

# Taxation of Menstrual Hygiene Products: Evaluating Reforms within the European Union

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## Introduction

Since 2007, European member states are free to depart from standard sales taxes<sup>1</sup>. As a result, a number of member states have passed tax reforms with the effect of reducing VAT rates on MHPs. Being part of political debates and activism, advocates of such policies expect that lower tax rates translate into price reductions, eliminating a gender-discriminating tax burden (Bennett, 2017; Crawford and Spivack, 2017) and increasing accessibility for low-income individuals. In line with this, previous studies for the U.S. have found tampon tax reductions to be fully shifted to consumers including an over-shift to low-income households (Cotropia and Rozema, 2018). Following economic tax theory, we would expect demand of menstrual hygiene products to be highly inelastic, providing an ideal (in a purely economic sense) product for taxation.

In this project we use an extensive household panel data set to evaluate tax reforms for MHPs in several European Union member states to estimate the pass-through of the VAT reduction. Making use of the exogeneity (with respect to market conditions) of tax reforms for MHPs we exploit the reforms as a quasi natural experiment. The aim of our research is to deliver insights that deepen the understanding of policy-makers on the issue of taxation, add new dimensions to empirical research into tax pass-through as well as contribute to a debate deeply rooted in the contemporary zeitgeist on issues of gender equality.

## Related Literature

In general, VAT reforms are an important fiscal tool to stimulate consumer demand or generate state revenue: more than 80 countries worldwide have implemented VAT reforms since the start of Covid-19 (Bellon et al., 2021). In practical policy-making it is often assumed that VAT changes are passed on fully to consumers (Benedek et al., 2020). Economic theory of course shows that this is not necessarily the case. Pass-through may be less than full (undershifting) or indeed more than full (overshifting) (Weyl and Fabinger, 2013). As such, it is critical for policy-makers to evaluate whether such reforms achieved their original goal — making the pass-through rate a crucial measure for evaluating tax reforms.

There is a large body of literature related to tax incidence in general and consumption tax pass-through in particular. One part of this literature focuses on sin-taxation, where fre-

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<sup>1</sup><https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32006L0112>, Annex III (3).

quent examples include tax increases for tobacco, alcohol and sugar, aiming at health benefits (Allcott et al., 2019; Hindriks and Serse, 2019), or introducing CO<sub>2</sub>-taxes for environmental reasons (Forero-Cantor et al., 2020; Martin et al., 2014). Benedek et al. (2020) find that for a variety of tax reforms pass-through is (on average) less than full, depending on the taxed commodity and Büttner and Madzharova (2020) show that for pre-announced tax changes there are significant intertemporal substitution effects. Benzarti and Carloni (2019) study a VAT reform for restaurants in France, showing that consumers benefit the least from this VAT reduction. However, tax reforms with the aim to increase gender equality are hardly studied. Crawford and Spivack (2017) argue that respective tax reforms are essential in the pursuit of gender equality as well as human rights. Cotropia and Rozema (2018) provide the only empirical paper in the academic literature looking at the effects of a tax decrease on MHPs. In their work, the tax cut for MHPs in New Jersey in 2005 serves as a quasi natural experiment. Cotropia and Rozema (2018) find that the tax decrease was fully passed on to consumers and that high income households share the ex-post tax burden equally with producers while the tax reduction is over-shifted for low-income households. Adding to that, our project has a wider scope by looking at multiple countries and markets within Europe and therefore enhancing generalisability, as well as providing a comprehensive empirical basis for detailed examination of the effects of market structure, distributional aspects and long-run effects. The provision of such granular data enables our project to be the first (to our knowledge) providing evidence of pass-through heterogeneities with respect to product- and brand-level market power.

## Contribution

The analysis outlined above is important for a number of reasons; first, we offer novel insights by studying tax incidence in general and tax pass-through rates and quantity responses at the product level — of extremely inelastic goods in the European market — in particular. The uniquely granular data promises detailed insights on how consumers respond to changes in prices due to tax-pass through, paying particular attention to heterogeneities in household profiles. Second, investigating pass-through heterogeneities with respect to product- and brand-level market concentration adds a new dimension to the body of research concerned with tax pass-through. Third, it is highly policy relevant. Issues regarding gender discrimination in general and distributional implications concerning “period poverty” in particular are significant not only to those who advocate for it but also to the macroeconomic performance of member states. Also, the EU’s commitment to gender budgeting makes our research essential as it is vitally important to learn from experience to inform future policy decisions. Our analysis will be able to guide discussion on the efficacy of instruments for the institution of gender equality.

## **Empirical Approach**

We work with unique household panel data provided by AiMark who partner with GfK, Kantar Worldpanel, IRIWorldwide and others to supply transaction based consumption data for academic research. This rich sample combines transaction-level household scanner data for seventeen European countries including the years 2014 to 2021, containing five countries where a respective change in VAT rates has taken place. Specifically, we are provided with representative household panel data for each country including transaction-level information on purchasing behaviour for MHPs at SKU-level (including prices, quantities, time of purchase) and product-level characteristics (such as brand indicators, pack-size). Additionally, socio-economic information on all participating households is collected, containing the number of individuals living in the household, social class, income class, education, age and location.

For the main analysis we use a difference-in-differences (DiD) framework to estimate the average pass-through rate and demand effect by comparing prices and quantities in countries with a tax reform to countries where such a tax reform has not occurred. The causal identification of effects relies on i) the parallel trends assumption, which is likely to hold in the EU common market because of its harmonised set of rules and regulations governing trade between and within member states as well as the ii) exogeneity of the tax reform. Further, we plan to explore the effect of competition on pass-through by estimating the impact of the number of firms in a given local market. In addition, we investigate distributional aspects. To that end, we group households based on income level and estimate the pass-through for each income group to investigate whether it differs along the income distribution. Dynamic adjustments as well as the long-run changes in prices and consumer price response (which can be interpreted as the pass-through elasticity (Benedek et al., 2020)) are investigated using an event-study framework. This is of particular importance in order to reach robust conclusions about the effects of tax reforms for MHPs. Finally, by estimating an event-study model we can conclude whether access to MHPs increased in the long run, one of the key reasons for implementing this tax reform.

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