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RSCAS 2018/45  
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Managing the liberalization of Italy's retail electricity  
market: a policy proposal

Carlo Stagnaro, Carlo Amenta, Giulia Di Croce and Luciano  
Lavecchia



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EUI Working Paper **RSCAS** 2018/45

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ISSN 1028-3625

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Printed in Italy, September 2018

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## **Abstract**

Italy will phase electricity retail price regulation by July 1st, 2020. This is the last step in the process of electricity market liberalization, that started in 1999. Until then, residential customers and small businesses who do not choose their supplier, will be supplied under a transitional, regulated service named “maggior tutela” (greater protection), which is supplied by the local distributor at a price set by the regulator. This paper reviews the literature on electricity retail competition – with particular regard to its expected effects on prices, innovation and customer engagement – and the condition under which its benefits may be delivered. Then a Structure-Conduct-Performance analysis of Italy’s retail electricity market for residential customers is performed. Two issues are found to be potentially problematic: excessive market concentration and low customer engagement. Energy poverty is also identified as an issue to be addressed. A phase-out mechanism is finally proposed, that relies on graduality, asymmetric regulation and a mandatory, opt-out collective switching exercise. The mechanism aims to rapidly reducing market concentration by leveraging on behavioral incentives to customers still under regulated prices to switch to the cheapest supplier.

## **Keywords**

Electricity, Competition, Retail Market, Regulation, Energy poverty.



## 1. Introduction\*

Italy's 2015 Annual Competition Law<sup>1</sup> provides for phasing out electricity retail prices regulation by July 1<sup>st</sup>, 2019 (later postponed until July 1<sup>st</sup>, 2020).<sup>2</sup> Until then, while all electricity customers are free to choose their supplier, a default option will be available to residential customers and small and medium enterprises (SMEs)<sup>3</sup>, which is provided by the local Distribution System Operator (DSO)<sup>4</sup> at a price set by the regulator. This scheme, known as “maggior tutela” or “greater protection”, has been in place since July 1<sup>st</sup>, 2007.

Full liberalization of retail electricity markets is advocated by the EU Commission as an instrument to achieve both a greater integration among national markets and as a way to enable all consumers to fully participate in the energy transition (EC 2015a, 2015b). As of 2015, end-user price regulation was in force in 12 out of 28 EU member states.<sup>5</sup> Six of them had already started a roadmap for its repeal.<sup>6</sup>

Italy introduced retail electricity choice for all customers in 2007. However, instead of phasing out regulated prices, it kept a transitional default option for small customers. Building upon previous experience, the country may provide an interesting case study on how to manage retail electricity market opening.

This paper is structured as follows. Section 2 reviews the relevant literature. Section 3 first describes Italy's existing price-setting mechanisms, and then proposes a structure-conduct-performance analysis of the market. Customer engagement and (potential) market power are identified as the major challenges ahead. Section 4 proposes a roadmap for phasing out the regulated regime. Section 5 summarizes and concludes.

Electricity retail competition is comparatively less studied than other features of power systems, such as wholesale markets and infrastructure regulation. This paper contributes to the literature in three ways: i) it collects evidence on the outcomes of Italy's market design, which relies upon the co-existence of competitive price with a regulated, standard offer; ii) it reviews the existing literature, with particular reference to the previous experiences with the phase out of price regulation; iii) it proposes a roadmap for the phase out that – if effective – might be replicated in other jurisdictions, particularly within the European Union.

## 2. Review of the literature

In principle, competition in product markets is expected to deliver lower prices, better quality and/or more innovation to customers. Removing regulatory barriers while introducing smart regulation to

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\* The views expressed in this work are those of the authors and do not involve the responsibility of the institutions to which they belong. We would like to thank Simona Benedettini, David Deller, Ivan Faiella, Stephen Littlechild, Alfredo Macchiati, Renato Pesa, Carlo Scarpa, and Catherine Waddams for the comments they made on previous versions of this paper. For the same reason we would like to thank the participants to the 2nd AIEE Symposium on “Current and Future Challenges to Energy Security”, held in Rome on 2-4 November 2017, and to the workshop “Italy's National energy strategy 2017” (March 14th, 2017).

<sup>1</sup> Law 124/2017.

<sup>2</sup> Decree-Law 91/2018.

<sup>3</sup> Defined as businesses with fewer than 50 employees and a turnover lower than 10 million euro.

<sup>4</sup> 131 active suppliers as of Dec. 31<sup>st</sup>, 2016 (AEEGSI, 2017a)

<sup>5</sup> Bulgaria, Cyprus, Denmark, France, Hungary, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Spain.

<sup>6</sup> Denmark, Lithuania, Poland, Portugal, Romania and Spain.

protect customers, especially the vulnerable ones (the so-called “energy poor”) may help to capture the benefits from liberalization (Nicoletti et al. 2000, Koske et al. 2015).

In order to evaluate the consequences of electricity retail liberalization at least two dimensions should be considered: prices and innovation.

With regard to prices, no conclusive evidence has been reached so far. Earlier studies found little or no effect on prices in the liberalized markets (for a review, see Joskow 2008), or even an increase of prices for small customers. Newbery and Pollitt (1997) found large efficiency gains but they argue that they were, by and large, captured by suppliers. More recent studies offer a more nuanced perspective. The ECME Consortium (2010) performed a comprehensive study on behalf of the EU Commission, finding that: a) the generating portfolio is the most important determinant of the price level for households, b) where competition is allowed large gains are available but c) most households fail to take full advantage of such opportunities. Such conclusion is confirmed by the British Competition and Markets Authority’s investigation on electricity retail markets (CMA 2016) and other studies (see for example Waddams and Zhu 2016). Polo and Airoidi (2017) developed a model of the electricity market where consumers search for price and firms compete in prices: they found that a) the outcome of retail competition on prices strongly depends on the actual and perceived search costs and b) lifting the regulated prices may result in higher prices if participation is already high prior to the liberalization (a condition that, as we shall see, is not likely to be met in Italy).

