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Geographical context of energy prices in the European Union Member States with special emphasis on the Slovak Republic

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Abstract. The issue of energy prices presents an extremely topical subject with a major impact on human society. Energy demand is constantly increasing and most regions of the world are facing serious difficulties in ensuring sufficient energy supplies. However, not only global events affect energy prices in the particular country. National energy markets are highly specific and some local factors may also prove significant. In our contribution we focus on the Slovak Republic and try to analyze the major political and economic factors affecting the final price of energy, particularly of gas and electricity. We pay attention to the period from the accession of the country to the European Union in 2004 until 2011 characterised by 'third liberalisation package' that is associated with a wide range of major changes. Largely monopolized energy market has been gradually opening up to competition and the countries with regulated prices have been facing the increasing pressure to let the free market decide. Progressive liberalisation of energy markets enables consumers to use the energy services offered by various private companies. This new element operating in the energy sector is largely reflected in final energy prices. Thus, the main goal of this study is to highlight the price disparities between different energy commodities in European Union member states since we are at present witnesses to of significant regional disparities in energy prices. We try to analyze current energy prices with respect to GDP (regarding purchasing power parity as well) to ensure that resulting comparison would reflect the financial potential of the population. Demonstrating the effects of the economic crisis on energy prices in different countries will be another important aspect of this contribution.

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1. Introduction

An effectively functioning energy market with reliable and safe energy is an essential predisposition to the success of any economy. Ensuring adequate energy supplies for both the industry and population is becoming an increasingly important element of the state policy and transnational integration groupings, including Slovakia and the EU as well. In addition to ensuring the necessary amount of energy, the price of energy for the end user is another key aspect of a well-functioning economy. Pricing is a highly sensitive issue since it is related to household and industrial consumers as well. Currently, energy costs have become a critical element in the management of various entities significantly affecting their living standards and prosperity.

Like in many other countries, the issue of energy prices ranks as extremely topical issue in Slovakia as well. Globalisation has hit the Slovak economy in full strength and exposed it to high pressure coming from the worldwide market. Countries have to deal with a number of major events that have a significant impact particularly on open and vulnerable economies – the global economic and financial crisis, the Russian-Ukrainian gas dispute, the war in Iraq and huge increases in oil prices, nuclear accident in Fukushima and so on.

In case of the Slovak Republic, the accession of the country to the EU is a very important point, which is associated with a vast range of significant changes, particularly related to the introduction of different types of liberalisation measures. Largely monopolized energy market has been gradually opening up to competition and countries with regulated prices face the increasing pressure to let the free market decide. Thus, proceeding liberalisation of energy markets enables consumers of energy services to choose from proposals offered by various private companies.

The main ambition of this contribution is to highlight the price differences between distinct energy commodities in the Slovak Republic not just at the state but also the international level. We consider liberalisation as a key process under study in this context. We operate with the hypothesis that expansion of the competition in the energy market has a significant impact on electricity and gas prices. In spite of unification effort, national energy markets are still trying to remain highly specific and also some local factors might prove significant. Liberalisation processes can also lead to a state in which the globalisation trend will result in strong

regional disparities in energy prices as a response to the emergence of various regional players in the field of energy. From a geographical point of view, we assume that energy prices would largely correspond to the economic situation in a given country and thus reflect the purchasing power of population living there. In this paper, we shall examine two major energy commodities (electricity, gas). We will focus primarily on pricing, market operation, the number of suppliers and price differences in Slovakia regarding the EU context at the same time.

1.1. Theoretical background – models of liberalisation of energy systems

In 2005, The European Commission conducted an in-depth survey of the energy sector and concluded that there are five major deficiencies that cause malfunction of the electricity and gas markets (European Commission, 2013): (a) insufficient unbundling of vertically integrated companies and the lack of independence by the keeper of transmission and distribution network; (b) different powers of national regulators in EU; (c) lack of transparency; (d) lack of cooperation between transmission and distribution networks; (e) high concentration in the market.

