

PRICE REGULATION OF THE RESIDENTIAL (RETAIL) ENERGY MARKET - COMPARING THE PRACTICES OF THE UNITED STATES OF AMERICA WITH THE EUROPEAN COMMISSION'S "CLEAN ENERGY PACKAGE"

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ABSTRACT

Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market in electricity, which amends Directive 2012/27/EU, advocates for the phasing out of regulated household electricity prices in favour of a fully liberalised retail electricity market. According to the author's position, the removal of regulated end-user prices adversely affects Hungarian household consumers. This stance is supported by the economic argument that genuine competition in the household electricity market can only function effectively – thus should only be permitted by law – under specific conditions: the presence of a developed economy with abundant domestically sourced energy resources; high individual income levels, which enhance consumer engagement; widespread adoption of energy-efficient, cost-effective technologies and innovations at the household level. Only where these criteria are met can liberalisation result in reduced household energy costs and increased energy savings over the long term. In all other contexts, even partial liberalisation of the retail market tends to trigger a spiralling increase in household energy prices.

KEYWORDS

Electricity retail market, USA vs. EU retail, Regulated vs. fully liberalized supply.

ARTICLE HISTORY

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I. Introduction

After lengthy consultations and its first publication in 2016, the EU Council and the Parliament adopted its complex regulation package entitled "Clean Energy for all Europeans" (hereinafter: Package) in 2019. The Package consists of 8 different legal instruments, one of them being the directive on the internal electricity market.

Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU takes the stand of leading out regulated electricity prices for households, giving space to a liberalised household electricity market.

Article 5 of the Directive created detailed rules for market-based supply prices, especially on the retail markets, where the possibility of applying administrative price regulation is restricted exclusively to vulnerable or energy poor consumers. The first evaluation of the 2019 system will be on 31st of December, 2025, by which the European Commission shall submit its report to the European Parliament and the Council.

According to the Author's position, the rescission of the regulated end-user prices is negatively affecting the Hungarian domestic consumers. It is backed by the economic argument according to which free competition in the commodity market, for the retail (household) market is only possible (thus shall be allowed by the law only) where the following criteria are met:

- the existence of a developed economy,
- rich in indigenously produced energy resources
- high individual income-earning capacity, resulting in higher consumer motivation,
- high penetration of energy efficient, cost-effective technical solutions, and innovations at the household level,

and only in that case may they bring household energy costs down and energy savings up in the long run. In all other cases, even partial retail market liberalisation will lead to a spiral up of energy prices for families.

The Directive has negative effects on the domestic development and even the sustainability of the National Public Utility Service System. The Directive and its application to the retail (household electricity market) are harmful to Hungarian consumers. The current economic model of the universal service is maintained by Hungarian internal legal instruments left from the internal market regulation of the EU.

However, there are several more sophisticated solutions in relation to the application of regulated end-user prices, and we are ready to make recommendations for these.

The cancellation of the regulated retail end-user prices was possible in the EU member states with developed economies, rich energy sources, and with high general individual income-earning capacities. External imposition on the immature

Eastern-European energy markets resulted in social instability, social tensions, the narrowing of private consumption, and finally, in the elimination of competition. Therefore, it is not the solution to abolish regulated energy prices or to speed up this process. The date of this only depends on the development of the Hungarian economy, the solutions of the economies of scale of the Hungarian energy sector integrated into the European one, and on the income levels of society and families.

By presenting the industrial regulations and practices of the United States and comparing them to the Package, the study aims to examine and justify that it is possible to maintain administrative price regulation on the retail market, and to have retail administrative price regulation and free retail markets at the same time within a member state/country. I would like to highlight that if it is possible to have administrative price regulation and free retail markets in parallel within a (federate) state – in US member states (or in smaller regions) –, then it is less justified that according to the Directive, it would be necessary to withdraw/rescind/restrict administrative retail/end-user price regulation in each EU member state, because it does not distort the EU's internal energy market significantly, and it does not hinder the extension/development of the effective internal energy market of the EU.

Although the different retail prices and their fluctuations are explained by the deviations of the wholesale prices, for reasons of space, this study does not aim to analyse and compare in detail the energy production sources, population density and economic development of the member states of the USA, which may be notably different and may result in different wholesale and retail prices in each member state. The twenty-eight member states of the EU are also characterised by the same heterogeneity – with even bigger differences –, and therefore, this would not result in reasonable conclusions when examining the obligatory cancellation of regulated retail prices, and would not justify the requirement of obligatory cancelling when comparing the USA to the EU 27.

