

MPRA

Munich Personal RePEc Archive

LIBERALIZATION AND REGULATION IN THE EU ENERGY MARKET

Livia Ilie and Alexandra Horobet and Corina Popescu

university "Lucian Blaga" of Sibiu, Academia de Studii Economice
(Academy of Economic Studies)

October 2007

Online at <http://mpra.ub.uni-muenchen.de/6419/>

MPRA Paper No. 6419, posted 21. December 2007 09:48 UTC

LIBERALIZATION AND REGULATION IN THE EU ENERGY MARKET

Livia Ilie
University Lucian Blaga Sibiu
Sibiu, str. Hipodromului 17
ilieliv@yahoo.com

Alexandra Horobet
Academy of Economic Studies Bucharest
Bucharest, Piata Romana 6
alexandra.horobet@rei.ase.ro

Corina Popescu
E ON Moldova Furnizare
Bucharest, Bd. N. Grigorescu 45
corina.popescu@eon-moldova.com

ABSTRACT

Competition ensures competitive prices. In this respect, the liberalisation of the EU energy markets is a must. The regulatory framework for the energy markets should be properly designed and implemented by the member states in order to ensure enough competition.

This paper aims to analyse the status quo of the EU energy markets in terms of regulatory framework and degree of competition and to recommend improvements of the system in order to balance the issues of competition, energy security and environment protection in the EU energy markets.

JEL CLASSIFICATION

L5 Regulation and Industrial Policy
K2 Regulation and Business Law
Q4 Energy

KEY WORDS

Energy market, regulation, competition, energy security, climate change

1. Introduction

Nowadays the European Union has to face a series of profound changes. These are characterized by privatization, deregulation and intensified competition. These challenges require an integrated policy linked to competitiveness, energy and the environment.

Even if EU has developed a world class energy infrastructure and is a global leader in many environmental policies, still significant challenges remain: completion of internal energy market, further reduction of environmental pressure, huge energy investment, a more challenging international energy market with respect to price levels and security of supply.

The future energy policy has to focus on three aspects of sustainability, in order to ensure coherence: competitiveness, environment (combating climate change is a priority) and security of supply.

For most industries, energy is essential to the cost base and competitiveness. The European industries compete internationally. Increases in energy costs can not be transferred to customers without risking reductions in market share. So, long term energy policies must be taken into account to ensure competitiveness. Access to cost-effective energy inputs for the energy-intensive sectors, energy efficiency, well functioning energy markets are issues that should be priorities for the EU officials.

2. Some theoretical considerations on competition and regulation

The political crisis in which Europe stands has as a starting point the problem of the unsatisfactory economic performance: the budget deficit of some member countries, the growth rate of some economies that is low,

the high unemployment rate particularly in the young population segment. Addressing such problems is equivalent to discuss the region's economic performance.

Although some European leaders favor the restriction of competition, the protection of the economy through rigid regulation, these are incompatible with the concept of dynamic, performing, growing economy. As studies of some prestigious institutes have revealed (McKinsey Global Institute - MGI), the low economic growth rates of some European economies do not have as a main cause the lack of technology, but rather the restriction of competition through rigid settlements that determine a decline in efficiency. [1] The example of some European countries (Denmark, Ireland, Spain, Sweden, United Kingdom) engaged in serious economic reform can be relevant for the entire region: these countries have obtained better economic performances, protecting at the same time the European life style, by stimulating economic growth and the reduction of unemployment.

The excessive regulation restricts competition, affecting in negative way efficiency. There are differences of productivity, frequently considerable, between the competitors of the same industry, in many cases the advantage belonging to the American entities in the detriment of the European ones. The studies performed by McKinsey Global Institute point out a few causes that have led to the impossibility of the European companies to achieve their potential (causes like: structural differences). All these causes are still perceived as symptoms of a much serious problem, namely the lack of competitive pressure.

Competition leads to efficiency growth, considering that the best performing entities are the ones that innovate, extend their market share and create new jobs. This dynamic lacks to the European economies, the main reason being the excessive regulation that leads to the limitation of the new entries in the market, impeding the economic entities to achieve economies of scale and to operate in optimum economic conditions.

