



«Would you say that the price you pay for electricity is fair?» Consumers' satisfaction and utility reforms in the EU15

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ABSTRACT

The research question addressed by this paper is a simple one: are European consumers happy with the price they pay for electricity supply services after two decades of reforms? We focus on self-assessed consumers' satisfaction as reported in three waves of the Eurobarometer surveys, 2000–2002–2004, conditioning on a set of indicators of public ownership and liberalisation across the EU-15. After controlling for individual and country characteristics, we find that consumers are happier with the prices they pay when in their country there are both public ownership and liberalisation. We discuss this finding.

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1. Introduction

Over two decades, privatisation, vertical disintegration and liberalisation have extensively reshaped the structure of network industries (Newbery 2000; Pollitt, 2007) in the European Union (EU) (see e.g. Martin et al., 2005, for a survey). While empirical literature has usually focussed on changes in efficiency of the utilities, rather surprisingly the research on the impact of reforms on consumers' welfare is less developed (with some notable exceptions, such as the research by Catherine Waddams and her co-authors, see e.g. Ugaz and Waddams Price, 2003; Brazier et al. 2006, Giuliotti et al. 2005). Moreover, most of the empirical literature on this subject deals with individual countries, because of the lack of comparable cross-country evidence.

In this paper we explore comparable data on perceptions by European consumers, i.e. subjective data on happiness with the price of electricity across the EU-15. In related papers we also extend the analysis to other network industries (telephone services and gas supply) and to other issues (accessibility and quality), see Fiorio et al. (2007).

There are two reasons to consider data on social attitudes in the context of the debate on utility reform. First, because attitudes are

important per se. Policy-makers and regulators are well aware that utility reforms are in the forefront of public debate in the EU, and may raise vocal opposition or support. Second, subjective data can be a complement to objective evidence in order to evaluate the welfare impact of reforms.

In this paper we use self-declared individual attitudes to answer a simple research question: Are consumers happier in countries where the electricity industry has been privatised and opened to market? We use three waves of Eurobarometer Surveys, 2000–2002–2004, for the EU-15 countries, and ECTR (Indicators of regulation in energy, transport and communications) data provided by the OECD to describe the extent of reform by country and by year. We then test the association of privatisation and liberalisation on attitudes of users of electricity.¹ Our approach, while based on publicly accessible databases and standard econometric methods, is novel in the regulatory economics literature. It addresses an important policy reform issue in the EU and of some relevance for other regions (e.g. the US and Latin America) where some have advocated electricity reforms building on the liberalisation experience in Europe, and notably in the UK.

¹ In general terms, reforms might be related to prices and lack of consumer satisfaction. As there is no way to solve this problem given the available data, one should view our work as an analysis of correlations rather than of causal effects of utility reforms on consumers' satisfaction.

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Our empirical findings suggest that *first*, individual consumers attitudes on electricity prices are, as expected, strongly correlated with average prices in each country; *second*, that the implementation of the overall reform package (privatisation and liberalisation) does not increase the probability to be satisfied after having controlled for individual and country specific factors. In fact, privatisation is correlated with the probability to be dissatisfied with prices, while – as expected – liberalisation is correlated with higher satisfaction. Thus the two reforms work in opposite directions in shaping social attitudes. We offer our interpretation of these perhaps counter-intuitive results, and discuss – with due caution – possible policy implications.

The rest of the paper is organised as follows: after a discussion of our research motivation (Section 2), a presentation of Eurobarometer and Regref data (Section 3), and a descriptive statistics (Section 4), we estimate a set of conditional models of consumer satisfaction (Section 5). In the concluding section we discuss our findings and their policy implications.

2. Research motivation

Following privatisation and liberalisation in the UK in the 1990s (Florio, 2004), and the EU directives in the last ten years, a new energy reform paradigm has emerged, or ‘a measure of consensus over some generic measures for achieving a well functioning market-oriented industry’ (Jamasb and Pollitt, 2007, p. 2). For the first time in the history of the electricity industry in Europe a unique cross-country policy reform pattern has been advocated and is more or less being applied. Similar reforms have been implemented in some developing countries, closely monitored by the international institutions such as the World Bank (Lampietti et al., 2007) or the European Bank for Reconstruction and Development (e.g. for a discussion of the current situation of the South East Europe electricity market, see Pollitt, 2007).