For these points, process of 'unbundling' is crucial for the liberalisation – it means forced unbundling of energy production and transmission (electricity and gas) concerning the ownership (van Koten, Ortmann, 2007). Both theory and facts indicate that due to limited competition, the existing power companies (generally referred to as the vertically integrated companies – VIF) are capable of increasing their profitability through combined ownership of production and distribution networks. Therefore, The European Commission introduced the 'Third legislative package' after prolonged efforts in 2007 to liberalise the European energy market. Its proposal sparked the biggest debate just in terms of unbundling. Because it is generally believed that limiting the competition reduces welfare, the EU requires separation of VIF networks on the basis of those measures. For vertically integrated energy giants it would mean that they have to sell their shares in transmission networks (Röller et al., 2007).

In some countries, unbundling did not elicit the positive reactions. France and six other member countries, including Slovakia, opposed it. In February 2008, they submitted an alternative proposal, which should yield the same results (better services, lower prices for consumers) without the necessity to smash the big companies. Eventually, The European Parliament gave up the requirement that the full 'ownership unbundling' must be the only alternative for liberalisation (European Commission, 2013). Thus, businesses are now able to decide for one of two options (incomplete and complete separation) which allow them to retain ownership over the energy production and its transmission as well. However, the management of transmission networks is either to be relegated to Independent System Operator (ISO) or to be subject to the rules that will make these two segments of the market work separately. Therefore, we can conclude that the third energy reform (Third liberalisation package) is mainly related to the deepening of the unbundling on the basis of three standard models (Pielow et al., 2009): (a) Ownership Unbundling (OU) – the same natural or legal person must not hold or control the transport, as well as the supply of electricity/gas; (b) Independent System Operator (ISO) – works as company unbundled in ownership operating the distribution or transfer of property owned by another company. A stricter regulation and permanent monitoring are applied. The Regulatory Office issues approval to investment planning; (c) Independent Transmission Operator (ITO) – the legal department of transport separated from other activities. The system operator must be provided with independent human resources, technical and financial resources to fulfil its duties. ITO is responsible for normal operation, maintenance and investment, not the parent company. The regulation body authorises the person (compliance officer) responsible for ensuring the compliance, who reports on compliance with the rules for ITO. Regulation and monitoring are even stricter.

Many experts (Pielow et al., 2009) as well as part of the public say that the laws are not strong enough to be able to sufficiently limit the power of energy giants, or to create space for real competition. They warn that the EU will need to discuss the 'Fourth liberalisation package' in a few years. The harshest criticism comes from the environmental move-

ments and 'green' MEPs who believe that in light of the new series of 'super mergers' in the European energy sector, it is clear that the 'new package of legislation is not strong enough to restrict almost gangster domination of energy oligopolies in the sector' (Vošta et al., 2008).

As the Commission declares, legal unbundling is inconvenient due to several reasons. One of these causes is related to the network access. It was mentioned that elementary conflict of interests is not sorted out yet through the legal unbundling which comes when large integrated groups cooperate with businesses that demand access to their own networks such as storage facilities, gas pipelines, etc. Another problem concerns information flows, since network managers working for an integrated company will be hired to release ticklish information on the pipeline or storage of gas firstly to either the supply branch or the generation, rather than to competitors. And eventually, present operators have a genuine interest in restricting investments concerning the new network capacity if it lures a new competition to their domestic market.

Ownership unbundling has been considered by many reasons affecting third energy liberalisation package. It is commonly known that ownership unbundling is more profitable and will apparently refine the energy market internally. As a legal need, the authority should therefore accept its arrival since it reduces expenses and improves effective management as well. Ownership unbundling boosts competition; it also supports cohesion in utilisation of existing networks and restricts the transmission boundaries. At the same time, it is discussed that unbundling does not constitute a cure-all (Cottier et al., 2010).

Although it is considered the recommended policy applicable for the energy markets, it cannot operate on its own with efficiency. Another topical issue is whether ownership unbundling will lead to refining network investments indeed. The academic sphere has warned that there is no evidence ensuring success, and thus it is not simply to recognise the assets following from the network of ownership unbundling. Moreover, there is a serious concern that ownership unbundling will put the supply company into weaker bargaining position, face to face suppliers of external energy sources who rule the market.

1.2. Competitiveness of energy markets in the EU

We would like to highlight the current state of liberalisation concerning the energy sector in the EU member states. We are aware that our approach is not exhaustive, but its aim is at least to briefly connect the theoretical basis with the topical state in the field of competitiveness. According to several authors, the EU Member states can be divided into five groups (Röller et al., 2007).