Competition is not a purpose in itself. It is rather a mean of organizing the economic activity in order to achieve a goal. The economic role of competition is to discipline the different participants to the economic activity in order to provide quality goods and services at low costs. The general tendency in economics has always been to consider competition as the opposite of monopoly.

Competition is an important mean of achieving economic efficiency and benefits to consumers, and these benefits are not automatic. If introducing competition has transaction costs that are high, they may outweigh the benefits. In addition, the economic benefits may be shared unequally by the society. But, economists worry more about efficiency than equity.

Still, equity should be considered by policy makers to make efficient policy acceptable from a political point of view.

The performance of economic entities, no matter how it is measured, is of a complex nature and presents different aspects or dimensions. Therefore, performance in business has numerous dimensions, specifying the fact that these reflect the different functions of firms and the various interconnections with the rest of the economy. The analysis of market performance necessitates, in the first place, identifying the determinants of market performance of an economic entity and the influence of their variation over performance, considering that it is intended not only to know, but also to explain it [2].

Observations, the common sense and the formal theories suggest that there are two main types of performance determinants:

- The organization or structure of an industry (or group of competitive entities). The market structure imposes limits and channels the activities and result of each entity. Variations in the structure can determine variations in performance.
- The behavior of each entity in the market, which represents: policies, practices, plans that are used to adapt at the market conditions.

Within the framework of industrial economy, microeconomic analysis tools have been incorporated in the structure – behavior – performance triad (S-B-P), developed for the first time by E. S. Mason in 1939 at Harvard University and, later on, by his student J. S. Bain in the 50'-60's. [3]

The paradigm of industrial economy underlines the connections between the market structure and the firms' behavior in determining the market performance. In its most simple form, the paradigm suggests that there is a causal connection, starting from the market structure in order to determine the behavior of firms and therefore the performance of the industry.

The performance of an industry or market is indicated by factors such as profitability, efficiency or growth. Performance is supposed to be depending on the behavior of each entity as part of the market, and the behavior determines other factors such as: pricing, development and promotion of the product, etc. In all these areas of activity there must be taken into consideration the objectives of each entity, the degree of collusion or competition between the entities and other aspects of the business practice.

The market behavior depends, in exchange, on the market structure, which includes elements like: the degree of concentration at the level of a small number of firms, the degree of diversification of the product and the entry barriers for the new competitors.

Is regulation necessary? Of course it is! Market economies are not able to work without some rules, from the one that protect innovation to the antitrust legislation which looks to enforce fair competition. Regulation however is not that easy to do so that it can be beneficial to the general economic environment. Regulations should be sufficient for its protective role, but not that complicated and stiff to impend innovation and progress. In general, regulation should have as objectives: equal conditions for all competitors in the market; consumers' protection; environment protection.

There are some criteria [4] that should be taken into account in any regulatory process, like:

- *Regulation should be transparent.* The regulatory body should understand not only the way competition is influencing different opinions and interests, but also the social and political consequences.
- *Regulation should be dynamic.* Rules and standards should be changed to reflect the business environment changes.
- *The winners should be designated by the market not by rules and laws.* Regulation should create fair competitive conditions to everybody.
- *All participants should be subject to the same rules.* Nobody should be favored in the detriment of the other players.

Enabling regulations that encourage more than hinder competition and economic growth is more difficult when the economic environment is subject to continuous and rapid technological changes, increasing the economic uncertainties. Regulation becomes more complex and therefore needs to be managed professionally.

The main conclusion of MGI's studies on this theme is that a weak regulatory process (either too severe or too relaxed rules) represents the main factor of limited economic growth in the world. In many situations, regulation has a negative effect.

Looking to Europe, our current regulation protects society in the detriment of competition, which in the end turns against the interest of consumers. Protecting society as a whole can be made also without hindering efficiency and economic growth. Economic progress depends on increased efficiency, which in turn depends on a competition undistorted through excessive regulation. Even if governments are not restricting competition by intend it will have as effect the impossibility of efficient entities to eliminate the inefficient ones, and in this way the economic growth is declining.

One can explain why some countries are rich and others are poor through the differences in productivities and GDPs. Few decades ago, US, Japan and Western Europe were considered to be convergent from the point of view of technologies, capital flows, business practices. Still, there are significant differences between these economies.

And the answer is not in the differences in capital markets or labor markets, but in the nature of competition. Competition is the mechanism that helps companies, institutions and markets to become more productive and efficient. In this way, consumers and investors are the ones to benefit.