The new paradigm is usually simplified as suggesting three parallel changes: privatisation (sale of existing publicly owned firms and licensing of private entrants), unbundling (associated with incentive regulation of the networks, third-party-access, establishing and independent regulator), and market opening (i.e. allowing entry and competition in generation and retail). It seems reasonable to look at the new paradigm as a set of policy reforms based on increased confidence in market forces and private ownership, against the decline in confidence in planning and public ownership, for a number of reasons that we do not discuss in this paper, see Millward (2005) for a historical perspective on the earlier industry organisation. Moreover, the ambition by the European Commission (EC) to create an ‘internal’ (in fact a trans-boundary) market for services of general interest, may contribute to the explanation of the policy reversal.

The case for implementing the comprehensive reform paradigm rests until now more on a set of hypothesis and on conceptual models reasoning and fragmented evidence than on systematic cross-country empirical research based on standard econometric approaches. Florio and Florio (2009) survey recent literature on this topic (there is also an earlier, and usually inconclusive literature on the direct comparison of the performance of public and private ownership, less related to our theme, see e.g. Roland, 2008). In our perspective of empirical analysis, country variations in reforms adoption are potentially interesting. In fact, while according to some views privatisation can be seen as a pre-commitment to non-interference and may be associated with the reduction of government involvement in the sector, the degrees of freedom in the reform design (and governments’ credibility) are higher than sometimes is suggested. For example, against the two polar cases of public monopoly and full privatisation, unbundling and market opening, in some countries there may be privatisation combined with vertical integration and limited market entry, while in others we can observe full liberalisation combined with decentralised public ownership (Pollitt, 2008). We show below some of these combinations for the EU-15.

After two decades of experience with the implementation of the electricity reform paradigm in Europe, it seems appropriate to move from speculation on its merits to testing its impact on empirical grounds. While there is some evidence of successful reform at the country level within the EU, e.g. for the UK (Newbery and Pollitt, 1997; Domah and Pollitt, 2001) and for the Scandinavian countries (von der Fehr et al., 2005), other authors, using cross country data, are unable to find clear econometric evidence of the positive effects of reforms (e.g. Steiner, 2001; Hattori and Tsutsui, 2004 for the early phases of the reform process, the criticism by Pollitt (2007) on these papers, and new evidence by Florio and Florio (2009).

Particularly, it is interesting to check the differential impact of privatisation against other reforms, because admittedly their association is far from granted (see Jamasb and Pollitt, 2005), even with the mentioned proviso of the credibility of government’s pre-commitment through ownership divestiture to avoid excessive interference in the management of the industry. While the EU directives are mute on this point, OECD and World Bank economists tend to link together ownership and market opening (see Conway and Nicoletti, 2006, or Lampietti et al., 2007).

As the jury on the optimal combination of reforms is still out, the last word on their outcome rests ultimately on empirical analysis. It is apparent that, while there is a common direction of reform, substantial variations exist over time and across states. Our empirical analysis exploits this variability.

As for any public policy, the evaluation of welfare changes is the cornerstone of predicting long term success. In developed economies, where issues of access and quality of the services are a relatively minor concern, and where (average) prices were more cost-reflective even under public monopoly, the key signal that influences the consumers’ evaluation of public utilities reforms is price. It is interesting to distinguish here between actual price as recorded in available statistical data, and perceived price fairness, as recorded by surveys among consumers.

Ideally one would like to consider micro-evidence of changes in appropriate welfare measures. The informative burden to look into individual agents is often considerable, because one would need to know at least individual preferences about different uses of electricity, price structures for type of users, and their income. This information at the EU level is not available in comparable form across Member States. For example, we have comparable national data on the price per kW h by domestic users of electricity broken down by ranges of yearly consumption, but we do not have comparable matching data on the income of those users, or even the number of individuals by each household.

One strategy to discover some individual-level information is to adopt a different empirical shortcut: as a complement to relying on revealed preference through the estimation of individual compensated demand functions (or their proxies) we can turn to stated preferences, i.e. subjective well-being measures. In other words, we analyse consumers’ answers to direct questions about their own satisfaction about price paid of electricity supply.

While this may look as a dramatic change of perspective in economic welfare analysis, it is in fact much less strong that it may appear when compared with actual practice of cost–benefit testing in project or policy evaluation. In fact, applied CBA, usually regarded as objective welfare evaluation and often officially endorsed by government agencies, routinely uses contingent evaluation methods e.g. in regulatory impact analysis (see Boardman et al., 2005 for a survey of applied literature). Such methods revolve around eliciting, through surveys on users, direct information on willingness-to-pay or willingness-to-accept policy changes.

To an applied welfare economist, using revealed or stated preferences is a matter of convenience and of data availability more than a fundamental methodological divide. Any approach has possible bias. Consumers may misperceive prices, and statistical offices may

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