The first group consists of Austria, the Czech Republic, Denmark, Luxembourg, the Netherlands and the United Kingdom, having a relatively high score in competitiveness. In the case of the UK it can be said that it has the most liberalised energy market and as the only EU country has the most stringent model of unbundling (OU) fully adopted. However, the UK has worse energy network connection to the rest of the Europe, whereby the country is not exposed to foreign competition so significantly. In the second group of states, Estonia, France, Greece, Germany and Poland are gathered, having a lower level of domestic and foreign competition. On the other hand, they are relatively well-off in energy supplies. Germany has the energy market strongly (vertically and horizontally) intertwined. In France, the market is dominated by energy companies EDF and GDF – both of them are also vertically integrated. The third group is made up of the Nordic countries – Finland, Latvia and Sweden, having a relatively satisfactory results concerning competitiveness, which adopted measures that fully meet the Kyoto commitments. The fourth group of EU member states consists of Hungary, Italy, Lithuania, Portugal, Slovakia and Slovenia, reaching average values. The last group of countries includes Belgium, Spain and Ireland, achieving below-average values of the indicator. Belgian energy market remains dominated by a few companies. Addition rate of investment into the new electricity capacities is very weak there. In the case of Spain, there is an insufficient connection to neighbouring Portugal.

This comparison shows a clear heterogeneity within the EU. Status and predisposition (e.g. spatial location, availability of renewable resources) for the implementation of objectives concerning the en-

ergy policy in the member states vary considerably. All differences may become the critical exogenous factors for the formation of a specific energy policy, particularly in the process of coalition formation and the final version of European legislation as well.

2. Electricity

2.1. The liberalisation of electricity trade

There is a real revolution in electricity trading in Slovakia. What the mobile operators and alternative providers of telecommunications services brought to the telecommunications market a few years ago gradually comes to the electricity market as well. Competition is growing and especially larger companies have been negotiating hard with different suppliers of electricity for several years. Increasingly, this involves the households, too. A fall in electricity prices in the spot market experienced at the time of the global crisis was the most contributing factor to this situation (Oberndorfer, 2011).

In 2007, an intensive liberalisation of the electricity market began in Slovakia. In accordance with European Union legislation, all traditional monopolies (ZSE, SSE, VSE) had to be divided into electricity supplier and distributor of electricity. This division process is called in English 'unbundling'. The supplier is one who sells electricity to the final customers. The distributor is the one who provides 'transportation' of electricity from the producer to the end customer. Other important changes occurred in 2011, when all EU countries began to apply so-called third liberalisation package. Among other things, it allowed a very fast and flexible switching of electricity supplier to end customers – households.

However, the newly established distributors have remained monopoly electricity distributor in their delimited territory. Therefore, if the end customer obtaining electricity from the above-mentioned distributors decides to change supplier, electricity will be still distributed to him by the same distributor. It can be very simply explained by the fact that it is not profitable for anyone to invest the money to build a new distribution network – all such costs would be eventually paid by end customer through the higher price of electricity. Due to legislative changes, alternative electricity suppliers were added to the traditional suppliers of electricity in Slovakia. A competitive fight took place among all these electricity suppliers, which brought profit to the end user of electricity – the end customer can negotiate a better (lower) price for energy. Electricity has become goods, the final price of which is starting to be affected by the customer choosing supplier with the lowest price of electricity. On alternative supplier, we will give more detail in a separate section.

2.2. Electricity prices

The rules governing the electricity market in Slovakia are in accordance with the EU standards on functioning of the electricity market. Nevertheless, state maintains control over prices of electricity (and also gas) for end users in many EU countries. In most cases, this is the result of efforts to shield household and industry from violent fluctuations in prices, since electricity is a strategic commodity for the operation of the economy and the quality of life as well. Price of electricity in Slovakia is monitored and regulated by the Regulatory Office for Network Industries (ÚRSO). It is important to note that the maximum final prices of individual components of electricity prices for households are regulated by this office. Each alternative supplier of electricity for households in Slovakia must have a maximum final price of electricity approved by this authority. In the near future, the cancellation of this regulation is expected.