II. Presentation of the retail energy market price regulations of the United States

The American Constitution allows federal regulation of utilities only where interstate commerce is involved. Accordingly, intrastate activities are subject to regulation by state regulatory commissions, while all states approve retail prices for their jurisdictional electric utilities.¹

In the energy market regulation of the United States of America, FERC (Federal Energy Regulatory Commission) exercises jurisdiction over transmissions between wholesale energy markets and US states, but its jurisdiction is not related

¹ International Energy Agency, *Energy Policies of IEA Countries: The United States 2014 Review* (OECD/IEA 2014) 44.

to retail energy markets.² The retail markets are regulated at the level of the given US state – with the cooperation of public utility commissions (PUC) – which may differ significantly in each member state.³

The majority of wholesale energy markets and some of the retail energy markets are competition-based, where the pricing system is also competition-based. In other cases – including non-competition based retail markets – pricing is cost-based.⁴ The state public utility regulatory commissions regulate the rules and prices of the retail energy markets. Their task is to ensure the population's access to safe and reliable public utility services at reasonable rates, and to exercise oversight over certain areas of the organization and financing of public utilities.⁵

Pursuant to Order 888 of FERC published in 1996, State Commissions have jurisdiction over the distribution component of retail service, the generation component of retail service and the transmission component of bundled retail service.⁶ The jurisdictional determinations of the Order between FERC and the State Commissions were also affirmed by the Supreme Court in 2003.

At present, a hybrid system for providing electric service exists in the United States for wholesale and retail markets. Electric service currently provided to end-user customers in one of the following sets of configurations:

- States with restructured retail markets and organized wholesale markets
- States with traditionally-regulated retail markets and organized wholesale markets
- States with traditionally-regulated retail markets and bilateral wholesale markets.⁷

It is important to mention that Congress could have changed existing jurisdictional arrangements in Energy Policy Act of 2005 (EPACT 2005), but did not do so, and therefore, the USA is likely to have a hybrid system in the foreseeable future. On the whole, it can be established that in the hybrid electricity market system of the United States, the opening of retail markets and the pricing of retail markets are subject to the competence of the state commissions, i.e. these are the “home affairs” of the member states within the federal state.

² Federal Energy Regulatory Commission, *Energy Primer: A Handbook of Energy Market Basics* (FERC 2015) 35.

³ Michael S Hindus, Robert A James, Joseph H Fagan and Becky M Bruner, *Electricity, Oil and Gas Regulation in the United States* (Pillsbury Winthrop Shaw Pittman LLP 2010) 193.

⁴ FERC (n 2) 35.

⁵ Hindus and others (n 3) 194.

⁶ Sam J Ervin, ‘The State of Energy Regulation in the United States’ (Presentation, North Carolina Utilities Commission and NARUC Committee on Electricity, 2007) slide 23.

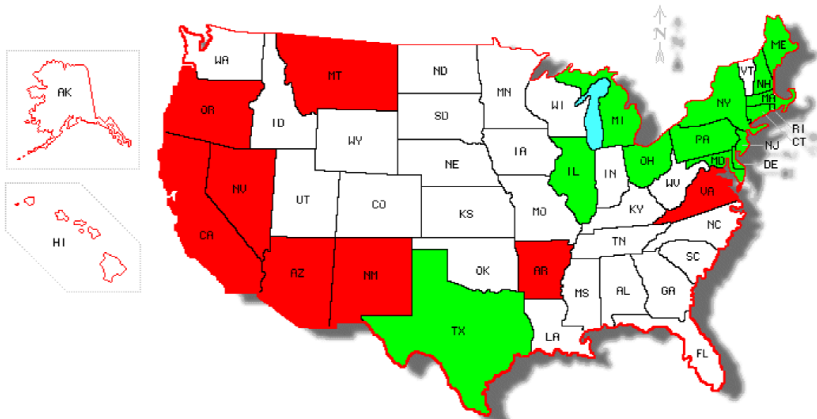
⁷ Ibid slide 24.

