KONKURRENSVERKET
Swedish Competition Authority

Ansökan om forskningsmedel

Datum: 2016-01-24

Observera att bilagor endast ska skickas elektroniskt till konkurrensverket@kkv.se

1 Sökande (huvudansvarig för projektet)

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3 Projektbeskrivning

Projekttitel *För att radbryta texten, använd Alt + Enter*

Can customer complaints be a substitute to formal antitrust and regulatory processes?

Projektet avses starta/startade, datum: 2016-09-01

Projektet beräknas vara slutfört, datum: 2019-08-31

Sammanfattning av projektets syfte, betydelse och genomförande (högst 1400 tecken).
För att radbryta texten, använd Alt + Enter

Antitrust laws and sector regulation are the dominant approaches to reduce market failures. In this project we evaluate a different, and almost neglected, approach to reduce market failures: the implicit threat of antitrust/regulatory action. Its main benefit is that it has the potential to reduce the high costs of the standard approaches. We will develop a theory that sheds light on this mechanism. Firms hold their prices back in order to avoid customer complaints that can trigger regulation. Then, we will evaluate the predictions of our theory based on the Swedish district heating market. We collect a comprehensive dataset on local prices, customer complaints and other local market characteristics. To identify the main causal effect, we will use local variation of a demand shock induced by a policy reform in 2008 as an instrument. Our study will give crucial insights into a mechanism that has been debated for over a decade.

Bifoga en utförligare projektbeskrivning (max 10 A4–sidor).

4 Kostnadsredovisning

4 Kostnadsredovisning

Fyll i de ofärgade cellerna med för projektet gällande information, så uppdateras de färgade automatiskt. Ge akt på de felmeddelanden i rött som visas vid överträdelse av Konkurrensverkets riktlinjer för anslag till forskningsprojekt.

Projektår 1 Personalnamn, akademisk titel **(bifoga CV)**	Månadslön enligt KKV:s riktlinjer	Anställningstid i projektet, månader	Arbets id i procent av heltid	Lönekostnad inkl. sociala avg.
Magnus Soderberg, Associate Professor (Docent)	44000	12	20%	156 288
Petyo Bonev, Assistant Professor (Uni.lektor)	37000	12	20%	131 424
	Summa övriga kostnader (hämtas från tabell 4a)			40 000
	Total kostnad inklusive sociala-, och förvaltningsavgifter			442 411

Projektår 2 Personalnamn, akademisk titel **(bifoga CV)**	Månadslön enligt KKV:s riktlinjer	Anställningstid i projektet, månader	Arbets id i procent av heltid	Lönekostnad inkl. sociala avg.
Magnus Soderberg, Associate Professor (Docent)	44000	12	20%	156 288
Petyo Bonev, Assistant Professor (Uni.lektor)	37000	12	20%	131 424
	Summa övriga kostnader (hämtas från tabell 4a)			40 000
	Total kostnad inklusive sociala-, och förvaltningsavgifter			442 411

Projektår 3 Personalnamn, akademisk titel **(bifoga CV)**	Månadslön enligt KKV:s riktlinjer	Anställningstid i projektet, månader	Arbetstid i procent av heltid	Lönekostnad inkl. sociala avg.
Magnus Soderberg, Associate Professor (Docent)	44000	12	20%	156 288
Petyo Bonev, Assistant Professor (Uni.lektor)	37000	12	20%	131 424
	Summa övriga kostnader (hämtas från tabell 4a)			20 000
	Total kostnad inklusive sociala-, och förvaltningsavgifter			415 411

4a Redovisning övriga kostnader

	År 1	År 2	År 3
Material och utrustning			
Resor	40 000	40 000	20 000
Övriga kostnader			
Summa	40 000	40 000	20 000

5 Kostnadssammanfattning (anges i kronor) för nu sökt anslag

Total återstående projektkostnad

1 300 234

Därav söks från		Tidigare erhållna anslag från	
Konkurrensverket	Annan anslagsgivare *	Konkurrensverket	Annan anslagsgivare **
1 327 234 kr	None	0	0

*Anslagsgivarens namn	Ansökan inlämnad, datum	Sökt belopp
n.a.		