Despite some degree of regulation, prices are being determined in the greatest extent by market. In a liberalised market, customers may affect the unregulated part of the final electricity price by the choice of their supplier. In particular, prices in Slovakia are highly dependent on prices on international markets, especially on the stock exchange in Leipzig. The Slovak price with a small surcharge actually follows the stock price forming there. In turn, price of electricity on the stock exchange usually moves very much like the price of oil. If the oil price is going up, the price of electricity is also increasing, and vice versa. In general, there is a very close relationship between the price of oil on the world market and the price of electricity in Slovakia. Therefore, the development of electricity pric-

es is linked to the uncertainty and price risk. Prices may grow rapidly, for example, in the first half of 2008. But they can also fall sharply, as in the second half of 2008. Exceptions are constituted by the prices which are not determined by market, but are regulated, as electricity for households and small businesses (with annual consumption up to 30 MWh) in Slovakia in 2010, where the price was administratively fixed by the regulator (ÚRSO). Other components of prices are set by the state. The level of excise tax is established by the National Council of the Slovak Republic, however the minimum rates are given by the EU rules (ÚRSO, 2011a).

If a customer considers the switching of electricity supplier due to dissatisfaction with the height of final electricity price, it is enough to compare the price of electricity supply. Other components of price are determined as fixed prices by ÚRSO and are not the subject of market competition. The price coming from supplier is the only item that the customer can influence (ÚRSO, 2011a). State regulation is very often a subject of strong criticism from the side of electricity providers and many international institutions. In this case, several courts in a row marked state regulation as illegal. Whether the state will pay for this sin is still pending. However, the market should fully take over the role of the regulator in the future.

In addition to oil prices and the impact of regulation, the electricity price is influenced by many other factors. For example, the economic and financial crisis caused both a sharp decline in consumption of electricity and a decrease in electricity prices on energy stock exchanges at the turn of 2008/2009 (Pointvogl, 2009). In Slovakia, the shutdown of 1st and 2nd blocks of the nuclear power plant (NPP) in Jaslovské Bohunice had a significant impact on retail electricity prices at the end of 2006 and 2008. However, this event showed significantly in the segment of industrial customers only. During the mentioned period, the end prices for households were subject to strengthening regulation caused by distribution of power in the domestic political scene then. After completion of the 3rd and 4th reactor in Mochovce NPP, we can expect some pressure on reduction of electricity prices, since the security of electricity supply would substantially increase in Slovakia and the country's export potential on the electricity market would be partially restored.

Currently, the market is struggling with the expansion of renewable energy resources in Europe with an impact on the functionality of the power system, but also on the final price of electricity (Greenfield, Kwoka, 2011).

In this case, we can observe that the mutual globalisation of electricity markets also has its drawbacks. The situation in Slovakia is negatively affected by wind and solar power plants located in northern Germany, which increased the production of electricity due to the decommissioning of some nuclear power plants after the disaster in Japan. Given that between northern and southern parts of Germany, where they have shut down nuclear power plants, there are not enough lines and transmission capacity needed for extreme cases of high wind power plant production, electricity produced from renewable sources flows parallel through the neighbouring system of the Czech Republic and Slovakia, too. To avoid the so-called blackout situation potentially caused by unplanned loop flow from Germany, transmission system operator of Slovak electricity transmission system (TSO SEPS) must seek optimal solutions to maintain the safety and reliability of the transmission system operation. In order to increase safety and security of the transmission system from unscheduled loop flows from Germany, TSO SEPS should consider investing in the development and protection of the transmission system. Provision of these measures requires increased need to regulate the transmission system (balancing electricity supply), which will adversely affect the price of electricity and can result in growth of the end electricity price in the future (ÚRSO, 2012).

Fig. 1 shows the evolution of electricity prices in Slovakia after joining EU in 2004. We can observe differentiated development of prices for industrial consumers, which is characterized by large fluctuations during the period under study. This is mainly due to frequent changes in the consumption of industrial enterprises, which can vary in particular years dramatically. On the other hand, the price level for the households is constant and stable since the electricity consumption shows no major changes. However, the development of electricity prices in both segments has offset and run almost parallel with minimal differences since 2010. The question is whether the turbulence in the evolution of prices within the period of 2006–2010 was in addition to

the global crisis also associated with the current political situation in Slovakia. In this period, the government tried to exert some pressure on privatised monopolies in order to prevent sharper increases in energy prices. The result was a decision that allows ÚRSO take into account purchasing power of the Slovak households when determining the price of gas, electricity and heat as well.

