



Published in final edited form as:

Tob Control. 2012 November ; 21(6): 560–562. doi:10.1136/tobaccocontrol-2011-050027.

Can Increases in the Cigarette Tax Rate be Linked to Cigarette Retail Prices? Solving mysteries related to the cigarette pricing mechanism in China

Song Gao^a, Rong Zheng^b, and Teh-wei Hu^c

^aSchool of Public Finance and Public Policy, Central University of Finance and Economics, Beijing, 100081, China

^bSchool of International Trade and Economics, University of International Business and Economics, Beijing, 100029, China

^cSchool of Public Health, University of California, Berkeley, CA 94720, USA

Abstract

Objective—To explain China’s cigarette pricing mechanism and the role of the Chinese State Tobacco Monopoly Administration (STMA) on cigarette pricing and taxation.

Methods—Published government tobacco tax documentation and statistics published by the Chinese State Tobacco Monopoly Administration (STMA) are used to analyze the interrelations among industry profits, taxes, and retail price of cigarettes in China.

Results—The 2009 excise tax increase on cigarettes in China has not translated into higher retail prices because the Chinese STMA used its policy authority to ensure that retail cigarette prices did not change. The government tax increase is being collected at both the producer and wholesale levels. As a result, the 2009 excise tax increase in China has resulted in higher tax revenue for the government and lower profits for the tobacco industry, with no increase in the retail price of cigarettes for consumers.

Conclusions—Numerous studies have found that taxation is one of the most effective policy instruments for tobacco control. However, these findings come from countries that have market economies where market forces determine prices and influence how cigarette taxes are passed to the consumers in retail prices. China’s tobacco industry is not a market economy; therefore, nonmarket forces and the current Chinese tobacco monopoly system determine cigarette prices. The result is that tax increases do not necessarily get passed on to the retail price.

Keywords

cigarette; pricing; taxes; China

Introduction

On January 9, 2011, China entered its sixth year since signing the World Health Organization’s (WHO) Framework Convention on Tobacco Control (FCTC). To summarize

Correspondence: Song Gao song.gao@gmail.com, School of Public Finance and Public Policy, Central University of Finance and Economics, Beijing, China 100081.

The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive license (or non-exclusive for government employees) on a worldwide basis to the BMJ Publishing Group Ltd. and its Licensees to permit this article (if accepted) to be published to TC and other BMJ PGL products to exploit all subsidiary rights as set out in our license.

and evaluate China's tobacco control progress in the past five years, an official assessment report titled "*Tobacco Control and China's Future*" was released recently.¹ The report's basic conclusion is that China has made limited progress toward tobacco control with poor performance in fulfilling its commitment to the FCTC. During the past 5 years, China has made some efforts with respect to nonprice policies. These include instituting smoke-free public places and banning cigarette advertisement. However, China's tax and price measures have not been effective for tobacco control. The purpose of this paper is to discuss why the increased cigarette excise tax in 2009 did not lead to higher cigarette retail prices in China, uncover some of the mysteries behind the tobacco monopoly, describe the actual cigarette pricing mechanism, and the role of the State Monopoly Administration (STMA) on cigarette pricing and taxation.

In late May 2009, the Chinese Ministry of Finance (MOF) and the State Administration of Taxation (SAT) issued Taxation Legislation No. 84, "*The Notice Regarding Adjustment to Tobacco Product Excise Tax Policy*,"² effective May 1, 2009. The government stated that the purpose of the tax adjustment, which was an increase in the excise tax on cigarettes, was to increase government tax revenue from cigarettes and improve the tobacco tax structure in China, which was facing the pressure of both the worldwide financial crisis and tobacco control demands from WHO with respect to FCTC. It is interesting to note that tobacco control was not among the stated purposes of the tobacco tax adjustment

Many people, especially tobacco control experts, expected that the increase in the excise tax rate on cigarettes would lead to increases in the retail price of cigarettes, given that tax and price increases have been widely proven the most effective measures for tobacco control worldwide in market economies.³ But surprisingly and disappointingly, the STMA issued a document titled *Notice of Adjusting Cigarettes Allocation Price* (2009, No. 180),⁴ also effective May 1, 2009, which declared that cigarette wholesale prices should remain the same nationwide as before the new excise tax adjustment. By maintaining wholesale prices, this regulation implied that the new tax policy would have no impact on cigarette retail prices. Because the Chinese tobacco industry does not operate under a market economy, the STMA could choose not to directly link the tax increase to cigarette retail prices in order to accomplish its political and social objectives. The connection between market forces and prices that lead to efficient allocation of resources in market economies does not operate in China.

The Chinese tobacco monopoly system affects cigarette prices in China, but exactly how it does so has remained a mystery. Unanswered questions include: Who determines cigarette prices in China? How many tiers are there within the cigarette pricing system? What is the actual cigarette pricing mechanism? The answers will help to explain why the 2009 tax adjustment did not change the retail price of cigarettes in China.

China's cigarette pricing mechanism -- mysteries and answers

Mystery 1: Who determines cigarette prices in China?

