interest groups engage in public persuasion, in addition to lobbying the government. As long as public preferences are, to some extent, taken into account by the government in the political process, the government and special interest groups can explore how public persuasion could benefit themselves in political competition. Given that the increasing amount of available data on issue advertising and its increasing importance in politics, it would be interesting to see some empirical strategies to be developed to further investigate the issues raised in this research.

REFERENCES

- [1] Bernheim, B.D. and Whinston, M.D. “Menu auctions, resource allocation, and economic influence”, *Quarterly Journal of Economics*, 1986, v101, 1-31.
- [2] Besley, T. and Burgess, R. “Political agency, government responsiveness and the role of the media”, *European Economic Review*, 2001, v45, 629-40.
- [3] Besley, T. and Burgess, R. “The Political economy of government responsiveness: theory and evidence from India”, *Quarterly Journal of Economics*, 117(4), November 2002. 1415-1451.
- [4] Bulow, J. and Klemperer, P. “The Tobacco Deal”, *Brookings Papers on Economic Activity: Microeconomics 1998*, 323-94.
- [5] Chaloupka, F.J. and Warner, K.E. “The Economics of Smoking” in *Handbook of Health Economics* edited by A.J. Culyer and J.P. Newhouse, North-Holland, 2000,
- [6] Dixit, A., Grossman, G.M., Helpman, E. “Common agency and coordination: general theory and application to government policy making”, *Journal of Political Economy*, 1997 v105, 752-769.
- [7] Dowd, K. “The muths of anti-smoking”, *Economic Affairs*, v11 no. 4, June 1991, 22-24.
- [8] Grossman, G. M. and Helpman, E. “Protection for sale”, *American Economic Review*, 1994, v84, 833-50.
- [9] Grossman, G. M. and Helpman, E. *Special Interest Politics*, 2001, Cambridge, Mass.: MIT Press.
- [10] Hillman, A. L. *The Political Economy of Protection*, 1989, Harwood Academic Press, New York.
- [11] Hu, T., Sung, H, and Keeier, T. “Information, educating, and marketing in health care.” *American Economic Review Papers and Proceedings*, May 1995, 85(2), 85-90.

- [12] Lahiri, S. and Raimondos-Moller, P. “Lobbying by ethnic groups and aid allocation”, *Economic Journal*, 2000, v110, 62-79.
- [13] Lemieux, P. “The Economics of Smoking” at www.econlib.org/library/Features/feature5.html (June 2000). Date visite: May 26th, 2003.
- [14] Maggi, G. and Rodriguez-Clare, A. “The value of trade agreements in the presence of political pressures.” *Journal of Political Economy*, 1998, v106, 574-601.
- [15] Pechman, C. and Reibling, E.T. “Planning an effective anti-smoking mass media campaign targeting adolescents.” *Journal of Health Management Practice*, 2000, 6(3), 80-94.
- [16] Persson, T. and Tabellini, G. *Political Economy: Explaining Economic Policy*, 2000, Cambridge, Mass.: MIT Press.
- [17] Qui, Larry D.X. “Lobbying, multisector trade and sustainability of Free-Trade Agreements”, Economics Working Paper, Hong Kong University of Science and Technology, 2001.
- [18] Rodrik, D. “Political economy of trade policy”, in *Handbook of International Economics*, Vol III, edited by G. Grossman and K. Rogoff, 1995, 1458-94, North Holland, Amsterdam.
- [19] Shleifer, A. and Vishny, R. “Politician and firms.” *Quarterly Journal of Economics*, 1994, v109, 995-1025.
- [20] Strömberg, D. “Mass media and public policy”, *European Economic Review*, 2001, v45, 652-63.
- [21] Strömberg, D. “Mass media competition, political competition, and public policy”, 2002, forthcoming in *Review of Economic Studies*.
- [22] Yu, Z. “Environmental protection and free trade: direct and indirect competition for political influence”, School of Economics Discussion Paper No. 99/7, 1999, University of Nottingham, Revised version (May 2003): “Environmental protection: a theory of direct and indirect competition for political influence”.

- [23] Yu, Z. “A model of substitution of non-tariff barriers for tariffs.” *Canadian Journal of Economics*, November 2000, 33(4), 1069-1090.