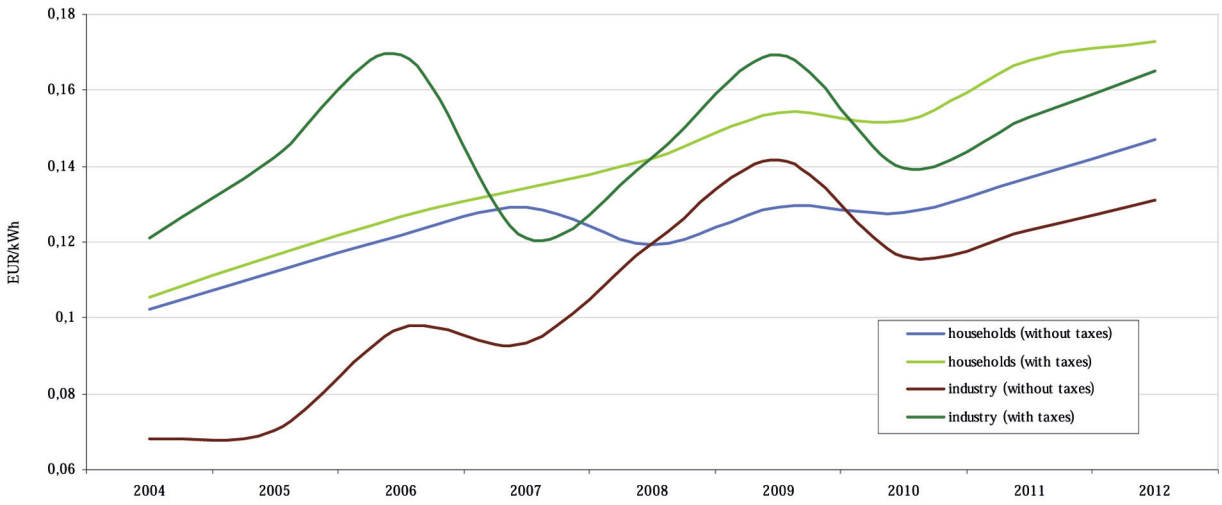

Fig. 1. Electricity prices for household and industrial consumers in SR (2004–2012)

Source: Own compilation on the basis of Eurostat database

However, we should keep in mind that the principle of electricity pricing is geographically located elsewhere than in Slovakia. Wholesale electricity prices, which are being traded on the Slovak market, derive from the price level on the Leipzig stock exchange. In practice this means that no matter what the actual cost of production to generate one megawatt hours of electricity in Slovakia is, the commodity is placed on market under conditions which oscillate around the German stock exchange. The existing link between the Czech and Slovak electricity market is also important; a unified Czechoslovakian market is de facto the neighbouring market of Germany. Thirdly, the German factors are passed through the border also due to a flow-based method that is used to determine the capacity for cross-border electricity transmission. Very simply, the practical consequence may be the situation where wind power plants on the northern coast of Germany deliver more energy into a network, increased costs concerning the system operation would affect the foreign participants on the market, although this electricity is traded on the German market.

2010 was the first comprehensive year when electricity production began to promote electricity from renewable energy resources and combined electricity and heat production in accordance with the law on their promotion. Most of the interannual increase in the amount of charges is connected with the solar power plants, which are typical of the highest feed-in tariffs among all types of renewable energy resources. Construction of facilities generating electricity with unstable power such as wind and solar power plants requires both the additional costs to regulate the power system and the construction cost concerning additional infrastructure. In 2010, ÚRSO often pointed out that the spontaneous increase in the number and capacity of photovoltaic sources may have a very negative impact on the final price of electricity (ÚRSO, 2011b).