In the US, some studies found little impact of retail competition on prices for residential customers (see for example Su 2014), while others argue that competition is associated with lower prices (O’Connor 2017), with a greater effect on large customers (Ros 2015). Competition has driven down the markup of retail prices over wholesale cost (Swadley and Yücel 2011).

Since the onset of liberalization, greater innovation was considered a policy goal as important as lower prices. Littlechild (2002) argues that competition in retail electricity markets works as a dynamic discovery process whereby not just prices, but also a larger value proposition, may be chosen by customers. Bundling electricity with other services has been found to be instrumental to increase the customers’ involvement in retail markets (Eakin and Faruqui 2000); Italy is no exception under this perspective (Stagnaro 2017). Moreover, demand-side response in retail markets appears to be an effective means of dealing with demand- and price-spikes in wholesale markets (Rassenti et al. 2002, Cooke 2011), especially under real-time pricing regimes (Borenstein and Holland 2005).

Broadly speaking, competition is more likely to incentivize innovation in the so-called “neck-and-neck industries”, i.e. industries where firms compete on the same technological level (Aghion et al. 2014). That seems to be the case of the electricity industry. However, the industry’s regulatory framework has been remarkably stable over time, contributing to a slow rate of innovation therein. The opening of retail markets was largely induced by changes in the technology, with particular regard to generating technologies, smart appliances and electricity networks, which ultimately made previous regulatory arrangements outdated (Kiesling 2008).

The evolution of retail electricity markets currently depends on three technological drivers: i) the growing share of small-scale generation technologies, such as rooftop solar panels and other renewables; ii) the diffusion of interconnected, smart appliances and energy efficiency technologies; iii) the improvement of distribution grids and metering systems, which have increasingly grown as platforms that manage data, beyond moving electricity (Kiesling 2010, Kiesling and Munson 2017). The development of digital technologies and smart meters and appliances is likely to increase rewards from market participation (Chen and Liu 2016, Lavrijssen and Parra 2017).

A third stream of literature explores why consumers appear comparatively less interested in potential savings or better services related to electricity than they are in other public services, such as telecommunications. The above-mentioned inquiry by the CMA (2016) argues that large potential gains go wasted because of the consumers’ failure to switch to a cheaper tariff. It also suggests that consumer

inertia may lay the basis for unilateral market power to be exercised by (local) incumbents, insofar as it allows them to price-discriminate against the least active consumers. That might apply to the Italian market, too (Aeegsi 2017a). According to Grubb (2015), the customer's failure to choose the best offer may be exacerbated by the supplier's opportunistic behavior. Hence he suggests that potential regulatory solutions may include: "simplifying the choice environment, for instance by restricting price to be a scalar; advising consumers of their expected costs under each option; or choosing on behalf of consumers". However, the CMA (2016) itself found that regulations simplifying the choice did not contribute to improve the consumers' ability to choose, while they may have resulted in adverse consequences making the most convenient offers no longer available. By the same token, Acer (2016) shows that regulatory limits to the freedom of choice, price regulations, or standard (default) offers may lead to further disengagement. Von der Fehr and Hansen (2010) found similar results in Norway, showing that liberalization was successful in creating better opportunities for consumers, but at the same time only the most active customers captured the benefits, whereas it is not clear whether the less active consumers had a real gain.

CEER (2016) identified four main reasons for consumer inertia: insufficient (perceived) monetary gain, lack of trust, complex switching procedures, and loyalty to the previous supplier, the first three being the result of market disruptions. Crampes and Waddams (2017) suggested to "automate" the switching process, either through third-party intermediaries or forms of competition for the market, in order to capture the best of the two aspects of retail competition and price regulation. We will build upon their proposal later in this paper.

### **3. An analysis of Italy's retail electricity market**

#### ***3.1. Price-setting mechanisms***

Under the Italian law, all electricity customers have been free to choose their supplier since July 1<sup>st</sup>, 2007 (July 1<sup>st</sup>, 2004 for non-residential customers). Residential consumers and small and medium enterprises (SMEs) who have not chosen – or do not want to choose – their supplier are supplied by the local DSO under a transitional scheme called "maggior tutela". Under such regime:

- the commercial counterpart of the consumers is a legally-unbundled company belonging to the same conglomerate as the local DSO (the largest DSO supplies about 86.5% of the customers under a regulated tariff);
- the contractual features are standardized and set by the energy regulator;
- the price is set by the regulator, based upon the costs incurred by Acquirente Unico ("Single Buyer") in the wholesale markets. Acquirente Unico is a state-owned company in charge of procuring electricity, through a mix of spot and long-term contracts;
- in order to match the costs of competitors and not displace competition, the wholesale cost of Acquirente Unico is topped by a certain amount, set by the regulator in order to match the supposed entry and operating costs of an "efficient" new entrant. Such amount corresponded to 8.47% of the final price for a household consuming 2,700 kWh/year in Q4-2017.

The *maggior tutela* has been challenged before the EU Court of Justice, that found it compliant with the EU law as long as: i) the resulting prices are equivalent to market prices, with regard to both their level (i.e. electricity should not be priced below costs) and the price-formation mechanism; ii) the scheme is transitional.<sup>7</sup>

The *maggior tutela* shares many features of traditional price-regulation. Italy's energy regulator qualifies it as a form of price-control (AEEGSI 2017b, p.4), whereas ACER (2016, p.48) calls it a "price-

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<sup>7</sup> See infringement procedures no. 2006/2057 and the Judgement of the EU Court of Justice no.C-265/08.

setting intervention”. As such, it may distort the market in several ways, including (but not limited to) working as a focal point<sup>8</sup> for competitors in the free market and generating a “feel-safe effect” whereby customers feel as if they were more protected under the regulated regime (ACER 2015, 2016). Even its name – *maggior tutela* (“greater protection”) – further discourages switching, by nudging customers away from the free market. Behavioral economics has shown how important setting the default option and giving the appropriate names to the available choices is in shaping the economic agents’ actual behavior (Thaler and Sunstein 2003): when faced with the widespread evidence that small customers of electricity have a tendency towards inertia, Italy’s retail market design seems likely to make them even less, and not more, active.