**Anslagsgivarens namn	Ansökan bevi jad, datum	Beviljat belopp

6 Övriga projekt som samtidigt kommer att ledas av huvudansvarig

Projekttitel *För att radbryta texten, använd Alt + Enter*

Measuring the effect of cartels subject to uncertain transition pereiods (20% of full time until 31st of Aug 2017)

Namn och institution på personer som beviljas forskningsbidrag kommer att publiceras på Konkurrensverkets webbplats.

Do customer complaints reduce market failures?

1. Introduction

It is well known that markets often fail. Societies have a long tradition of trying to reduce such market failures and over the last 150 years, policy makers have primarily relied on one of two strategies: 1) public ownership, and 2) active antitrust legislation and sector regulation of private firms. Over time, policy makers have shifted focus several times and put stronger emphasis on one of the two.[1] Today developed economies put more emphasis on the later strategy, but in practise both co-exist in most societies.

The drawback of public ownership is that the cost reducing incentives are relatively weak, and while private ownership coupled with antitrust law or sector regulation are often considered the preferred mix of policies, they are not uncontroversial. One disadvantage with antitrust and regulation is that it is costly both for firms and societies and the more societies seek to reduce market failures, the higher the costs. The costs for societies have, for example, been claimed to consist of reductions in both entrepreneurial activities and jobs in regular markets (e.g. Coglianese et al. 2014).

The aim of this project is to explore a third, thus far unexplored, form of market control. In particular, firms might self-regulate if there is a credible threat of regulation that arises from high customer dissatisfaction. A credible threat can be established for example via giving more visibility to customer complaints. This form of market control has the potential to avoid problems with both established forms mentioned above: private firms can be allowed and the high cost of regulation/antitrust can be reduced.

What customers think about firms and products have become increasingly important because of peoples' widespread use of social media. An example of where customer opinions are used as an integral part of an antitrust/regulatory process is the electricity market in Florida (see Littlechild, 2012, for further details). The Swedish district heating market is an example of where customer complaints are the primary form of market control. In the Swedish district heating market, firms are not subject to traditional sector-specific price regulation, but customers can file complaints to the Swedish District Heating Committee (SDHC). The SDHC then facilitates negotiations between the customer and the firm and it provides expert advice to both parties. The SDHC does not formulate a formal opinion about the 'correct' price and none of the parties are obliged to follow any of its recommendations. Thus, it is not clear if customers find it worth the trouble to file complaints to the SDHC, or if firms adjust their prices in response to customers complain.

To this date, no study has been conducted to evaluate the mechanism of implicit regulation in the Swedish district heating market. Any such attempt would be hurdled by empirical, methodological and theoretical complications. In particular, there is no unified dataset available that could serve as an empirical basis for the evaluation. Furthermore, even if the necessary data was available, a causal

[1] For example, after the WWII, many markets in developed countries were nationalised but in the 1970s, private investors started to step in as owners in many markets and regulatory agencies and antitrust legislation were developed.

analysis would be plagued by the endogeneity that arises through the simultaneity of the price setting and complaint mechanisms. And last but not least, an even deeper reason for the difficulty of the evaluation of the implicit regulation is that there is no theoretical model that sheds light on the precise economic mechanism. Thus, a reduced-form empirical evaluation would be difficult to interpret.

The purposes of our project are threefold. First, we will theoretically formulate a model of implicit regulation based on local unregulated monopolies where customers can complain. Second, we will collect the necessary data on prices, complaints and other relevant market characteristics. Guided by economic theory and by our knowledge of the Swedish district heating market, we will then use a variety of state-of-the-art empirical and econometric strategies to evaluate the implications of our model in the data. In particular, we will test whether complaints i) are driven by actual market failures and/or ii) lead firms to reduce market failures through self-regulation. Answering both questions would help us to better understand whether threat of regulation through customer complaints can be a substitute for a formal regulation/antitrust. Thus, we would be able to give insights of a mechanism that has been debated for at least a decade, and how it affects market failures in this market.

