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The economic impact of Swiss smoking bans on the hospitality sector

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HIGHLIGHTS

- We examine the economic impact of smoking bans in Switzerland.
- We use official sales data and estimate difference-in-differences models.
- We find that aggregate sales in the hospitality sector were not impacted by smoking bans.
- We find evidence of a negative impact on sales in discos.

ARTICLE INFO

ABSTRACT

Analysing administrative sales data in a quasi-experimental framework, we show that smoking bans did not impact the economic activity of bars and restaurants in Switzerland. However, we find some evidence of a negative impact on sales in discos.

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1. Introduction

In Switzerland, 32,000 hospital days and 3000 years of life lost were attributable to environmental tobacco smoke (ETS) exposure in 2006, representing an annual medical cost of CHF 330 million (USD 360 million), for a population of 7.5 million (Hauri et al., 2011). In May 2010, a national smoke-free law was enacted, banning smoking in enclosed public places, such as public administration buildings, bars and restaurants. The national law was preceded by a series of cantonal smoking bans implemented since 2007, reflecting the autonomy of the 26 cantons (states) in designing public health policies.

Although smoking bans improve health (e.g. Pell et al., 2008; Wildman and Hollingsworth, 2013), they may cause economic distortions that must be considered in a comprehensive policy evaluation. Smoking bans affect time and money allocation and may therefore impact sales in the hospitality sector (Adda and Cornaglia, 2010). As going-out behaviours and consumption patterns of smokers and non-smokers are differentially impacted by smoking restrictions, the overall policy impact is difficult to predict and needs to be empirically examined. Previous studies have assessed the economic impact of smoking bans in a wide range of countries and settings (Scollo et al., 2003). While the results are mixed, the overall picture suggests no economic impact. Many previous studies suffered from methodological limitations

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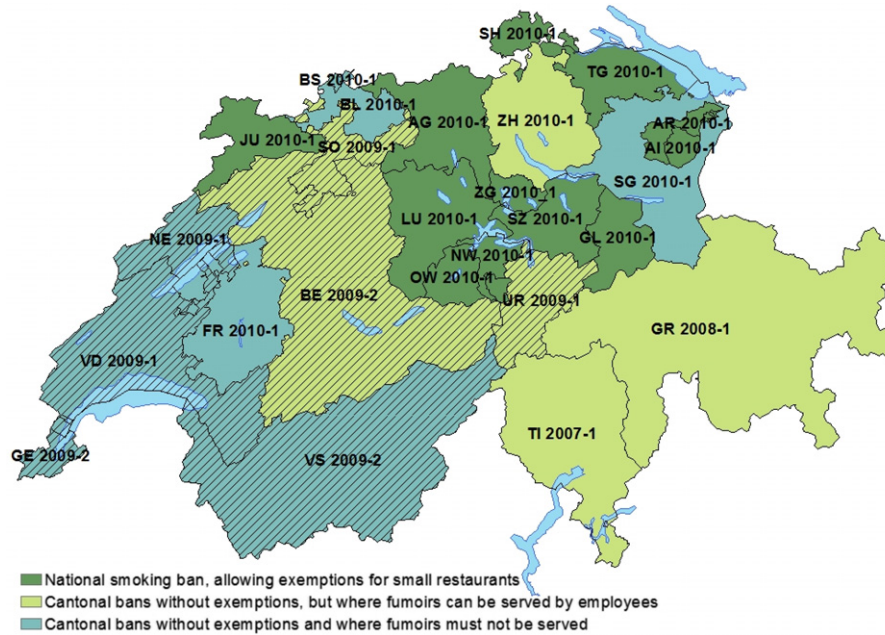
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Fig. 1. Implementation of smoking bans in the Swiss cantons until 2010 (year and semester of implementation).

such as difficulties in identifying a credible comparison group. Due to policy implementation at the national level, recent studies had to rely on "before–after" comparisons of sales in a single country (Cornelsen and Normand, 2012) or compare the evolution of economic outcomes between different countries (Pieroni et al., 2013). Only a few studies were able to exploit the progressive implementation of smoking bans in different regions within the same country (e.g. Kvasnicka and Tauchmann, 2012). The only published study conducted in Switzerland to date was based on one single canton and found no evidence of a harmful economic impact (Schulz et al., 2012).

The progressive implementation of smoking bans in the 26 cantons between 2007 and 2010 and the fact that Switzerland has weak tobacco legislation in international comparison (Joossens and Raw, 2006) provide an interesting opportunity to study the economic impact of smoking bans.

2. Data and methods

2.1. Data

We use data from the Federal Tax Administration on bi-annual aggregate sales in the hospitality sector in the 26 cantons for years 2005–2010. Sales data are derived from the value added tax (VAT) paid by restaurants, bars and discos, allowing us to separately analyse the impact of smoking bans on these three types of businesses. Due to confidentiality issues, bars and discos data in some small cantons were not available, leading to variations in the sample sizes in the empirical analyses.

2.2. Smoking bans

Smoking restrictions in public places were progressively implemented at the cantonal level from April 2007 and at the national level in May 2010. The national ban requires all enclosed public places to be smoke-free, but is considered as partial only as ventilated smoking rooms are allowed and small venues can be exempted. The cantons can enact stricter laws and 14 have done so. Fig. 1 provides an overview of smoking bans implementation in Switzerland.

2.3. Empirical approach

We use a difference-in-differences (DID) approach and compare the evolution of sales before and after the implementation of smoking bans in cantons with and without a smoking ban. Since policies were implemented at different time points, we adopt a panel version of DID and estimate two-way fixed effects regressions that control for time-invariant unobserved cantonal characteristics and national trends in outcomes. Our general specification for canton i at semester t, is:

$$y_{it} = \beta' X_{it} + \gamma \, ban_{it} + \alpha_i + \delta_t + \vartheta_{it}, \qquad (1)$$

where ban_{it} is a dummy variable that equals one if a smoking ban is enacted in canton i at time t, and zero otherwise. The dependent variable y_{it} is the logarithm of net sales and X_{it} is a vector of time-varying cantonal characteristics that includes population size, unemployment rate to proxy for economic activity, and the total number of overnight hotel stays that captures economic trends in the hospitality sector that are unlikely to be affected by smoking bans. The vectors α_i and δ_t denote canton and time fixed effects respectively and υ_{it} is the error term. We estimate (1) for total sales in the hospitality sector and by business type. In addition, we estimate models with lags of the policy variable in order to examine delayed effects. The validity of our empirical approach relies on the common trend assumption (Abadie, 2005). While we are unable to formally test it, the observation of trends prior implementation allows us to assess its validity.

3. Results

Fig. 2 shows the evolution of sales for each business type in two groups of cantons with different implementation dates. The first group consists of seven cantons that have implemented the bans in 2009 (striped in Fig. 1) and the second group includes the 15 cantons that have implemented the ban in 2010. Overall, Fig. 2 suggests that the sales in restaurants and bars have not been negatively impacted by smoking bans but that the policies may have had some negative economic impact on discos. It also suggests that pre-policy trends are reasonably parallel. However,