Not surprisingly, about six out of ten residential customers and half of SMEs are still supplied under the regulated regime, even though the share of consumers supplied under the free market has been steadily growing since 2007 (Arera 2018a, 2018b). Moreover, there is evidence that more energy-intensive customers tend to switch to a tariff under the free market (AEEGSI 2017a, ARERA 2018b).

### **3.2. Structure-Conduct-Performance**

#### 3.2.1. The analytical framework

In order to make an assessment of the progress of retail electricity market opening in the EU member states, the Agency for the Cooperation of Energy Regulators (ACER) asked the consultancy firm IPA to develop a synthetic indicator named Acer Retail Competition Index, or Arci (IPA 2015). The underlying analysis follows the structure-conduct-performance paradigm (SCP) (Bain 1968), which is frequently used in antitrust analysis (Weiss 1979, Hovenkamp 1985), including the electricity sector (Weiss 2006). This paradigm has been strongly criticized for not being able to capture the long-term contribution of technological progress to competition and, more generally, for the assumption that market structure determines the agents’ behavior which, in turns, results in the market performance, whereas the conduct may in fact retroact on the market structure (Stigler 1983, Schmalensee 1989).

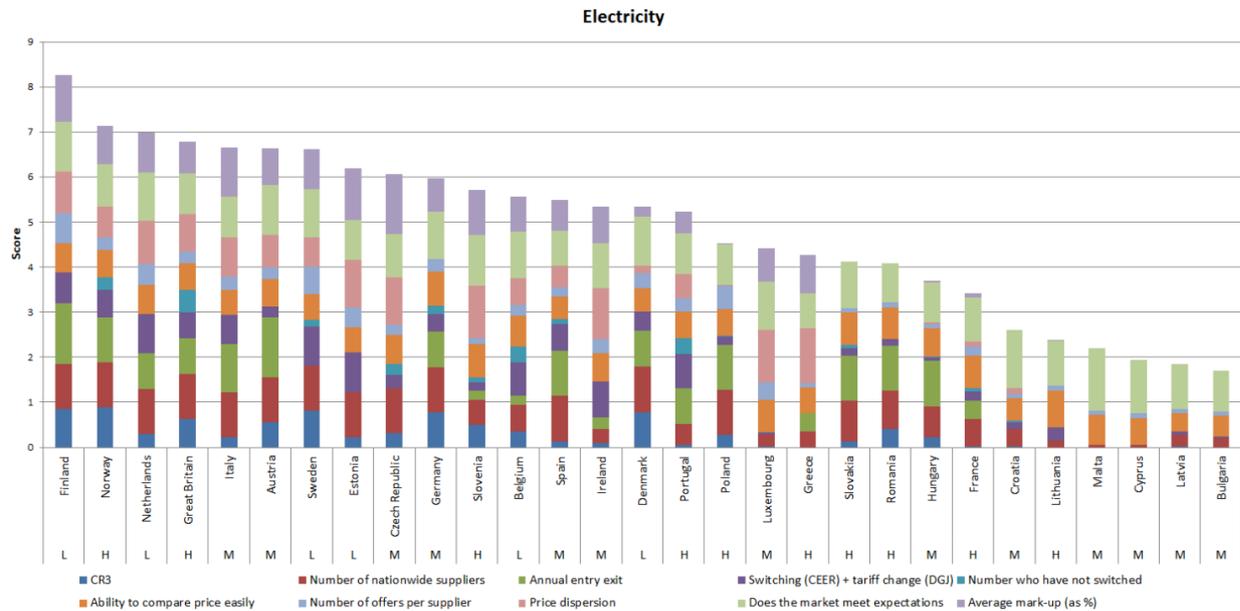
Despite its shortcomings, SCP may be applied – and conveys useful information – when i) the focus is largely on short-term developments of a market (such is the case under discussion) and ii) market structure is a dominant issue as compared to conduct. This may be the case of a market opening processes whereby the starting point resembles a form of monopolistic or quasi-monopolistic competition. Hence, we will follow IPA (2015) and employ the SCP approach to assess the situation of Italy’s retail electricity market on the hedge of liberalization.

To begin with, we present the results of IPA’s Acer Retail Competition Index (IPA 2015), which ranks the EU member states according to how effective retail competition is. In Figure 1, the score of each country is broken down into its components.

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<sup>8</sup> To this extent, it is remarkable that many offers in the free market are priced at a discount with respect to the price in the regulated regime.

**Figure 1. Acer Retail Competition Index scores. Source: IPA (2015)**



As it is evident from the chart, Italy performs relatively well in the overall indicator, ranking as the 5<sup>th</sup> most open retail electricity market among the surveyed countries (EU member states plus Norway). IPA analysis takes into consideration the following variables: CR3 (i.e. the joint market shares of the three largest suppliers); number of nationwide suppliers; annual rate of entry-exit; switching activity (i.e. how active the active customers are); share of non-switchers (i.e. how large the group of disengaged customers is); ability to compare price easily; number of offers per supplier; price dispersion; customer satisfaction (measured through surveys on whether markets meet the customers' expectations); average mark-up of suppliers (Table 1). As we shall see, more detailed information confirms that Italy performs well in general, but competition may be hindered as emphasized by high concentration rates and relatively low switching activity.

