



19th International Conference Enterprise and Competitive Environment 2016, ECE 2016, 10–11
March 2016, Brno, Czech Republic

The impact of tax burden overshifting on the Pigovian taxation

Danuše Nerudová^a, Marian Dobranschi^{a,*}

^aMendel University of Brno, Zemědělská 1, Brno, 61300, Czech Republic

Abstract

The objective of this paper is to analyze the impact of excise duty increases on the retail price of gasoline and diesel in the Czech Republic. This study is primarily concerned with the issue of tax burden shifting because of transport fuel excise duties. This paper analyses the tax shifting process by focusing on periodic excise duty increases to identify whether overshifting occurs and what the consequences are for the Pigovian principle of environmental taxation. The research results show that overshifting of tax burden occurs with gradual tax rate increases in selected countries. Therefore, this enables it to be emphasized that overshifting violates the rationale of corrective taxation, increasing the distortionary effects of environmental taxes and substantially decreasing taxes' efficiency in pollution abatement.

© 2016 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the organizing committee of ECE 2016

Keywords: Tax burden shifting; excise duties; Pigovian principle; tax overshifting

1. Introduction

The paper is primarily concerned with the process of tax shifting and the interaction with the Pigovian principle that underlies corrective levies such as environmental taxation. To emphasize the potential threats to environmental taxation, this study relies on both theoretical and empirical analysis of the market reaction to the modifications of corrective taxation rates.

Although the theoretical portion relies on the debate regarding the tax shifting process, the empirical research is based on analyzing the impact of periodical increases of transport fuel excise duties on retail prices with the objective of determining the size of the tax burden shift, considering this process to be the main trigger that drives the tax incidence. Consequently, this paper attempts to establish a connection between tax shifting and its impact on

* Corresponding author. Tel.: +420 545132338.

E-mail address: marian.dobranschi@mendelu.cz

the fundamental rationale of corrective taxation. The starting point relies on the analysis of excise duties as an instrument of choice, which we assume to be the appropriate proxy for environmental taxation. The main purpose of levying those selective taxes is to discourage individuals from consuming harmful goods to decrease the associated negative externalities. The rationale behind a fossil fuel excise tax (mainly gasoline and diesel excise duty) is to preserve oil resources, to decrease pollution and to protect the environment. Therefore, we understand environmental taxation to be an excise duty-based corrective tax. Our research's objective is to identify whether overshifting indeed occurs, indicated by retail price increases greater than the excise duty tax increase.

The first section of this paper reviews the empirical research papers that analyze the tax burden shifting of indirect taxation. The objective of the second section of this paper is an empirical analysis using multiple variable regressions and testing for cointegration regarding the non-stationary time series used for each selected country. It is necessary to note that in comparison with current literature, our paper represents the first study that establishes a connection between the potential overshifting of tax burden for environmental taxes and the effects on the Pigovian principle that underlie the corrective taxation. Although there are primary studies focused on the issue of overshifting of transport fuels, their assessment ignored the impact of overshifting on the rationale that governs the Pigovian environmental taxation.

2. Literature Review

The issue of tax shifting was also analyzed in detail by Seligman (1927), who attempted to note the difference between the concepts of shifting and tax incidence. He stresses that the shifting of tax is the process and tax incidence is the result, in which the changes in the distribution of wealth are the final effect. Therefore, the debate regarding the incidence intimately depends on the investigation of tax shifting. In case of general commodities, tax shifting strictly depends on the elasticity of demand (Seligman, 1927). This ranges from cases located at opposite poles, inelastic demand where full-shifting occurs, moderate elasticity where the burden is equally shared between producer and consumer and perfectly elastic demand where no forward shifting occurs and the producer/seller fully bears the tax burden.

The economic literature tends to focus its research on extremes, such as monopoly and perfect competition markets. There are few economists who choose to analyze the in-between situations such as oligopoly. One notable research paper that stresses the implication of taxation in an oligopolistic framework is by Katz and Rosen (1983). The authors analyze the process of tax shifting in the conjectural variations of oligopoly settings.

Fullerton and Metcalf (2002) consider that overshifting occurs because of the market power and strategic behavior between companies. In situations in which the company shifts the tax burden forward by increasing the price level, the demand for its products will decrease, thus overshifting appears to be a method to compensate for the revenue lost from the decreased demand as an effect of tax imposition. The process of overshifting occurs most likely if the demand elasticity with regard to price fluctuation is relatively inelastic. Analyzing the different impacts of ad valorem and ad unit taxation on welfare, Myles (1995) considers that in an imperfect competitive economy, it is not the presence of profits per se that leads to allocation distortions but rather the pricing policy that supports these profits. The same conclusion has been reached by Stern (1986); the author states that an excise tax may increase profits if the elasticity of the demand elasticity (e.g., slope of demand) is sufficiently low. Kotlikoff and Summers (1986) consider that 'taxes tend to be borne by inelastic suppliers or demanders'. Hence, the tax burden is supported by those who cannot easily adjust in response to price increases.

The theoretical literature focusing on the forward shifting of taxation is scarce and becomes more limited if one seeks to find empirical analysis that focuses on the overshifting of the tax burden. However, there are research papers that analyze the tax shifting of excise duties that cover a relatively large area of commodities. The most notable papers focus mainly on alcohol, cigarettes, fuels and other large groups of consumption goods.

Spoerer (2007) analyses the tax overshifting in 19th century in Prussia, focusing mainly on the milling and slaughter tax. The author concludes that overshifting had occurred, creating notable distortions, because these levies were the most regressive in those times. Concerned with the same issue, Besley and Rosen (1999) perform an extensive empirical analysis on the sales tax shifting on retail prices in US, covering commodity prices from more than 155 US cities for the period 1982–1990. The authors find that in most cases, the tax burden was one-for-one shifted to final consumers. In certain cases, because of the imperfect competitive markets, the authors identified the

Download English Version:

<https://daneshyari.com/en/article/1107246>

Download Persian Version:

<https://daneshyari.com/article/1107246>

[Daneshyari.com](https://daneshyari.com)