III. Retail market opening in the United States

Although well established in most OECD economies, retail competition in the inherently deregulated US electricity market is limited and confined only to a small number of states. End-users in fewer than 15 states benefit from retail energy competition, while the majority of consumers in the remaining states enjoy only one option, a monopoly utility provider, when it comes to purchasing electricity.⁸

Currently, nearly half of the US states have allowed retail Choice on retail energy markets, which is presented in the following figure.⁹

Figure 1: Retail Choice on retail energy markets (2015).



Source: own compilation based on state-level regulatory data (2015).

Legend:

Green: retail choice on retail energy markets (15).

Red: suspended or withdrawn retail choice on retail energy markets (8).

White: no retail choice has been introduced to the retail energy markets (28).

It can be seen that retail choice is allowed mainly in the states where population density and the rate of urban population are high. States where population density is low, are less likely to attract new service providers to the retail market, because they have less consumers and the dispersed location of the consumers is not advantageous in terms of payback, but we can find some

⁸ International Energy Agency (n 1) 77.

⁹ Mathew J Morey and Laurence D Kirsch, *Retail Choice in Electricity: What Have We Learned in 20 Years?* (Christensen Associates Energy Consulting 2016) 4.

exceptions where states with relatively large populations do not allow retail choice on retail energy markets (Florida, Georgia, North Carolina).

Between 1996 and 2001, twenty-two states and the District of Columbia directed regulated utilities to prepare to open their retail markets through either legislative or regulatory action. These moves toward retail choice began in 1996, coincident with FERC's issuance of Order No. 888, which promoted non-discriminatory access to transmission facilities and thus promoted competition at the wholesale level.¹⁰ The movement toward retail choice came to a sudden halt in 2001, when the Western power crisis made it clear that there were fundamental problems with the manner in which electricity sector restructuring had been implemented (e.g. producers and traders went bankrupt, retail energy market options shrank, fraudulent trading occurred, while retail electricity prices increased). In California, for example, the legislator clearly committed a regulatory error in the model, which is well documented.¹¹ As a reaction to the events, several member states suspended or rescinded retail choice on the retail energy markets (Nevada and California 2001; Montana and Oregon 2002; Arkansas and New-Mexico 2003; Arizona 2004; Virginia 2007).¹² Virginia, for example, decided in 2007 to stop its retail energy market practice allowing retail choice, and it returned to total cost-based retail price regulation.¹³

It should be noted that in states allowing retail choice, providers of last resort were designated to supply consumers, and in several cases, price caps were also set for the public utility services provided by these providers—thereby diminishing the effect of promoting competition.¹⁴ It should also be added that in states allowing retail choice, competitive market-based wholesale markets are generally in place, while the member states not allowing retail choice have either competitive market-based or traditional wholesale markets.¹⁵ In the United States, nearly one-third of the member states allowed retail choice on the retail energy markets, and it occurred several times that certain member states suspended or rescinded retail choice due to adverse circumstances or the lack of effects expected from market opening. It also happened that wrong models were introduced in certain member states, or the regulation or implementation of market opening were poorly executed. In the case of retail choice, positive effects do not arise

¹⁰ Ibid 18.

¹¹ See e.g.: Charles J Cicchetti, Jeffrey A Dubin and Colin M Long, *The California Electricity Crisis: What, Why, and What's Next* (Kluwer Academic Publishers 2004); Paul L Joskow, 'California's Electricity Crisis' (Harvard Electricity Policy Group 2001).
<https://doi.org/10.3386/w8442>

¹² Morey and Kirsch (n 9) 19.

¹³ Hindus and others (n 3) 188.

¹⁴ Morey and Kirsch (n 9) 22.