**Table 1. Components of IPA's Acer Retail Competition Index**

| Structure                                    | Conduct   | Performance                                    |
|--|---|--|
| Concentration:<br>CR3<br>Number of suppliers | Entry/Exit activity:<br>Annual entry/exit rates                                 | Prices:<br>Price dispersion                    |
| Barriers:<br>Price comparability             | Switching:<br>Annual switching rates (tariff and supplier)<br>% of non-switcher | Quality:<br>Does the market meet expectations? |
|  | Innovation:<br>Number of offers per supplier                                    | Costs and margins:<br>Average annual markup    |

### 3.2.2. Structure<sup>9</sup>

Most of the 29.5 million residential customers in Italy are supplied under the regulated regime (61.2% in 2017, down from 79% in 2012). Of these, about 86.5% are supplied by the largest operator and former monopolist (Enel). Among the customers who have chosen their supplier, the same operator claims a market share of about half. Overall, in 2017 the incumbent supplied 41,699 GWh to residential customers, vis-a-vis a total demand of 57,751 GWh (72.2%, about one percentage point below the previous year). The second largest operator, Eni, had a market share of 5.6%, and the third one, Acea, 3.4%. Hence, the joint market share of the three largest operators (CR3) in the retail electricity market is as high as 86.3%.

The Herfindahl-Hirschman Index (HHI) in 2017 was around 2,800 if only the free market is considered, but it increased up to about 5,600 if the regulated regime is included, indicating a highly concentrated market. The situation is not significantly different if concentration indexes are computed with regard to the number of customers rather than to the volumes of traded electricity. Since the *maggior tutela* works as a default option for those who have never switched, it can be argued that high market concentration is not a *bug* of market functioning, but a *feature* of market design.

Despite high concentration ratios, the market is attracting an increasing number of operators. In 2016, 373 conglomerate suppliers were in operation, up from 219 in 2012. Of them, 126 were active in at least 16 regions (out of 20), while 71 had customers in just one region. The share of nation-wide operators increased from 29% in 2012 to 34% in 2016, whereas the share of local suppliers decreased from 27% to 19% in the same period.

As far as price comparability is concerned, the EU's Consumer Market Scoreboard – which mixes perception indicators with hard data on complaints and problems – suggests that the ability of the Italian customers to compare alternative offers is slightly below the EU average, but the situation has been consistently improving over time (EC 2016) (Table 2).

**Table 2. Results from the Consumer Market Scoreboard for electricity**

|                             | Italy's Score 2015 | Difference w/ 2013 | Difference w/ EU avg |
|-----------------------------|--------------------|--------------------|----------------------|
| Comparability (avg)         | 6.2                | +0.6               | -0.5                 |
| Trust (avg)                 | 6.1                | +1.1               | -0.6                 |
| Problems (%)                | 13.4               | -1.1               | +2.5                 |
| Complaints (%)              | 80.2               | -7.3               | -2.4                 |
| Expectations (avg)          | 7.6                | +0.8               | -0.1                 |
| Electricity (overall score) | 71.8               | +6.4               | -3.5                 |

Source: elaboration on DG Just data. Note: Comparability = average score from consumer survey on price comparability (min: 1; max:10); Trust: average score from consumer survey on trust in the suppliers' commercial behavior (1-10); Problems = % of consumers who had at least one problem in the previous year; Complaints = % of consumers who filed at least one complaint in the previous year; Expectations = average score from consumer survey on whether the service met expectations (1-10)

### 3.2.3. Conduct

As shown by the high number of active suppliers and their steep increase year-on-year, entry barriers are relatively low in Italy and new entrants seem to believe there is room to compete either on prices or

<sup>9</sup> The source for the data in the discussion below, unless otherwise specified, is Italy's energy regulator (Aeegsi 2017a, 2017b, 2017c, 2017d; Arera 2018a, 2018b).

on the quality of the service with the incumbents. However, small market shares suggest that gaining momentum may be hard.

On the demand side, the situation is more puzzling. On one hand, switching rates are higher than the EU average, even though they remain below the levels of the most dynamic markets. In 2016, 13.7% of residential customers changed tariff or supplier (up from 10.4% in 2012). Of these, 6.9% switched supplier in the free market, 2.9% remained with the same supplier but switched tariff, 3.3% left the *maggior tutela* and 0.6% returned back to the regulated regime. The growth rate of customers supplied under the free market (as opposed to those under regulated tariffs) declined, and so did the share of customers who switched back to the *maggior tutela*. In 2017, the switching rate was as high as 12.4%: 7.7% switched supplier in the free market, 4.5% left the *maggior tutela* while 0.2% switched back to the regulated tariff – a record low level.

The share of non-switchers declined from 89.6% in 2012 to 87.6% in 2017.

#### 3.2.4. Performance

In order to evaluate the market performance, IPA (2015) takes into consideration price dispersion, the gap between expectations and actual service, and the dynamics of the average markup. We will not touch upon expectations because we already mentioned them in the context of the discussion on the quality of the service in Section 3.2.2.

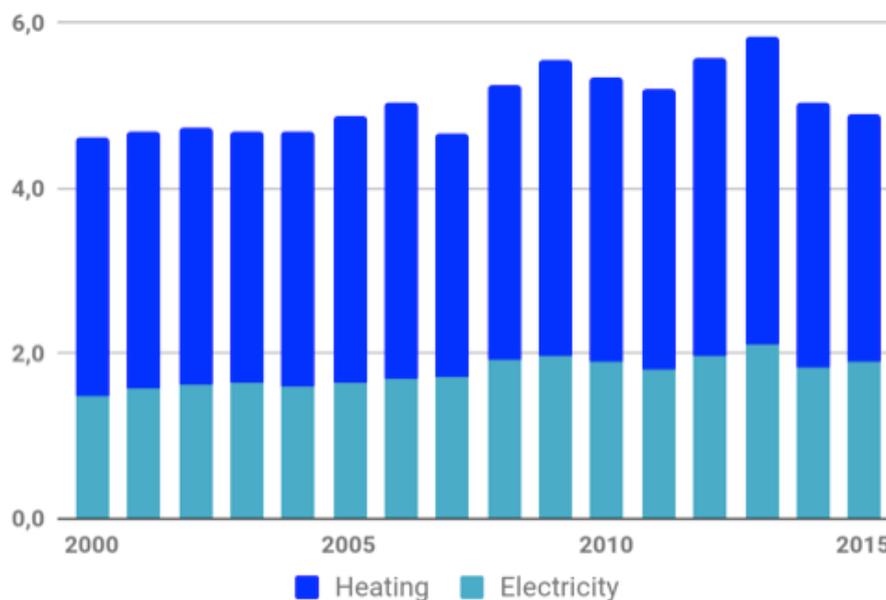
To begin with, price dispersion should be viewed with a bit of caution. A high price dispersion might either suggest that competing suppliers are striving to differentiate the product (in which case it is a sign of innovation) or that suppliers are able to price-discriminate against the least active consumers (in which case it may imply an exercise of market power). Electricity has some features of a commodity, hence one would expect that the more effective competition is, the more prices converge towards marginal costs. At the same time, electricity retailers are devoting time and effort to differentiate their products by moving their value propositions away from the commodity, and towards a more sophisticated service.