Excessive protection handicaps the European economic system, leaving it without sensors and instruments to face the challenging global economic environment, in which competition between companies, institutions, markets, countries, and regions becomes stronger. Europe can progress without abandoning its social values. Still, many regulations settled to protect these values, are hindering the European abilities to face competition on global markets.

Therefore, taking into account the economic theories that link the degree of competition to economic performance, as well as the empirical evidence that was reflected in many studies made at global level, we can consider that the key factor in reforming the European economy is represented by the stimulation of a competitive behavior.

3. Competition and regulation in the EU energy market – a security issue

Security of energy supply is of concern, as the modern society depends on energy and there is a lack of alternative sources. From supply interruptions to persistent high and fluctuating prices, energy insecurity has various symptoms. Thinking about energy security is equivalent to managing risks.

The first oil shock brought a new responsibility to governments: providing secure energy supplies to consumers. The energy industries were at that time either owned largely by the states or were regulated as monopolies.

Economic theory predicts that monopolies will restrict output and increase price in an attempt of profit maximization. In practice, due to the fear of energy insecurity, governments made sure that investment and output were not restricted but maintained at high levels.

The late 1980s brought less attention to the energy security issue, due to the fact that the world fossil fuel market was slack and there was substantial surplus capacity in the electricity and gas supply industries, so the energy market liberalization gathered pace.

But the end of the 1990s focused again the attention on security of supply. At the turn of the 21st century, the question is not about governments handling the security problem, but about whether markets are in a position to provide adequate security and the means to manage the associate risks.

Of course, no energy system is totally secure. In theory the optimal level of security is at a point where consumers' valuation of extra security is just offset by the costs of providing it. In practice is difficult to find this optimum, so government policy aims to keep security level within a zone of adequacy. Such a policy objective does not necessarily imply government intervention. Competitive markets are able to deliver adequate security levels. But also in the market system, failures may occur. Market or political failures may prevent markets from achieving the security objective.

There are different possible market failures, like: public good characteristic of energy security, lack of relevant information in competitive markets. But there are also potentially serious political failures: impact of environmental policy on investment incentives, the impact of emissions control on operating flexibility of plants. Market players are able to anticipate such failures and to plan to compensate for them, but this can imply more costs for a given level of security.

There are significant discussions around the central role the government should play in providing adequate levels of energy security, arguing that there are imminent threats and governments have to restore the levels of security, disguising in reality the lobby on behalf of special interest groups. [5]

When discussing about energy security, there are two types of beliefs:

- The achievement of greater diversity in the fuel sources is a priority (coal, natural gas, renewable, nuclear power); but diversity should apply also in other areas not only fuel sources: number of competing firms in the market, supply routes of fuel, technologies.
- Energy imports reduce security and should be minimised. But by definition imports increase the diversity of sources, which enhances security and reduces costs (you don't import at higher costs but at lower).

Securing new supplies of fossil fuels is difficult and presents geopolitical risks. New technologies associated with alternative sources of energy involve significant levels of uncertainties. The prospect of decreasing energy demand brings fear with respect to consumers' comfort.

Research developed by McKinsey Institute [6] shows that the growth of worldwide energy demand can be cut in half or more over the next 15 years without affecting the benefits to the end user. The solution is a concerted global effort to increase energy productivity (amount of output achieved per each unit of energy consumed). But market forces alone can not produce these outcomes due to information gaps, market-distorting subsidies, and inadequate financing infrastructure. To overcome these barriers, policy makers should make the price and use of

energy more transparent, create new market-clearing and financing mechanisms, and selectively implement demand-side energy policies, while also encouraging demand-side innovation by companies.

The mentioned research identified four sectors that account for 98% of the end-use demand for energy at the global level:

- residential buildings: this sector accounts for 25% of the total end-use demand and represents the largest opportunity to raise energy productivity (by 21% in 2020) by adopting the available technologies like high-efficient buildings shells, compact fluorescent lighting, high-efficient water heating.
- commercial buildings: accounts for 10% of global end-use demand; the biggest opportunities for this sector arise from improving the insulation of buildings and use of energy-efficient large appliances.
- road transport: represents 16% of global energy demand and 46% of global demand for petroleum products, and
- industry: uses energy more than any other sector (47%); this sector is very heterogeneous having highly energy-intensive industries like steel, chemicals, aluminium; also here significant technological opportunities exist to increase efficiency.

