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The effect of taxation and regulation on cigarette smoking: Fresh evidence from Turkey

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ABSTRACT

Enacting Law No 5247 in May 2008, Turkey has initiated crucial anti-tobacco policies in the last decade. This paper aims to reveal on the effect of anti-tobacco policies such as excise taxes and regulations on cigarette smoking. To this aim, I empirically investigate the long-term dynamics of demand for cigarettes in Turkey through the OLS estimation strategy under various scenarios and models. Using monthly and quarterly data that cover the pre- and post- anti-smoking policy periods, I estimate demand elasticities and compare the pre- and post- taxation and regulation terms. The results presented in the paper confirms that taxation and regulation have affected the long-term dynamics of demand for cigarettes. The price and income elasticities of demand for cigarettes are significantly higher than the previous literature on Turkey. Demand elasticities have increased on average in the anti-tobacco policies period.

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1. Introduction

Governments have extensively used anti-smoking policies such as taxes and regulations to reduce cigarette smoking. Through prices increased by higher taxes, they directly aimed to decrease the demand for cigarettes. The aim of regulations such as advertising bans, health warnings on cigarette packages and in public areas and territorial restrictions was indirectly to reduce smoking by influencing the preferences of smokers. The literature on health economics has intensively studied the effect of taxation and regulation on smoking in the tobacco industry. While most of the research has analyzed the price and income elasticities of demand to understand the long-term dynamics between the demand for cigarettes and its determinant [1], some studies directly estimated tax elasticities [2,3]. The recent findings suggest that the demand for cigarettes in developed countries responds to the changes in prices and other factors more than developing countries, because demand elasticities in developed countries are higher than developing countries [2,4,1].

This paper aims to empirically investigate the long-term dynamics of demand for cigarettes in Turkey. The leading emphasis is on the long-term relationships between smoking, price, taxation,

and regulation. The Turkish experience has distinctive features in several ways. First, Turkey has carried out remarkable anti-tobacco policies only in the last decade by enacting Law No 5247 in May 2008, after it committed to implement the WHO Framework Convention on Tobacco Control (WHO-FCTC) in 2004 and declared a National Tobacco Control Program (NTCP) in 2006. The Turkish experience presents fresh evidence regarding the effect of anti-smoking policies, because Turkey recently initiated its major anti-smoking policies compared to other countries. Second, Turkey employed crucial measures such as advertising regulations and taxation to reduce smoking. According to a recent report by the World Health Organization (WHO) on the tobacco control policies throughout the world [17], Turkey is the only country that projects its entire population of 75 million with all the significant tobacco measures at the highest level and it marks singular achievement. Third, as a result of taxes and regulations, cigarette sales have dramatically declined with an 11.2% decrease in the last decade. However, most of this decline occurred in the post-2009 period, because the most critical policies such as the extended bans on smoking in July 2009 and tax increases in January 2010 and October 2011 have been implemented after 2009.

Empirical findings in this paper provide a unique opportunity to compare the pre- and post- anti-smoking policies periods and thus, to understand the effect of taxation and regulation on the dynamics of demand for cigarettes, because data covers the pre- and post- 2009 periods. Most of the research that has studied the

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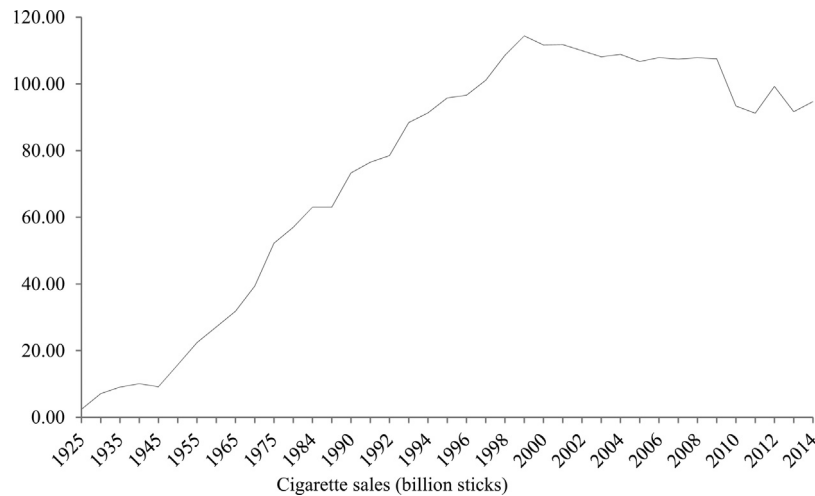


Fig. 1. Cigarette sales in Turkey by year.

interaction between anti-smoking policies and demand has focused on developed countries (especially the United States) [2,5,4]. The findings of this paper come from a country outside of developed countries.¹ Lastly, to my knowledge, there is no study that has initiated to examine the effect of anti-smoking policies on smoking in Turkey. In this context, the paper consists of four sections. Section 2 analyzes the most critical components of the Turkish experience. Section 3 empirically investigates the long-term dynamics of interactions between demand and its determinants in the Turkish cigarette industry. The analysis ends up with conclusions in Section 4.