In October 2016, the expected annual expenditure on electricity for a representative household<sup>10</sup> was estimated by the regulator in the range between 479.7-574.1 euro for variable price offers and 450.1-598.3 euro for fixed price offers, with a weighted average of, respectively, 493.0 and 527.7 euro/year. This is equivalent to almost 2% of household total expenditure on average, whereas heating expenditure is almost 3% (Figure 2). The Trova Offerte – a price-comparison website set up by the regulator, to which suppliers may voluntarily submit their offers – had 48 available offers in the capital city in October 2016, up from 26 in October 2014.

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<sup>10</sup> Defined by Italy's energy regulator as an household with a 3 kW connected load and an annual consumption of 2,700 kWh.

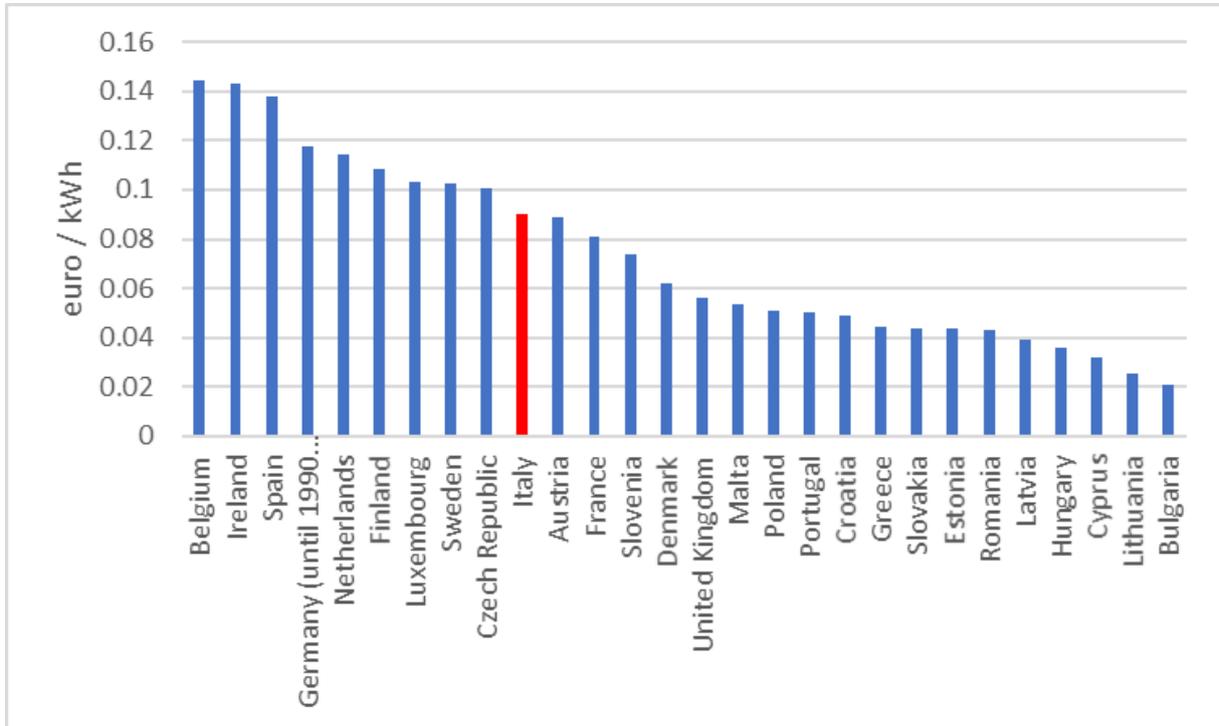
**Figure 2. Percentage of the average income spent on electricity and heating. Source: Faiella et al. (2017)**