It is important to stress that the relevance of our study is not restricted only to understanding the unregulated district heating market in Sweden. Our study will provide a broad framework for understanding the relation between threat and market efficiency. Our model and insights could be used to rethink existing regulatory schemes, as well as analyse unregulated monopoly markets such as different utility markets. Given additional information on demand, our approach could be used to conduct a welfare comparison of different regulatory schemes. In addition, our mechanism could be used to understand the regulation of CEO salaries, which exhibits features that are very similar to those depicted in our study (e.g. an unregulated market, asymmetric information and moral hazard, notions of fair prices built through comparisons and heated public debate on regulation).

2. Hypotheses

Our hypothesised economic mechanism is based on several key observations. First, customers want to be charged a fair price. If they are not informed about the cost, they compare the price with price levels of similar firms, see e.g. Kahneman et al. (1986). Further, in cases in which consumers are locked-in, complaints depict a major instrument for customers to express their disagreement with a price policy. Taking these arguments together, we expect consumers to complain when they observe high differences between the district heating price they pay and the price(s) charged by neighbouring district heating firms. Second, we hypothesise that increased consumer dissatisfaction about the current legislative system increases the chances of the introduction of a stricter control mechanism. In particular, consumer complaints about the pricing policy in an unregulated market may lead to the introduction of regulatory price constraints (or stricter antitrust rules). The reason is that in cases of higher consumer dissatisfaction, the laissez-faire market regime loses its attractiveness and it becomes more difficult for lobby groups to persuade political actors to pursue policies in their favour. This situation has been observed in the Swedish district heating market, where heated debates about the regulation of the market led to the Swedish District Heating Act in

2008. This policy gave consumers the tool to formally voice their (dis-)satisfaction and it provided a means for dissatisfied consumers to decrease the legislative costs of stricter regulation.

Given that rational firms can anticipate the behaviour of consumers, our main hypothesis is that firms have an incentive to homogenise their prices with neighbouring firms in order to avoid (or reduce the number of) customer complaints. Mimicking the price strategies of neighbours decreases the dissatisfaction of the customers, as the charged price is more likely to be judged as fair. As a result, the number of complaints remains lower and the probability of market regulation is reduced. This strategic behaviour of the firms induces spatial correlation in the prices that differs from the correlation induced by common cost or demand factors.

Our theory is embedded in the tradition of Yardstick Competition (Shleifer, 1985). Our main novelty is that firms behave as if under competition not because of a regulatory intervention (price cap that is related to the average costs as in Shleifer (1985)), but because of the threat of such an intervention. Our theory has thus an important policy implication: if the regulator can credibly signal a threat of regulation, actual regulation might not be necessary as firms will keep prices low. As a result, it might be possible to avoid the actual cost of regulation. This message is radically different from existing theories and practices.

3. Literature Review

Several studies on consumer behaviour reveals that imperfectly informed consumers form an opinion about a fair price using reference prices (Rotemberg, 2011; Di Tella and Dubra, 2014). Such reference prices could be taken from historical prices or from prices charged in comparable markets by comparable firms. If the price charged by a firm is perceived as unfair, consumers might react angrily and even spitefully (Di Tella and Dubra, 2014). Experimental evidence shows that the higher the market power of the firm, the more likely it is that consumers behave aggressively (Mayer and Avila, 2014).

Customers' dissatisfaction with firms' prices is well researched in marketing but it has generally received little attention in economics, and in particular how it may affect market outcomes. Marketing scholars have established that customer complaints about prices send out signals about customers' dissatisfaction (Martin and Swan, 2004). Dissatisfied customers tend to spread their dissatisfaction (and reasons for it) to more than double as many peers as a satisfied customer does (Butera, 2000). Empirical investigations have shown that firms respond quicker to complaints when the complaints are reviewed by government or market agencies/committees (Ryngelblum et al. 2012).