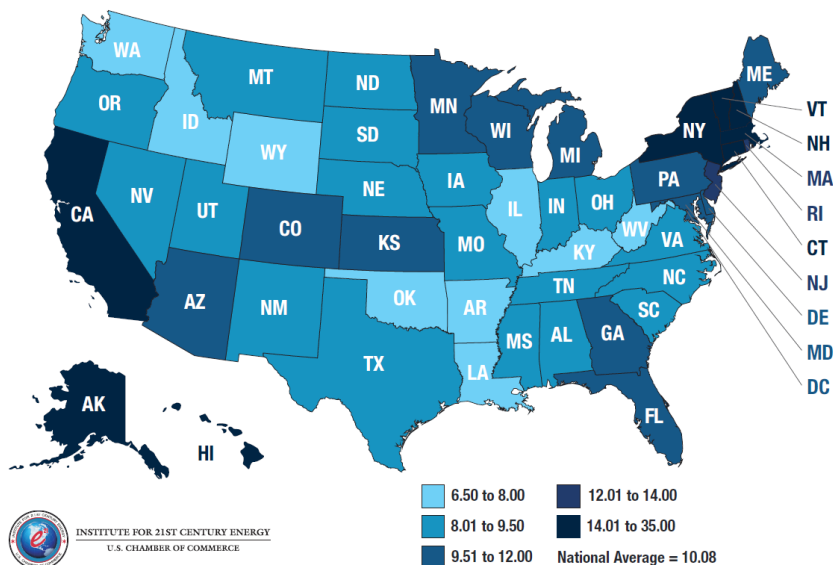
¹⁵ Ervin (no 6) Slide 24

immediately, since these depend on the volatile balance of market demand and supply.

IV. Changes of energy rates in US states allowing and not allowing retail choice

Experiences show that on the retail energy market, in the member states allowing retail choice, rates increased by fifty percent more quickly between 1997 and 2007 than in the states not allowing retail choice, but a slow decrease started in 2007.¹⁶ Average rates in states that did not allow retail choice have continued to increase since 2007, though at a slightly slower pace than during 1998-2007. Overall there is almost no difference in the change in average rates for the two groups between 1998 and 2012.¹⁷ The following map shows the average retail electricity rates of the US member states in 2013 in the unit of cents/kWh:

Figure 2: The average retail electricity rates of the US member states in 2013



**Source: U.S. Energy Information Administration;
Electric Power Monthly. February 2014**

¹⁶ American Public Power Association (APPA), *Retail Electric Rates in Deregulated and Regulated States: A Ten Year Comparison* (APPA 2008) 3.

¹⁷ Severin Borenstein and James Bushnell, 'The US Electricity Industry after 20 Years of Restructuring' (2015) Energy Institute at Haas Working Paper 252R, 16. <https://doi.org/10.3386/w21113>

The Energy Information Administration figures published by the Department of Energy of the United States of America also show that between 1997 and 2015, rates of the retail choice states increased to a greater extent than in the states not allowing retail choice; moreover, in recent years, unit prices have also diverged further.¹⁸ The figures also show that the implementation of retail choice led to a higher rate difference among the states allowing and not allowing retail choice, than in the period preceding the market opening: in 1997, the average retail electricity rates of the deregulated states were 2.8 cents higher than the rates of regulated states, while in the same comparison, the difference was even higher in 2015, the average rates of member states opening the markets were on average 3.4 cents higher than the rates of the states not allowing retail choice.¹⁹

It appears from the comparison of retail rates that – over the period of nearly twenty years – overall, the opening of the retail energy markets did not reduce the average retail energy rates more effectively in the retail choice states than the regulated prices of the states not allowing retail choice. Moreover, the average difference between the two price categories was higher in 2015 than before the opening of the retail markets.

In the American market model, retail market opening has no added value (there is no extra profit in retail trade). Market opening did not lead to price decrease. Competitive rates are formed in wholesale trade. The retail market of the USA is not a price setter; it only reflects the difference in the wholesale rates. Therefore, the opening of the retail market has no incentivising effect on price. Large-scale wholesale market competition makes the market effective. There is no such profit margin on the retail markets of the USA that would cover the extra (administrative) costs of consumer switches. Furthermore, not everyone is connected to the national network – in such areas, the network is not developed, which does not allow the opening of the retail market from a technical perspective.

It shall also be added to the comparison of rates that higher retail rates may also include the costs of other services which do not exist under administrative price regulation. For example, the increase of retail prices may also be related to the solar panel boom, because the legal environment is beneficial for the spread of ESCO services. Federal investment tax incentives are critical, which are also supplemented by the incentives provided by the member states. These may be so significant that of the ten jurisdictions with the highest rates of return on residential solar, only one (California) remains in the top ten without its state incentives.²⁰ The

¹⁸ American Public Power Association, *Retail Electric Rates in Deregulated and Regulated States: 2015 Update* (APPA 2016) 2.