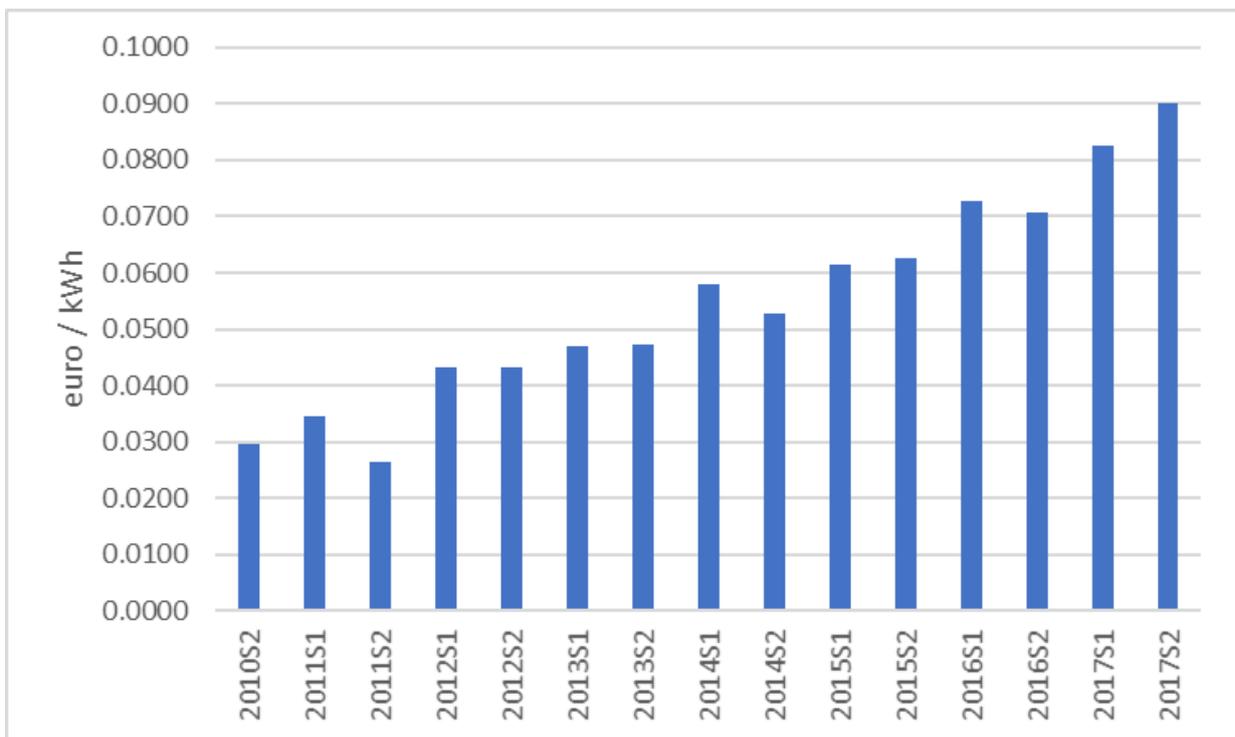
IPA (2015) estimates the mark-up as the difference between retail and wholesale prices and finds it in Italy to be in line with the EU average. Figures 3 and 4 show alternative estimates, which rely on the difference between retail prices for households and large industrial customers as a proxy for markups. Intuitively, large industrial customers have a greater bargaining power and can take better advantage of liberalization than small consumers (Joskow 2008). Under this metric, Italy seems to have an average markup in the second half of 2017 which is relatively low as compared with other EU member states (Figure 3) (in reading Figure 3, one should take into consideration that some countries with very low mark-ups do regulate prices for residential customers below costs<sup>11</sup> or very close to them). Figure 4 shows that average mark-ups in Italy tended to slightly increase in 2010-2017: that may be due either to the exercise of market power or to the changing nature of the electricity service which is increasingly bundled with additional components (while that is unlikely to be the case for large industrial customers) (see also Acer 2016 on this).

<sup>11</sup> That was the case, in particular, for Latvia, Romania and Lithuania. See Acer (2016).

**Figure 3. European mark-ups in the second semester of 2017 computed as difference between retail prices for residential customers (1,000 kWh < consumption < 2,500 kWh) and large industrial customers (20,000 MWh < consumption < 70,000 MWh). Source: elaboration on Eurostat data**



**Figure 4. Italian mark-ups over time computed as difference between retail prices for residential customers (1,000 kWh < consumption < 2,500 kWh) and large industrial customers (20,000 MWh < consumption < 70,000 MWh). Source: elaboration on Eurostat data.**



### 3.2.5. Summary

Two major challenges emerge from the structure-conduct-performance analysis of Italy's retail electricity market: high concentration and low customer engagement. As far as market concentration is concerned, the "free market" – where customers have switched at least once – is relatively concentrated but consumers seem on average able and willing to take advantage of the opportunity to choose their preferred tariffs. However, a majority of residential customers are still supplied under the regulated regime, which is, *by design*, supplied by vertically integrated incumbents. The largest operator has a market share of 86.5% in the regulated market, which translates into an overall market share of above 72%.

This makes the incumbent potentially able to exercise market power, especially in such a delicate moment as the transition towards full liberalization. High concentration may be a cause of customer inertia, and customer inertia tends to keep high the incumbent's market share. Being unable to capture economies of scale and scope and facing high costs to acquire new customers, competitors may be ineffective in challenging the incumbent, especially when it comes to the least engaged customers. As a consequence, the combination between the small size of the competitors and the customer inertia may result in a greater ability for the incumbent to price-discriminate and to protect its market share. High market concentration is not, *prima facie*, the result of market abuses, but derives from *regulatory* choices that were made at the time of initial market opening, and that have not been properly addressed in the following years. Hence, a regulatory solution should be developed.

In the following section we will focus on the supply side, hence we will not deal directly with demand engagement, except to the extent that promoting demand engagement is instrumental to achieve lower market concentrations in the short run.

On top of this, vulnerable customers have a right to improved (and targeted) protection, both under the European and Italian law. We will briefly discuss the issue of energy poverty, on which a rich flow of literature is developing (see, for example, Amenta and Lavecchia, 2017, Faiella and Lavecchia 2015, Faiella et al. 2017, Miniaci et al. 2014), providing an analysis and a proposal.

## 4. A policy proposal to achieve full liberalization

### 4.1. How to address the market concentration...

In this section, we propose a roadmap to phase out the regulated tariff in Italy, while addressing the potential sources of market power and frictions to the consumers' detriment. As we have showed, there are issues both on the demand- and the supply-side, namely customer inertia and market concentration, respectively.

As far as the former is concerned, policies may be developed that rely on: i) the expected behavioral responses to the way information is provided or default options are set; ii) increasing price transparency and comparability; iii) creating a framework that makes more easily accessible to competitors the information about disengaged customers. Several proposals are included in the CMA report on the British market (CMA 2016) and few of them are detailed in Stagnaro et al. (2017a).

In this paper we will focus on market concentration. To some extent our proposals provide an answer to customer disengagement, too, but they are not intended as a solution for that specific problem, nor should they be understood as a long-term response thereof. Our idea aims to ensure an ordered phase out of the regulated tariff. We believe that – given the current situation – public policies should be aimed at fostering competition by intervening both on market design *and* market structure (Stagnaro et al. 2017a, 2017b, 2018).