China's tobacco industry has adopted a system of unified leadership, vertical management, and monopolized operation. The State Tobacco Monopoly Administration, the STMA and the Chinese National Tobacco Company (CNTC), are responsible for centralized management of staff, finance, properties, products, supply, distribution, and domestic and foreign trade of the country's tobacco industry. The STMA manages the tobacco monopoly, and the CNTC, under the close supervision of the STMA, is responsible for marketing, production, distribution, sales, and price setting of all cigarette products.

It is widely purported that either the National Development and Reform Commission (NDRC) or the tobacco industry itself decides cigarette prices in China. The NDRC is the ministry responsible for determining price policies of important commodities nationwide in China, and it supervised the tobacco industry from 2003 to 2008. Many people believe that the NDRC still has the power to influence cigarette prices. However, an examination of the tobacco monopoly law and related regulations in China reveals that the tobacco industry itself including cigarette factories, cigarette companies, and tobacco monopoly authorities decide cigarette prices. The relevant major law and regulations include *the Law of the People's Republic of China on Tobacco Monopoly (1992 & 2009)*,⁵ *Regulation of Macro-Adjustment and Administration on Cigarette Prices (STMA 1998, No. 108)*,⁶ *Regulation on Cigarette Pricing (STMA 1998, No. 372)*,⁷ and *Notice of Strengthening Administration of Cigarette Prices (STMA 2000, No. 17)*.⁸

This tobacco monopoly law and regulations issued by the STMA explicitly state that the NDRC has no actual authority to decide cigarette prices, especially since 2008, when the Ministry of Industry and Information Technology (MIIT) took over the responsibility of supervising the tobacco industry from the NDRC. They also reveal that the STMA, which includes cigarette factories, cigarette companies, and cigarette retailers, determines cigarette prices. Cigarette factories decide cigarette *producer price*; cigarette companies decide cigarette *wholesale price*; finally, cigarette retailers decide cigarette *retail price* by adding a regulated average market profit margin set by the STMA to the cigarette wholesale price. In other words, the STMA allows retailers to set their retail prices within a limited range, and these retail prices are monitored and reported to the STMA. All cigarette retailers operate under the licensure of the STMA.

Mystery 2: Is producer price the tax base for the cigarette excise tax?

The tobacco industry in most countries has three tiers of cigarette prices: producer price, wholesale price, and retail price. However, China's cigarette pricing system is composed of four categories: producer price, allocation price, wholesale price, and retail price. Cigarette producer price consists of many complex components including raw material costs, labor costs, overhead costs, a variety of different taxes, and another important component – profits. The costs and profits of cigarette manufacturers are confidential under China's tobacco monopoly, and it is impossible for outsiders, even the tax authority, to fully understand all the components. Producer price is not the tax base for the cigarette excise tax. Producer price is set by the cigarette factories. The tax base for cigarettes is the allocation price. The allocation price is the price negotiated between the STMA and the tax authority (i.e., State Administration of Taxation) and is based on producer price and kept as confidential industry information. The allocation price is officially used for tax collection purposes by the tax authority. In addition, the allocation price is used by the STMA for administration purposes as a classification criterion to categorize cigarettes from low-end to high-end for the purpose of tobacco monopoly administration.

Mystery 3: What is the cigarette pricing mechanism?

The mystery of the cigarette pricing mechanism in China lies in the cigarette price formulation process. Under the current cigarette pricing process, the allocation price set by the STMA plays a pivotal role. It not only serves as a base for the tax rate, but it also serves as a basis for setting wholesale price and retail price. The STMA also sets the profit margins for cigarette wholesalers (between allocation price and wholesale price, i.e., the allocation-wholesale profit margin) and for retailers (between wholesale price and retail price, i.e., the wholesale-retail profit margin). Given the allocation price, wholesale price is decided by adding the allocation-wholesale profit margin. Retail price is determined by adding the wholesale-retail profit margin to wholesale price. This pricing process implies that cigarette

retail prices are under the control of the STMA because it can modify the cigarette allocation price and profit margins.

These profit margins figures are available to the public. Table 1 shows the allocation-wholesale profit margin and the wholesale-retail profit margin. The allocation-wholesale margin ranges between 15% and 34%. The wholesale-retail profit margin also is set by the STMA providing a limited range for retailers to follow (e.g., between 10%–15%). Table 1 shows that there is a direct link among allocation price, wholesale price, and retail price for different classes of cigarettes.

Mystery 4: Are the profit margins declared by the STMA the real margins?

Even though data on all cigarette retail price/wholesale price and profit margins for different brand categories are available to the public, people still cannot figure out the cigarette allocation price correctly using such information. Thus, the calculation of cigarette allocation prices is another mystery surrounding the tobacco industry in China. As a matter of fact, the officially announced allocation-wholesale profit margins (regulated profit margins) are not the actual margins. That discrepancy can explain why the tobacco monopoly keeps allocation prices an industry secret.