Our project is also related to the literature on regulatory threat, according to which firms self-regulate in order to avoid regulation (Brunekreeft, 2004; Leidy, 1994; Block and Feinstein, 1986). Firms' incentive to react to threat has been justified from their desire to reduce the overall degree of scrutiny from outside agents, transfer scrutiny to other firms (Decker, 1998) and/or prevent more stringent regulatory activity in the future (Lutz et al., 1998).

4. Method

Due to the novelty of our hypothesised mechanism, we will formulate a theoretical model before gathering and assessing empirical evidence. A first simplified version of this model already produces the main relationships that reflect our intuition. In particular, these relationships are: 1) customers' propensity to complain increases the more they have to pay relative to what is charged by neighbouring firms and 2) by mimicking the price strategies of neighbours, firms charge lower prices in order to avoid regulation. As a further step, we want to test these implications. We have collected prices from the annual Nils-Holgersson price survey.[2] These prices cover the period 2008-2014. We have also collected all price related complaints from the Swedish District Heating Committee (SDHC). Additional local and time-specific demand and supply variables, such as temperature, population and ownership will be extracted from other data sources and controlled for.[3]

We will adopt a variety of empirical strategies to identify the causal mechanism of the threat on prices. First, a main challenge for the validity of the regression results is the potential endogeneity due to spatial correlation of unobserved costs. We will deal with this endogeneity by using a novel instrumental variable. In particular, we will use a demand shock induced by the renovation subsidy policy (ROT-avdraget) introduced by the national Government in December 2008. The induced demand shock was not anticipated and is not correlated with unobserved costs and hence, it depicts a natural experiment. The resulting exogenous variation in prices will enable us to identify the main causal effect of interest (relationship (1) above). Second, we can relate the threat caused by complaints of the customers directly to the price differences (relationship (2) above) through panel data regressions. Third, in order to support our analysis with additional evidence, we will also conduct a survey on price setting mechanisms among CEO's of district heating firms. And last but not least, we will collect anecdotal information on the political and public debate on the regulation of district heating in Sweden from newspapers, government notes and reports, as well as other public and academic sources.

A note on econometric aspects of our study

Although the use of instrumental variables in studies with spatial interaction of dependent variables is a common approach, little is known about the performance of tests for weak identification in that context. Existing methods for testing for weak instrument assume either identical distributions and independence of the error terms, or at most allow for heteroskedasticity and autocorrelation (Andrews and Mikusheva, 2014). Performance of standard tests in the context of spatial correlation has not been evaluated so far. We intend to simulate a dataset that mimics the properties of the Swedish district heating market and assess how well existing tests for weak identification perform under the assumption of a variety of patterns of spatial dependence. Furthermore, to support the results of our empirical analysis, we will provide additional robustness checks using Maximum Likelihood Estimation and Indirect Inference approaches (for the former see LeSage and Kelley Pace (2009), and for the latter see Arel-Bundock (2013)), that, although relying on parametric specifications of the distribution of the disturbances, do not suffer from the problems potentially caused by weak instruments.

[2] Prices are available at www.nilsholgersson.nu

[3] This data is publicly available at SMHI, SCB and in annual reports.

5. Personnel, Time Plan and Budget

The project will be conducted by Magnus Soderberg (Associate Professor) at the University of Gothenburg and Petyo Bonev (Assistant Professor) at Mines ParisTech. Professor Matthieu Glachant at Mines ParisTech will also participate but no funding is sought for him in this application.

The project will begin on the 1st of September 2016 and last for three years (i.e. end on the 31st of August 2019). Both individuals will spend 20% of their time throughout the project duration. The total project cost, using KKV's template for research financing, amounts to 1 300 234 SEK. This cost includes 20 000 SEK per year and individual for travelling/accommodation to each other for intensive work periods (last project year is 10 000 SEK per individual for this purpose).

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