The liberalization process of Italy's wholesale electricity market was successful because, among the other reasons, since the onset of the reform, the incumbent was required to release generation capacity (De Paoli and Gulli 2010). By the same token, in the natural gas market – where the concentration bottleneck was higher in the supply chain – the incumbent was repeatedly obliged to release either volumes of natural gas or transit capacity, as well as to stick to an antitrust ceiling on natural gas imports (Beccarello and Piron 2008). This kind of asymmetric regulation, whereby the incumbent is put under specific constraints that do not apply to the other competitors, has been often used in several sectors and proved to be successful (Abel and Clements 2001, Baranes and Vuong 2011). The rationale behind asymmetric regulation lies in: i) removing undue advantages that the incumbent may have; ii) preventing the incumbent to pursue opportunistic behaviors that may result in raising the rivals' costs; iii) speeding up the process of creating sizable competitors.

However effective, asymmetric regulation falls short when it comes to getting the customers involved in the process. At the same time, placing an obligation on the incumbent to reduce its market share may still leave room for opportunistic behaviors: for example, cream skimming.

Our policy proposal relies on three pillars.

The first pillar is graduality: it took time for the market to develop and it will take time for both customers and suppliers to become accustomed to the rules of the game. The idea that a mere change in the regulations will immediately result in dramatically different behaviors is naïve. Both customers and suppliers will need time to gain confidence and to develop trust in each other. We propose to provide for a 3-years long transition period, starting on July 1<sup>st</sup>, 2020.

The second pillar is asymmetric regulation. We propose that, during the above-mentioned transition period:

- customers who are supplied under the *maggior tutela* by July 1<sup>st</sup>, 2020 are still supplied by the incumbent under a standardized contract, whereby price variations should be approved by the regulator, in order to mimic the functioning of the regulated regime (of course they can switch to a different tariff or supplier at any point in time, both before and after July 1<sup>st</sup>, 2020);
- during this period, an antitrust ceiling on the largest supplier is introduced, which will decrease over time (for example, the incumbent should reduce its market share below 60% by the end of the first year, below 50% by the end of the second year, and below 40% by the end of the third year);
- if the incumbent's market share exceeds the ceiling, it will be forced to divest according to a procedure that we describe below – what we call the mandatory, opt-out collective switching scheme.

The third pillar introduces a mandatory, opt-out collective switching scheme. As we have seen: i) until July 1<sup>st</sup>, 2020 those who do not choose a supplier are supplied under a regulated tariff by local DSO; ii) we have no information on the drivers of the customers' choice not to switch to free market: they may not be aware that there are potentially significant gain from switching, or they may be just satisfied with their supplier. While the former ones are properly inactive customers, the latter can be regarded as customers who actively “choose not to choose”. The reason why it is not possible to discriminate truly inactive customers from “active inactivity” lies in the way the default option is defined: inaction results in staying with the incumbent, regardless to its underlying reasons. Our proposal is then to turn inactivity into a driver for switching. That follows a behavioral approach that has already been successfully applied in other areas such as saving plans (Thaler and Benartzi 2004). We follow the proposal set out by Crampes and Waddams (2017) of organizing an opt-out collective switching. We also take advantage of the municipal aggregation scheme adopted in Ohio (Littlechild 2008) and the evidence from the British experience with the so-called Big Switch (Deller et al. 2014).

If the policy goal is that of creating an incentive for customers to switch, and if the reason why they fail to do so spontaneously is inertia, then – intuitively – one may achieve the desired outcome by

designing a scheme whereby inertia leads to switching. Those who really want to maintain the existing relationship with the incumbent will be required to take action, by revealing their preferences.

Assume, for example, that by the end of the first year of the transitional period (December 31<sup>st</sup>, 2020), the incumbent still holds a 65% market share, vis-a-vis a 60% antitrust ceiling. If that happens, the energy regulator and the competition authority will set up a collective switching procedure that involves about 5% of the customer basis, randomly chosen among those who were initially supplied under the regulated regime (and who are supplied by the national incumbent under a standardized contract at this point in time). Such customers would be given a right to opt out. The new supplier would be identified through one or more auctions, which are intended to select the supplier(s) able to offer the best deal.

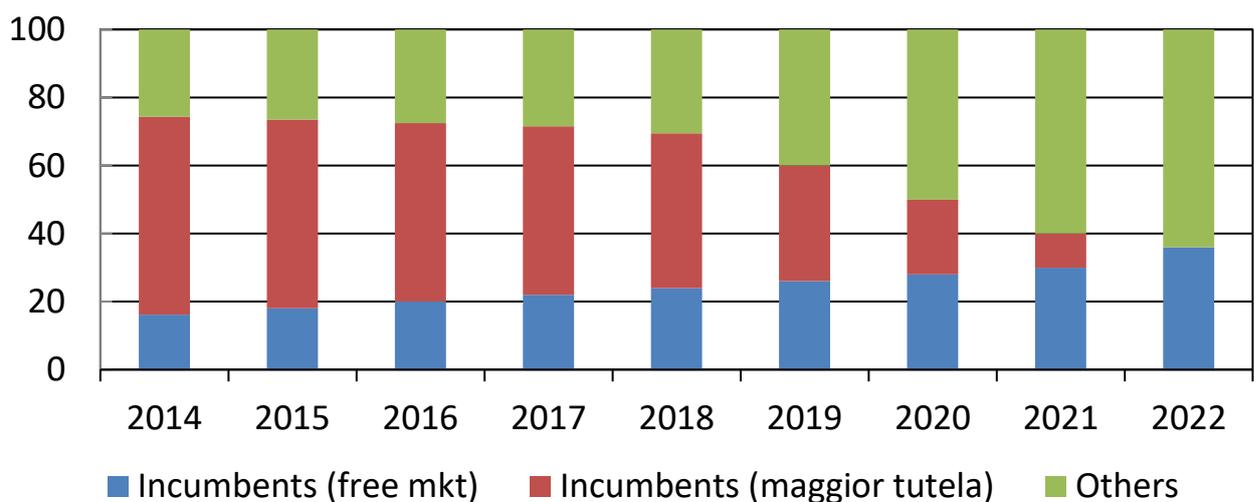
Those customers who are happy with the incumbent are likely to opt out and actively exercise their will; others would just be moved and will become supplied by a competitor under a lower tariff. The information accrued by this process will be used for the sake of fine-tuning the following auctions. The opt-out collective switching exercise should be repeated at least once per year, and possibly more often, for the entire transition period, until the desired market concentration is achieved. Moreover, each group of customers that is enrolled in the scheme should be small enough to allow for a wide participation in the auctions, resulting in lower tariffs and preventing potential collusion among the participants.