Using a set of unpublished government data provided by a provincial STMA bureau, we recalculated the margins and came up with the surprising finding shown below for the actual profit margins.

$$\text{Actual profit margin}(a') = \frac{\text{Regulated profit margin}(a)}{1 - \text{Regulated profit margin}(a)} \quad (1)$$

This equation shows that the actual allocation-wholesale profit margin increases along with the increased regulated profit margin. The recalculated margins are shown in Table 2. They show the true story about the profits from different classifications of cigarettes in China. We now understand why most cigarette producers are willing to produce high-priced (premium) cigarettes, which make much higher profits. These data reveal a different reality behind one of the mysteries of the Chinese tobacco industry.

Finally, the calculation of cigarette retail price can be demonstrated by the following formula:

$$\text{Pr} = A \times (1 + a') \times (1 + b) \times (1 + R_{vat}) \quad (2)$$

where Pr indicates cigarette retail price, A represents allocation price (excise tax inclusive, VAT exclusive), a' is the actual allocation-wholesale profit margin, b is the wholesale-retail profit margin, and R_{vat} is the VAT rate. According to this equation, the allocation price, allocation-wholesale profit margin, wholesale-retail profit margin, and VAT rate are the factors affecting the retail price of cigarettes.

Since the excise tax is collected at the producer level and wholesale level and not at the retail level, the effects of an increased excise tax on price can be absorbed by changing the allocation-wholesale profit margin a' . This is exactly what happened in 2009. The STMA significantly reduced the allocation-wholesale profit margin to coincide with the release of the new tobacco excise tax policy, and the wholesale price remained the same as before the tax adjustment. As a result, the 2009 excise tax increase in China has resulted in higher tax revenue for the government and lower profits for the tobacco industry, with no increase in the retail price of cigarettes for consumers. This relationship can explain why the 2009 excise tax policy adjustment did not change the retail price of cigarettes.

Conclusion

This paper has discussed the cigarette pricing mechanism in China and provided answers to some mysteries surrounding cigarette pricing in China's tobacco industry. We hope the discussion will help the international tobacco control community understand the actual cigarette price formulation process in China and recognize that promulgating a tax rate increase is not sufficient to effect meaningful tobacco control in China. The 2009 tobacco tax adjustment in China provides an example of what happens when a tobacco monopoly company operating under government management pursues its political or social objectives that do not include an increase in the retail price. As can be seen in this paper, the Chinese tobacco monopoly can easily regulate allocation price and profit margins. The STMA does not subject to the market forces that influence prices in a market economy. If the Chinese tobacco industry can be separated from government ownership and established as a privatized enterprise, then taxation on cigarettes could be more effective in tobacco control since the likelihood of passing along the tax to the retail price could be increased. Alternatively, if the Chinese government decided to raise the retail price of cigarettes to consumers, either by instructing the STMA to directly raise prices or if the Ministry of Finance imposed a tax that the STMA passed through to retail price, then cigarette use in China would decrease.

Acknowledgments

This study was supported in part by the Johns Hopkins Bloomberg School of Public Health, Bloomberg Initiative to Reduce Tobacco Use (Gao and Zheng), and by the US National Institutes of Health, Fogarty International Center grant (R01-TW05938) and the Gates Foundation (Hu). We are grateful to Steve A. Tamplin for his support and encouragement of this study. We thank two anonymous reviewers for their very helpful comments and suggestions. All errors are our own.

References

1. Yang, GH.; Hu, AG. Tobacco Control and China's Future. Beijing: Economic Daily Publisher; 2011 Jan.
2. <http://www.shui5.cn/article/cf/24017.html>
3. World Bank. Curbing the Epidemic: Government and the Economics of Tobacco Control. Washington DC: World Bank; 1999. p. 23-35.
4. <http://wendang.baidu.com/view/561db710cc7931b765ce1560.html>
5. http://www.law-lib.com/law/law_view.asp?id=226
6. http://www.tobacco.gov.cn/html/27/2701/270106/765274_n.html
7. http://www.tobacco.gov.cn/html/27/2701/270106/765278_n.html
8. http://www.tobacco.gov.cn/html/27/2701/270106/765289_n.html

Table 1

Cigarette Profit Margins

Allocation Price per pack (RMB/pack)	Between Allocation Price and Wholesale Price	Between Wholesale Price and Retail Price
[14.6, +∞)	34%	15%
[10, 14.6)	29%	15%
[5, 10)	25%	15%
[3, 5)	25%	10%
[1.65, 3)	20%	10%
(0, 1.65)	15%	10%

Source: *Notice of Adjusting Cigarettes Allocation Price* (2009, No. 180) by STMA⁴

Table 2

Cigarette Profit Margins (Regulated vs. Actual)

Allocation Price per pack (RMB/pack)	Regulated Allocation Wholesale Margin (a)	Actual Allocation Wholesale Margin (a')
[14.6, $+\infty$)	34%	51.52%
[10, 14.6)	29%	40.85%
[5, 10)	25%	33.33%
[3, 5)	25%	33.33%
[1.65, 3)	20%	25.00%
(0, 1.65)	15%	17.65%

Source: Table 1 and estimated from equation (1)