¹⁹ Ibid 3.

²⁰ Morey and Kirsch (n 9) 9.

third key factor in terms of retail rates is the practice of net metering. Net metering in effect pays “producer-consumer” customers not only for the electrical energy that they provide (in excess of what they consume) but also for distribution and customer services to the households (as the producers). The consequence is that the distribution costs of residential customers with solar power are heavily subsidised by customers without solar power. The efficiency of the aforementioned tax and other regulatory incentives is low, and the wasteful subsidy system appears as a price increasing factor in retail rates.²¹

V. Changes of electricity rates in the United States and in the European Union

The 2015 analysis of KPMG drew the following consequences when comparing the electricity rates of the USA and the EU:²²

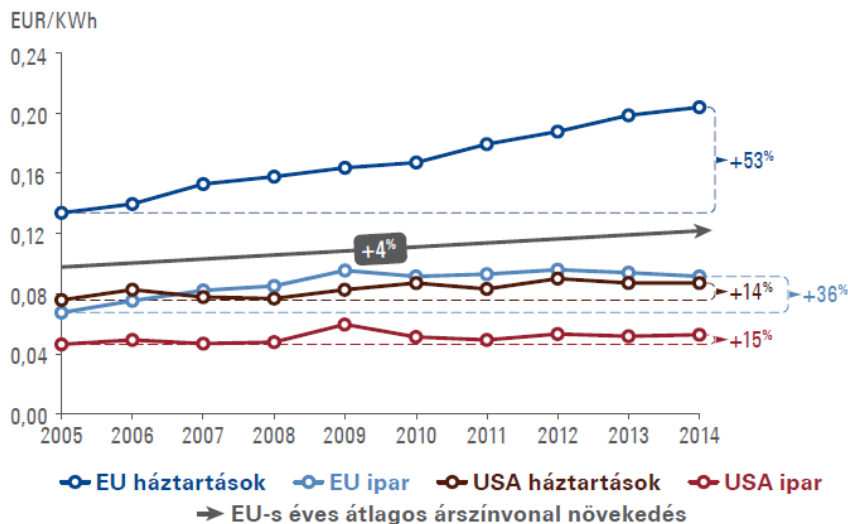
“There is a significant difference in energy rates between the European Union and the United States of America, in favour of the latter. In 2005, the European average industrial consumer price was 46 percent higher, while the residential rate was 75 percent higher than in the USA. The tendencies of the last 10 years had a more beneficial effect on the American region because the energy rates (both industrial and residential) are only 15 percent higher there than in 2005, while in Europe, industrial prices increased by 36 percent, and residential rates grew by 53 percent. In the case of the USA, the annual average price increase is ~2 percent, which is in harmony with the rate of the average economic performance and inflation. Despite this, the European annual average energy rate increase is 4 percent for industry and 5 percent for households, exceeding the region’s annual economic growth or inflation in both cases. The effect nowadays is twofold: compared to the United States of America, the competitive disadvantage of the European Union keeps increasing in the industrial sectors, and the consumer protective role of the European “welfare state” keeps weakening in the households. As a result of the aforesaid processes, to Europe’s disadvantage, the difference between the levels of residential and industrial rates has increased compared to 2005 and in 2014, an average European household has to pay two and half-fold (235%) compared to the Americans, and industrial consumers pay nearly the double (173%) for exactly the same product, electricity. It is a question whether it is sufficient for the Union to implement legislative campaigns for improving the significant and increasing competitive disadvantage of the European Union.”

The following figure shows the total average electricity costs (with taxes and fees) in the residential and industrial consumer sectors of the EU and the USA:

²¹ Ibid.

²² Attila Szepesi, ‘Európai dilemmák a globális energiaipari versenyben’ in Csaba Kovács (ed), *Energetikai Évkönyv 2015* (KPMG 2015) 12.

Figure 3 – The total average electricity costs (with taxes and fees) in the residential and industrial consumer sectors of the EU and the USA



Source: Szepesi (n 22) 12.