Finally, by the end of the third year (which coincides with the end of the transitional period, or December 31<sup>st</sup>, 2022)), antitrust ceilings would expire. However, it is likely that some customers will still be supplied by the incumbent (as well as by other smaller vertically integrated companies) not out of choice, but merely out of inactiveness.

In order to give these customers a chance to take advantage from liberalization, a final collective switching will take place, that involves all those customers who were moved from the regulated regime to the standard contract, and who did never choose a different supplier or tariff (including both the national and local incumbents). Again, an opt-out clause will be introduced in order to allow those who are happy with the historical supplier to actively show their preference vis-a-vis the opportunity of saving money off their electricity bill or getting a better service.

Figure 4 shows a potential evolution of market shares over time, under a set of conservative assumptions regarding the degree of customer engagement.

**Figure 4. Potential evolution of market shares under the proposed mechanism**



As we have already argued, the entire process is intended to provide an answer to the problem of high market concentration. While also resulting in a partial response to consumer inertia, fixing the latter is

not the long-term aim of the proposals. If a large part of Italian customers will still be proven as unengaged as they have been until now, then ad-hoc policies may be developed, including repeating this kind of opt-out collective switching schemes. However, this decision will have to be made after the transition period is ended, and provided that strong evidence is collected that the demand-side still fails to capture the potential gains from competition.

#### **4.2... while ensuring the right protection to vulnerable customers**

The alleged rationale behind the regulated regime is to ensure an adequate protection for vulnerable consumers. However, despite a decade-long effort to tackle energy poverty, the existing instruments, including the regulated regime, have not proven effective (Faiella and Lavecchia 2015). Energy-poor households are estimated to be around 2 million (Amenta and Lavecchia 2017) and increasing (Faiella et al. 2017).

A new approach is required. In the 2017 National Energy Strategy (MISE 2017), the Italian Government called for a comprehensive strategy to tackle energy poverty based on: 1) the adoption of an official definition and a national measure; 2) a thorough review of the existing policies; 3) the creation of an Italian Energy Poverty Observatory which will work in coordination with the European Energy Poverty Observatory. Moreover, a new conditional cash transfer program, the *Bonus Energia*, might be put in place, with the following characteristics:

1. one program, substituting all the existing measures (and particularly the *Bonus Elettrico* and *Bonus Gas*, under which low-income households enjoy a discount on the annual expenditure for electricity and natural gas, respectively);
2. unique eligibility condition, based on the national equivalized household income and wealth measure (ISEE);
3. the value depends on the household's size and on the ISEE (with a cut-off after a chosen threshold);
4. the maximum benefit should cover up to one quarter of energy expenditure covering, ideally, winter heating or summer cooling costs.

Full liberalization of the retail market and an enhanced (and more targeted) protection of vulnerable consumers may be complementary processes which should be carried on jointly. A more detailed proposal is offered by Lavecchia and Stagnaro (2018).

## **5. Conclusion**

Retail competition in electricity may deliver significant benefits to consumers, who may also experience higher gains as technology develops. The ability of customers to reap the benefits – in the form of lower tariffs and/or innovative products – depends critically on the effective competition between suppliers and active engagement on the demand side. The former, in turn, relies on sound market design and structure.

This paper focused on the phase-out of regulated tariffs in Italy, which is due by July 1<sup>st</sup>, 2020. Choice has been introduced since July 1<sup>st</sup>, 2007, but the “free market” option has coexisted ever since with a “transitional” regulated tariff – the *maggior tutela* – that still covers a majority of the residential customers and slightly less than half of the SMEs. Since the *maggior tutela* is supplied by vertically integrated incumbents, with the largest one covering over four fifth of the points of delivery, the market is extremely concentrated *by design*. Consequently, in pursuing full liberalization, market concentration is a major issue. Another issue that needs to be addressed is customer engagement: while a minority of customers appear very active in the market, many others are not, especially those who have never switched supplier since 2007, who may even not know that they have a right to choose a different tariff.

A structure-conduct-performance analysis of the Italian market confirms that high market concentration and insufficient customer engagement should be addressed. Other indicators – such as entry/exit activity, price dispersion, customer satisfaction, service quality, etc. – have been consistently improving over time. Therefore, we propose a scheme that would simultaneously result in lower concentration and would turn consumer inertia into lower tariffs from an alternative supplier, rather than an opportunity to exercise market power. Our proposal combines decreasing and transitional antitrust ceilings – that would reduce the incumbent’s market share from the current 72% down to 40% over a three-year period – with a repeated collective switching exercise, under which customers would be left free to opt-out. As a result, disengaged customers would be automatically moved to a cheaper tariff, whereas those who make an explicit choice of not switching would remain with their current supplier. In a nutshell, the basic idea is that of turning the default option from “stay” to “switch”. The phase-out of price regulation should also be accompanied by a comprehensive reform of the existing tools to fight energy poverty, in order to provide an effective support to those low-income households who may have troubles in paying their bills.

Our proposal does not cover other relevant issues, including (but not limited to) customer engagement, information campaigns and promoting price comparison websites. More research is needed on these issues and many details should be explored in more depth. However, this proposal may serve as a starting point to design a feasible transition that puts customer empowerment at its core.

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