

COMPETITION IN RETAIL ENERGY MARKETS: AN ASSESSMENT OF 10 YEAR DUTCH EXPERIENCE

Machiel Mulder, University of Groningen/Authority for Consumers & Markets, +31 70 3303321, machiel.mulder@rug.nl

Bert Willems, Tilburg University, +31 13 466 2588, bwillems@tilburguniversity.edu

Overview

This paper examines a decade of retail competition in Dutch electricity markets. We discuss the general characteristics of the Dutch electricity market, the regulatory framework of retail markets, the characteristics of retail contracts and the overall performance in terms of prices, retail margins and the variety of products. We then focus on a subset of contracts – contracts with fixed and variable retail prices with a limited duration of one year for both green and grey electricity – and analyze the pricing strategies of retailers, by determining empirically how retailers pass-on changes in the wholesale energy price to retail consumers.

The Dutch production park consists mainly of gas-fired power plants, some coal fired power plants, and one nuclear power plant. There is high penetration of decentralized power production, but the share of renewable production is, however, rather limited in comparison with some other countries. The Dutch energy market is well integrated with rest of Europe. The wholesale market has a relatively low concentration. The retail market, however, is more concentrated. Three largest retailers have about 80% of market (Essent, Nuon, Eneco): the HHI is around 2200. Some recent merger have further increased concentration. Two relatively successful entrants (NEM, Greenchoice) still have low market shares. Although Electrabel/GDF-Suez and E.ON are large firms in production, they have small market shares in retail market.

The Dutch retail market was opened in 2001 by allowing households to switch for green electricity. In 2004, the switching option was extended to all type of products. Despite of the liberalisation, regulation of the market has moved from light-handed to a form of intermediary regulation which rules implemented for a number of aspects: guidelines for contracts, code of conduct, assessment of prices, transparency and independence of price-comparison websites. The regulator frequently monitors consumer satisfaction, switching rates, consumer understanding etc., by sampling a number of consumers every month. The annual percentage of consumers switching from supplier is about 15%, a percentage which has hardly increased over the past years. Since the start of liberalisation in 2004, about 50% of the consumers have never switched from supplier.

Methods

The study uses anonymized data collected by the Dutch energy regulator (ACM) in its role as market monitor. The data set contains monthly prices for all products offered in the Dutch electricity markets, which were codified to construct multi-dimensional panel data (time, retailer, and contract type). Contract types themselves might be considered as a multi-dimensional parameter consisting of contract duration, pricing flexibility, primary fuel used etc..

We first describe market development by the number of retailers and the type of products that are offered over time. We then compare the retail prices for a subset of product types with the relevant wholesale price (spot or forward prices) by conducting an AR(1) regressions as by von der Fehr – Hansen (2009) to estimate the evolution of retail margins. In the latter part we consider a subset of products offered by the major retailers.

Results

The Dutch retail market is a highly differentiated market, with an increasing number of products. Green energy is becoming more important both in total market share as in the number of contracts offered. Some retailers no longer sell grey electricity, and vertical production differentiation within green energy becomes important as well (European hydro, European wind, & Dutch wind). Consumers can also choose between fixed-price contract versus variable-price contract. Those variable price contracts are very similar to the pre-liberalization types of contracts where prices are adjusted on a regular 3-6 months schedule. The variable prices are not explicitly indexed on wholesale spot market prices, but are set by the retailer (although monitored by the regulator). This might help to screen consumers based on risk aversion.

Dual fuel contracts are also important (mainly gas contracts, district heating market is still regulated). However, it does not appear to be a main driver of retail competition as in the UK where an incumbent gas retailer became the entrant in the electricity sector. We see some innovation in the contracts offered for instance contracts with as with guaranteed maximum energy price (i.e. a form of option contract), a price which depends on average wind speed, or a mixture of variable price contract and fixed price contract (50%-50%).

It appears that the price dispersion among firms has increased for green products as well as for variable-price products. This suggests that the market has become slightly less competitive. The price dispersion seems to be lower

in Norwegian market. Moreover, identical products of the same firm, offered under different brand names are sold at different prices.

Delving into the pricing strategy over time, we find, amongst others, that the frequency of price adjustments differs across firms, that there is no clear price leader across firms, and that firms often undercut each other. This is consistent with Edgeworth type of competition. We also find that the retail prices are increasingly connected to the wholesale prices, while we have not find evidence of an asymmetry in the pass-through of the wholesale costs. Regarding retail margins, we find that for fixed price contract, the gross retail margin has remained more or less constant. The steady state mark-up is about 90 EUR / household, which is equal to about 25 EUR / MWh. This result is higher than what von der Fehr and Hanser report for the Norwegian market, which may be an indication the intensity of (price) competition in the Dutch retail market is less fierce. We also find that the margins for green products are relatively high, which indicates that retailers are able to benefit from the higher willingness-to-pay of consumers for green products.

Conclusions

The Netherlands opted initially for a “light-handed regulation”, but the regulator became more heavy-handed over time. The number of products has increased, which could have both positive welfare effects, if the new products correspond better to individual consumer’s tastes. Retailers spend much effort explaining their products (e.g how contract prices are linked to average wind speed), while consumers are now willing to pay a premium for green electricity, which could be signs of a better functioning market. However, price differences between retailers (within contract types and across contract types) remain high, while the gross retail margins did not decrease, which could be the consequence of higher product differentiation which has softened price competition.

There is evidence from the UK electricity market that with too much product differentiation, consumers might end up making worse choices, which lowers market efficiency. As we do not have market share data by product type we cannot determine whether this also happens in the Netherlands, but it is not unlikely. One possible solution would be to push for more standardized homogenous products to improve price competition, although it could stifle innovation on product design.

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