What can governments do in all these sectors?

Sector	Barrier to increased energy productivity	Policy to overcome barrier
Residential/commercial	Lack of information; principal-agent problems	Incentive programs; information policies; standards
Transport	Consumers reluctant to pay today for future fuel savings	Fuel-economy standards; fuel taxes
Industrial	Lack of incentives or information	Information and incentive programs

Undoubtedly there are many security risks. The task of liberalised energy markets is to manage these risks effective and efficient. Only where market or political failure exist that will impede an effective management is there a case for state intervention. And the best intervention is removing the barrier rather than direct action in the market. Markets are generally well informed and powerful enough to provide adequate security levels.

4. Liberalization of the energy market

Liberalisation of energy markets is a long process. One of the overall aims of liberalization is to increase efficiency through the pressure of competition. Greater efficiency leads to lower costs and prices, which is improving competitiveness – crucial for companies that are competing in a more global market.

As liberalization and the introduction of competition becomes more widespread across Europe this should lead to further efficiency gains, cost reductions and the potential for lower prices. A completely open European market will allow all consumers to benefit from the cheapest available sources of energy and will drive companies' costs down.

The current situation is not satisfactory, despite the significant progress realized. The level of competition between Member States, but also across borders, is not enough to ensure competitive prices. Energy markets are still largely national.

The current regulatory framework should be improved and implemented to create enough competition in the EU energy market. There is a regulatory gap between the competences of national regulatory agencies and the need to coordinate regulation at the European Union's level. Building an EU market by integrating well functioning regional markets is a priority.

In the same view, at the beginning of September 2007, the European Commission was proposing a large reform of the energy market. The aim of the reform is to eliminate the dominant positions of large European groups that act in the electricity and gas market, like are the giants E.ON and Electricite de France. Energy companies will be forced to sell or transfer their transmission networks towards an independent operator. The European officials consider that these measures will increase the investments in the infrastructure and will encourage the access of new operators.

As the President of the European Commission, Jose Manuel Barroso, is saying: "We need a common European response to combat climate change, to achieve greater energy security and provide abundant energy at a fair price for citizens... This is only possible if we have a competitive gas and electricity market." [7]

The European officials also focus on the energy companies outside EU, trying to limit their influence in the market. In the same time, they want to eliminate the energy monopolies in Europe in order to increase competition, and to determine the price reduction.

The new regulatory package is considering also the creation of pan-European energy regulators. There is for the first time announced a solidarity clause which recommends supporting any member state that has energy reserves threatened.

The liberalization of the European energy market is forbidding the providers of electricity and gas to ensure also the distribution. But this may be risky for the European Union that can become vulnerable in front of other countries that use energy as a political weapon.

In addition, EU has no legal instruments to not allow foreign companies to acquire a significant part of the European energy infrastructure. For instance, Gazprom is the only provider of energy in 5 EU member states. The expansion of Gazprom (Gazprom provides 25% of the Europe's gas) in Europe will be difficult to impede, especially now when Europe announces the liberalization of the energy market. This allowed Gazprom to sign contracts with companies from Germany, France, Italy and East European countries. In countries like Russia and Algeria (the most important gas providers of Europe) the extraction and transport of gas is controlled by state owned companies: Gazprom in Russia, Sonatrach in Algeria.

The European energy market is theoretically free and subject to competition since July 1st, 2007 (according to the new EU electricity and gas directives from 2002). Practical, in many countries, consumers can not choose their provider. So, the new legal package promises to diversify the choice, but there can be no guarantees that prices will drop.

The process of liberalization of the energy market can bring concerns about the social and environmental aspects of the transformation. A competitive market can bring wider social benefits while existing in a right regulatory framework.

The experience of UK in this respect is important for everyone, while UK is being seen as the forefront of a world wide movement towards liberalisation. Learning from UK experience can reduce the timescale for introducing a competitive market (in UK it took 10 to 15 years). Liberalization brings important benefits for consumers by offering them choice and a greater responsiveness to consumer needs. But the process is not without social costs and concerns.