It is acknowledged by the European Commission that its earlier 2014 report also established that energy rates vary significantly among the member states of the Union, and are noticeably higher in Europe than at its international commercial partners, especially in the United States of America. On the other hand, the residential average price of electricity (weighted EU-28 average rate) was EUR 208.7 /MWh in 2015 and contrary to the wholesale rate, the average rate increased on average by 3.2% per year between 2008 and 2015.²³

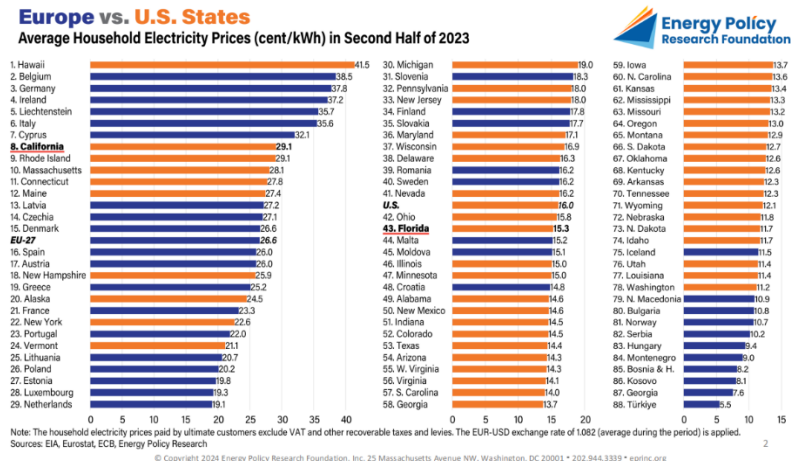
For the sake of completeness, it shall also be added that in Europe, end-user rates contain significant tax elements and the import exposure of the USA is lower in terms of energy sources. With a USA-sized integrated (wholesale) energy market, energy sources and USA-level of tax content, the European consumer prices would be comparable to the USA rates (and in the USA, there is no ETS).

Also for the sake of being politically correct, we have to state, that the 2019 EU Package not only did not result in the reduction of household electricity prices, but free competition on the retail market has disgracefully declined.

²³ European Commission, *Report of the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Energy Prices and Costs in Europe* COM(2016) 769 final, Brussels, 30 November 2016, 2–6.

The graph below clearly demonstrates that the Hungarian energy policy model of retail price control – known as *regisztráció* – is functioning effectively.

Figure 4 – Average Household Electricity Prices – Europe vs. U.S. States



Source: European Commission (n 24) 2.

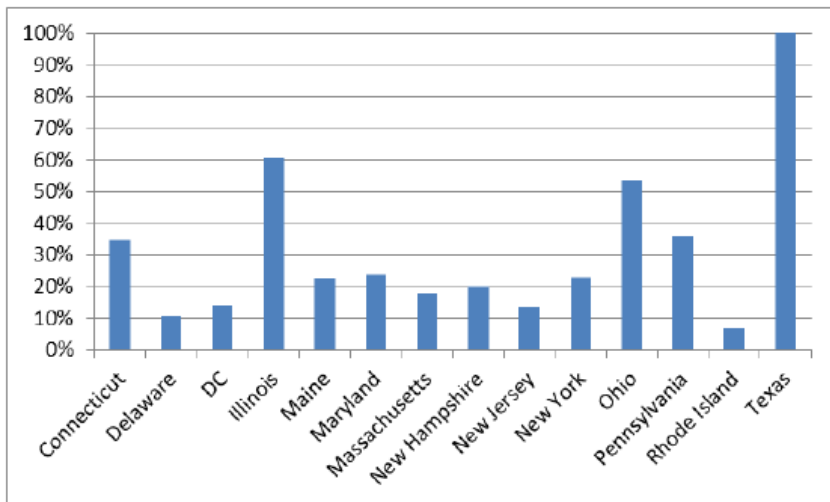
VI. Switching suppliers, consumer behaviour

It shall also be examined what percentage of residential consumers in retail choice states switched suppliers. For the fourteen jurisdictions shown in the figure, 44% of 37.8 million eligible customers took service from competitive suppliers in 2014, which is less than half of the eligible customers, and excluding Texas (where switching was compulsory), this rate drops to only 33%, which is relatively low.²⁴

The following figure shows the rate of eligible residential customers that switched in the different member states in 2014 (the figure does not refer to the energy quantities provided):

²⁴ Morey and Kirsch (n 9) 5.