2. Taxation and regulation on smoking in Turkey

As depicted in Fig. 1, cigarette consumption measured as cigarette sales in Turkey dramatically increased until the 2000s. However, the increase in consumption, which started to decelerate in the beginning of the 2000s due to the economic crisis in 2001, had relatively remained constant between 2000 and 2009. In the end, cigarette consumption started to dramatically decrease as of 2009 because of major tobacco control policies initiated after 2009. Even though tobacco control policies began in the mid-1980s and the first anti-tobacco law was passed in 1996, Turkey carried out comprehensive anti-smoking initiatives after 2004, because it committed to implement the WHO-FCTC in 2004. Within the same year, The Ministry of Health (MoH) established a National Tobacco Control Committee to prepare the NTCP. Since then, Turkey has experienced important anti-smoking policies to discourage cigarette smoking. In 2006, government proclaimed the NTCP and an action plan. The main aim was to reduce the prevalence of tobacco use. The Program included ten different anti-tobacco measures from pricing and taxation to smoking cessation and advertising restrictions.

In order to better understand the post-2004 transformation, I classify policies initiated to reduce cigarette sales in two main parts: taxation and regulation. Similarly, I make a distinction between the pre- and post-2009 terms to better understand the effect of major anti-tobacco policies, since government did not take serious measures until July 2009, in spite of aforementioned developments. Accordingly, Turkey follows a cigarette excise tax policy to discour-

age cigarette smoking. Also, all tobacco products are subject to a value-added tax (VAT) of 18% of retail price. Cigarette tax includes an ad valorem tax with a specific floor value. For that reason, even though tax rates remain constant in a certain term, tax amount per unit such as cigarette stick, pack, or kilogram can differentiate in the same period, because firms constantly increase retail sale prices of cigarettes due to the inflationist nature of the Turkish economy. However, government proportionally enforced two major tax increases in the last decade. It increased excise taxes from 58.1% in 2005 to 63.4 in January 2010 and to 65% in October 2011 and to 65.25% in January 2013, respectively. Today, 80.25% of the retail cigarette price consists of taxes with an 18% VAT [6,7].

Regulations on cigarette smoking in Turkey consist of smoking bans in the indoors-public places, advertising restrictions, and tobacco sale prohibitions. In this context, the main regulatory policy initiated to decrease cigarette use in Turkey is Law No 5727 enacted in 2008. The implementation of this law has been done in two steps. The first step started in May 2008 and the law only prohibited in indoors-public places excluding hospitality venues. The second step begun in July 2009 and the smoke-free policies were extended to include all hospitality sector establishments, including hotels, restaurants, bars and cafes. Accordingly, even though Law No 5257 was *de jure* enacted in May 2008, the most important part of law including influential anti-smoking regulations was *de facto* in force in July 2009. For that reason, the effect of extended restrictions on smoking in July 2009 was more influential than the ones in May 2008. Cigarette sales declined 47.7% within 8 months from June 2009 to February 2010 along with the effect of tax increase in January 2010. Regarding these anti-smoking measures, an important development is that cigarette sales after July 2009 has never increased to the level in June 2009 in spite of increases in income in this period, even though smoking increased again after May 2008. This clearly means that anti-smoking policies in Turkey started to be influential on smoking after July 2009.

In May 2010, health warnings were enforced on cigarette packages, while government initiated a Smoking Cessation Service in October 2010, including 171 QuitLine and free distribution of medications helping giving up smoking. Lastly, advertising including brand sharing and stretching was totally prohibited in July 2012 and smoking bans were expanded to include public transportation with personal vehicles in June 2013 [6,7,8]. The transition to anti-smoking policy was well met by the society. Public support was over 96% among the non-smokers and 74% among the daily smokers [7]. Consequently, regulation and tax policies have dramatically changed cigarette prices and sales in Turkey. The average

¹ Because it is difficult to define Turkey as a developing country in a certain way, according to IMF and OECD rankings, I do not use the term 'developing country' for Turkey throughout the paper.

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