The main areas of concern can be presented like:

- fear about the loss of "public service": the supply of energy is considered a public service, and through privatizing the suppliers, there is a fear that the quality of service is affected. But we can say that competition means that the suppliers should pay attention and respond to consumers' needs. In addition if the framework for regulation is properly designed, the quality of service should not be affected, by contrary should improve.
- helping the poor: being considered a public service, it is also considered that poor people are subsidized by the state. Even after privatizing the energy suppliers, the lower prices and the innovation in new tariffs is in the benefit of poor consumers. In addition, government should specifically address the social issues. Even if the poor sector of consumers is less attractive in a competitive market, the government should make sure benefits are shared also by the poor.

- job losses: competition pressures can affect employment. Government implication through social programmes and fair policies is again a must.

A strong framework for regulation is essential in order to benefit from a more efficient, innovative industry. The benefits may include lower prices, technological advances and international competitiveness for companies.

5. Liberalization and regulation in Central and Eastern Europe

Central and Eastern Europe have to play a major role in the EU energy market. These countries have to develop an appropriate regulatory framework, integrated with the EU policies. In this respect, completion with the requirements of the EU directives for electricity and gas and creation of the foundation for market development based on market-driven criteria and competition are a must. The objective should be: as much market as possible, as little regulation as necessary. This concerns especially the introduction of market prices.

In the view of opening the energy market, one important aspect is to establish the rules on how prices should be calculated. In the open market, consumer prices will be determined by competition. To be successful in such competitive environment, the energy companies have to improve their efficiency, and the regulatory framework should already anticipate this development.

For instance, for Romania, in order to accede to EU, there were requirements related to introducing a free and competitive energy market. The aim was to realize in 2007 an energy market based on bilateral contracts and self programming of producers, together with a voluntary energy exchange (the day-ahead market, PZU) and a balancing market (PE). The objective was implemented since July 2005, this market structure being similar to those from Scandinavia, UK, and the majority of continental Europe. The degree of market openness was planned to become 100% in July 2007 from a planned degree of 83% in 2005. The real opening degree in July 2007 reached only 52%, according to ANRE, the National Regulatory Energy Agency.

Looking to the Romanian energy market, the SWOT analysis illustrates the followings:

Strengths

- Legal framework of a liberalized market
- Presence of all institutions and mechanisms that one European country needs
- The only market in the region having an operational PZU and PE

Weaknesses

- Mandatory to have a supplying license
- Generation companies still state-owned

- Lack of competition between the generation companies due to the differences in generation costs
- Not enough liquidity

Opportunities

- The largest energy market in the region

Threats

- High political influence to protect the end-users

Besides the achievements presented, the energy strategy approved by the Romanian Government on September 5th, 2007 is contrary to the European energy reform discussed in Bruxelles in the same time. The Romanian strategy is considering the creation of a national energy company that will bring together the producers from hydro, thermo and nuclear energy and also the three state-owned distribution networks, while the European reform refers to the separation of producers and distributors.

Before putting in place such strategies, the Romanian authorities should look more carefully on the European energy reform, and coordinate its own strategies to these ones, to ensure a coherent and competitive environment in the energy sector.

6. Conclusion

It is possible that full competition avoids problems common to partial deregulation. If a market is split between competition and monopoly, firms that serve both segments will tend to load costs onto the monopolistic one. Moving to full competition avoids the regulatory problem of trying to eliminate such cross-subsidies.

Competition is in general preferable to monopoly, but not all consumers will benefit from introducing competition.

References

- [1] M. Baily, D. Farrell, A road map for European economic reform, *The McKinsey Quarterly*, No.4, 2005.
- [2] J. S. Bain, *Industrial Organization* (John Wiley & Sons, Inc., 1968).
- [3] R. Clarke, *Industrial Economics* (Basil Blackwell Ltd., Oxford, 1987).
- [4] S. Beardsley, D. Farrell, Regulation that's good for competition, *The McKinsey Quarterly*, No.2, 2005
- [5] G. Shuttleworth, G. MacKerron, D. Hough, Security of Energy Supply, *Energy Regulation Brief*, NERA Economic Consulting, March 2003.
- [6] D. Farrell, S.S. Nyquist, M.C. Rogers, Curbing the growth of global energy demand, *The McKinsey Quarterly*, July 2007, web exclusive.
- [7] BBC News