Figure 5 - Rate of Eligible Residential Customers Who Switched Suppliers by US State in 2014



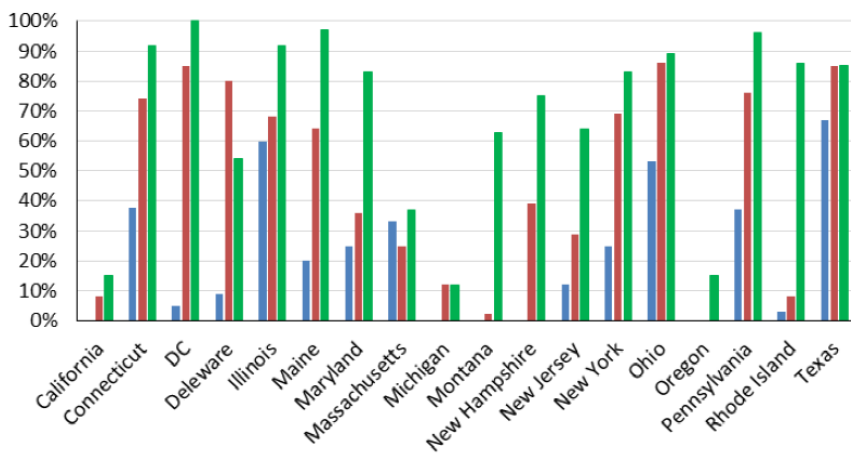
Source: Morey and Kirsch (n 9) 6.

The rate is even lower if we examine the consumption share represented by the consumers of the different retail categories (residential, industrial, commercial) in the total consumption of their own categories in the various member states (mainly those allowing retail choice or those which had allowed it earlier). As shown in the following figure, based on a simple average, the consumption of the residential load switched to competitive suppliers represented only seven percent of the total retail consumer category consumption in the examined US member states.²⁵

The figure shows the quantities of electricity sold to retail consumers that switched to competitive suppliers as a share of total sales in the various retail categories in 2014 (retail consumer categories: blue – residential; red – commercial; green – industrial):

²⁵ Ibid 4.

Figure 6 - Electricity Sales to Retail Consumers Using Competitive Suppliers as a Share of Total Sales by Category (2014)



Source: Morey and Kirsch (n 9) 5.

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The low quantity of electricity sold to retail consumers that have switched to competitive is related to and can be explained partially by the fact that over 90% of residential customers (and roughly half of commercial and industrial customers) in retail choice states continue to take standard offer or POLR service.²⁶

Studies also highlight that in the USA, residential consumers – particularly low-income households – are more likely than other groups to choose alternative energy suppliers who charge more than the incumbent utility. There is evidence that retail choice decisions require business savvy that many consumers lack, and that less-educated, low-income customers are more prone to making poor retail supplier choices.²⁷

It shall be mentioned that following the issuance of the 1992 Energy Policy Act, the opening of the wholesale energy markets led to actual and significant savings in the USA, but the savings expected from retail market opening were at best speculative.²⁸ Although the wholesale and retail energy markets were opened around the same time, after two decades, there is **little evidence** that retail opening has brought notable surplus beyond the savings achieved by wholesale liberalisation.²⁹

²⁶ Ibid 22.

²⁷ Ibid 62.

²⁸ Ibid 64.

²⁹ Ibid 65.

The comprehensive restructuring of markets began in states with high energy costs, in the hope of rate reductions. While efficiency gains on the wholesale market were substantial, the profit from retail market opening has so far been marginal in comparison. A more detailed analysis could examine the energy mix in retail choice states and compare it to states with regulated prices, but this study does not address that issue. Likewise, EU-28 member states have varying energy mixes, so a comparative justification for the mandatory withdrawal of regulated retail prices in the EU based on US experiences would not be sound.

Only the future might prove — through the application of smart grids, smart devices, and demand-side management tools — that retail opening can also generate real social surplus, but for now, this remains unrealised. Other sources emphasise that, in current practice, retail choice is primarily exercised by large consumers in the USA, while the majority of residential customers continue to be served by designated universal service providers or Providers of Last Resort. US experiences also confirm that the cost of supplying low-consumption users (due to administration, client acquisition, etc.) exceeds the profit realised from electricity sales, excluding the distribution fee.³⁰

³⁰ Jim Lazar, *Electricity Regulation in the US: A Guide* (2nd edn, Regulatory Assistance Project 2016) 18.