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**Trends in Cigarette Taxation, Pricing and Consumption
The Case of Poland**

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Introduction

In 1993, Poland's government reformed its tax policy to incorporate both excise taxes and value added taxes (VAT) on all tobacco products. These actions intended to both raise tax revenues and improve public health in Poland. This paper examines the continuously changing tobacco tax structure in Poland and its impacts on cigarette taxes and market prices as well as national adult smoking behaviors and government revenues from tobacco. Data obtained from the Ministry of Finance are used to present the development and current state of both the tobacco tax and pricing system in Poland. Furthermore, nationally representative samples of Polish adults participating in large, national Omnibus surveys are closely examined to reveal smoker reactions to rising tobacco taxes in Poland.

The Market for Tobacco

In the majority of cases, tobacco use in Poland refers to cigarette consumption followed by only a small fraction of cigar, cigarillo and pipe use. Because both the production and sale of smokeless tobacco products in Poland is illegal, its use is virtually non-existent. Poland's government and tobacco market analysts tend to classify four basic categories of cigarettes. These include: regular length (70mm) domestic filtered cigarettes, domestic unfiltered cigarettes, domestic King Size (over 70mm) available with filter only and finally, all international cigarette brands regardless of length and location of production (Poland or abroad).

As depicted in Graph 1 (see appendix A), domestic brands capture 87% of total sales. This is by far the majority of market share. Though the classic unfiltered cigarette dominated sales in Poland throughout the 1980's, its popularity has significantly decreased in recent years. In 1999, unfiltered cigarettes captured only 9.6% of market sales. With 44% market share, regular length filter cigarettes account for the largest number of sales in Poland followed by King Size cigarettes which although relatively new to Poland's post-communist market, are not far behind and constitute 33% of market share. (World Market File, 2000)

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With the exception of a seven-year break in data collection during World War II, Poland's Central Statistical Office (CSO) has used nationally administered Household Surveys to collect and officially report annual per capita cigarette consumption since 1923. As depicted in graph 2 (see appendix B), Poland, similarly to other middle-income countries has experienced steadily decreasing cigarette consumption since the mid-1950's followed by a slowdown in this upward trend in the recent 1990's.

A Changing Tobacco Tax Structure

After decades of implicit taxation under a command economy system, Poland finally re-introduced a system of tobacco taxation in 1993. Beginning in July of that year, all tobacco products produced and/or sold in Poland were required to carry excise tax bands. All cigarettes were subject to two distinct forms of tobacco taxation. First, the Ministry of Finance mandated that a 22% value added-tax (VAT) or goods and services tax be paid on all tobacco product sales, including all those transacted by domestic producers, importers and liquidators. Second, all tobacco products were to be taxed according to a four tier specific excise tax schedule based on cigarette size, type and country of origin.

The period between July 1993 and May 31st, 2000 marks the duration of the first stage in Poland's new excise tax system. During this time period, excise taxes were comprised of fixed elements only. Here, a per unit tax was applied to each of the four specific cigarette categories described earlier. A second stage in Poland's taxation of tobacco began in June 2000 and continues to prevail as the current governing tobacco tax system. Like its predecessor, the revised system contains a fixed, per unit tax however, unlike the former system, this fixed element no longer distinguishes between four categories of cigarettes. Instead, this revised excise tax system contains a second, non-fixed, *ad valorem* or variable tax element. Since June 1st, 2000 the per pack *ad valorem* tax in Poland has amounted to twenty-five percent of the retail price of a pack of cigarettes.

As depicted in Graph 3 (see appendix C), although in June 2000 fixed taxes dropped in value to equal a level of .75 Polish zloty (PLN) per pack for all brands and although the *ad valorem* tax measures at twenty five percent of price for all brands, the resulting excise tax is not equal across all brands. This is because the retail price per pack for various cigarette brands remains variable. For example, higher priced international cigarettes are subject to higher taxes than other, lower priced domestic brands.

TABLE 1: The June 2000 Change Addition of an Ad Valorem Tax on Cigarettes

| Brand Name | Cigarette Product Description | I-VI.2000 | | | VI.2000 - X.2000 | | | | |
|------------|-------------------------------|-----------|--------------------|----------------|------------------|--------------------|----------------|-----------|------|
| | | VAT | Fixed per Unit Tax | Ad Valorem Tax | VAT | Fixed per Unit Tax | Ad Valorem Tax | | |
| Popularne | No Filter 70mm Domestic | 22% | 1.4 | 0 | 22% | 0.75 | 25% | 2.95/pack | 0.74 |
| Klubowe | Filter 70mm Domestic | | 1.44 | | | | | 3.4/pack | 0.85 |
| Sobieski | King Size Domestic | | 1.83 | | | | | 4.45/pack | 1.11 |
| Marlboro | International Brands | | 2.14 | | | | | 5.85/pack | 1.46 |

Source: The Republic of Poland, Ministry of Finance

Table 1 above shows that between June and October 2000, Marlboro cigarettes sold for 5.85 PLN per pack while domestic Popularne sold for only 2.95 PLN per pack. The difference in the retail price of the two brands yields two different tax levies for each cigarette brand. That is, the pack of Marlboro's is subject to a 1.46 PLN per pack *ad valorem* tax while Popularne pay a smaller, .74 PLN *ad valorem* tax per pack.

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Increasing tax levels result in higher market prices for cigarettes. This is definitely the case in Poland. Graph 4 (see appendix D) shows that cigarette prices in Poland have indeed been rising and continue to rise with increased levels of taxation. In the year 2002, total tobacco taxes in Poland accounted for almost 57% of price – an increase from its original 47% in 1993. Yet, in comparison to higher income countries within the European Union, it's clear that Poland still needs to work on increasing its proportion of tax to price. For example, in 1995 taxes accounted for 73% of price in nearby Austria. (Jha and Chaloupka,)

It is crucial to remember that in middle-income countries like Poland, where government revenues are particularly dependent on excise taxes, the real value of a tax increase will fall over time unless tax levels are regularly increased to account for inflation. In Poland, these seemingly aggressive and regular increases in nominal excise taxes are dampened by the country's general rate of inflation. The solid line in graph 5 (see appendix E) reveals that after deflating seemingly large nominal tax levels by annual measures of the Consumer Price Index, the real tax levels rise less quickly than the nominal levels would suggest. Similarly, graph 6 (see appendix F) shows that even once the rate of inflation is accounted for, the average real price per pack (similarly to the real tax per pack) has continued to rise, although gradually, since 1993.

As in most countries around the world, Poland's government officials have expressed their concern over the combined effects of rising cigarette price and significant reductions in cigarette demand. That is, policy makers argue that the increases in tobacco taxes will eventually lead to losses in government revenues. Graph 7 (see appendix G) reveals a positive relationship between the trends in cigarette taxes and cigarette tax revenues. This trend should sooth the minds of those policy makers concerned with falling tobacco tax revenue levels. It is clear that despite rising cigarette prices, Poland's tobacco tax revenues continue to flow.

In Poland, tobacco taxes account for an increasing percentage of government revenues. In 1993, tobacco excise taxes accounted for six percent of total tax revenues collected in Poland. Today, Poland's Ministry of Finance estimates that over one fourth or twenty five percent of all excise taxes and over eight percent of total tax revenues collected in Poland will originate from tobacco.

Rising tobacco tax revenues, despite gradually increasing cigarette prices, suggest that Poles, in spite of their relatively low incomes are perhaps not as sensitive to price changes as many economists would believe. Based on individual level adult survey data, graph 8 (see appendix H) plots both male and female smoking prevalence against trends in the real average cigarette price. Despite rising cigarette prices, the decrease in smoking participation rates among males and females is less acute than the rise in prices.

Graph 9 (see appendix I) plots male and female average daily cigarette consumption against the real average cigarette price. Again, as in the case of smoking prevalence, the decrease in average daily cigarette consumption among both males and females is less acute than the increase in cigarette price.

Two national surveys conducted in Poland in November 1999 and June 2000 directly asked smokers about how recent tobacco tax increases changed their attitudes towards smoking. As denoted by the solid columns, the least number of people reported experiencing a direct reaction to increased cigarette prices. That is, in all cases, the fewest number of respondents decided to quit or try to quit smoking. The striped columns represent a significantly larger percentage of respondents described as those impacted through informational effect. These respondents claim that rising cigarette taxes led them to think twice about their smoking behavior and about the nature of their smoking addiction. In all instances, the largest number of people reported experiencing a kind of substitution effect. Here, roughly twenty four percent of both males and females in both survey years reported switching to less expensive brands or smoking a fewer number of cigarettes.

Conclusions

Though the fraction of tax in price has increased since 1993, tobacco taxes continue to constitute a relatively low percentage of cigarette price in Poland. This combined with varying annual inflation make it clear that aggressive nominal tax increases have not translated into equal increases in real cigarette prices. As a result, one can only conclude that there is ample room for continued and particularly, more aggressive increases in excise taxes. Given past trends in the levels of cigarette consumption and tax revenues, the threat of diminishing government revenues from increased tobacco taxes is nearly non-existent, particularly in the short run. As a result, increases in tobacco taxes will help strengthen the effects of rising prices on consumption and presumably, will drive at least a fraction of those Poles who substitute towards lower priced cigarettes towards complete cessation.

References

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