2.3 Comparison of Slovak Republic and the EU in terms of electricity prices

In each country, the price for electricity paid by end users consists of several items, which may be dif-

ferently defined and may a have distinct division. Simply, each country solves problems on its own. In the EU, there is an excess of production capacity and states often solve their energy needs regardless of the surrounding area. It should be noted there are also two types of price in every market: wholesale and retail. Wholesale prices are traded among producers and suppliers of electricity. For instance, wholesale price of electricity fell by 17% in 2012 in Slovakia (URSÓ, 2012), but this does not mean a decrease in price for the final customer (retail prices) automatically. Wholesale price constitutes slightly less than half of the total electricity price. Other components depend mainly on the structure of fees and tariffs determined by the regulator. The development of the issue of renewable energy is to be vital in the final price of electricity as well. Therefore it is not easy to determine the actual structure of the final electricity prices in order to compare them with the structure of the end user prices in Slovakia. In addition to the basic components of price, consumers of electricity may be imposed by other charges, which distort the final price. The form of price lists is different from one electricity supplier to another. The distribution of prices by the different rates of electricity, regulated and unregulated part, surcharges, taxes or benefits are also included.

In the analysis of electricity prices in EU countries, we use a database of the European Statistical Office (European Commission, 2007, 2009, 2011). We will focus mainly on the households segment, but will not forget the industrial customers.

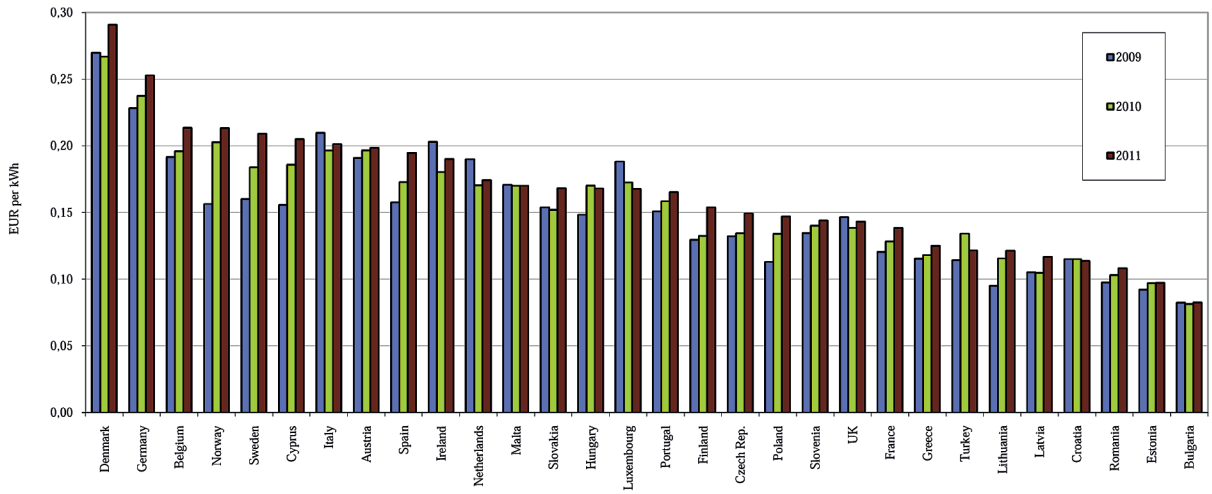

Fig. 2. Electricity prices for household consumers (in € per kWh)

Source: Own compilation on the basis of Eurostat database

In 2011 in the EU-27, the average price per kWh of electricity (for households) was at € 0.178 (Fig. 2). Compared to 2010, it means an increase of about 7%. For all three years (2009–2011), the most expensive electricity was observed in Denmark, followed by Germany and Belgium. On the other hand, the cheapest electricity for household was registered in Bulgaria. In Slovakia, the price of electricity is very near to EU-27 average and the country is approximately in the middle of the ranking. (The Slovak Republic is about 95% of average EU-27). However, Slovak households have the most expensive electricity among the Visegrad Four (V4) countries.

In terms of purchasing power parity comparison eliminating price level differences between countries, this statement is even more striking (Fig. 3, 4). While the average in EU-27 is € 16.76/100 kWh, Slovakia reaches more than € 22/100 kWh. Slovak households have to pay for electricity the second highest price in the EU just after Denmark, which occupies the first place. Conversely, households in Finland have the cheapest electricity (Fig. 3).

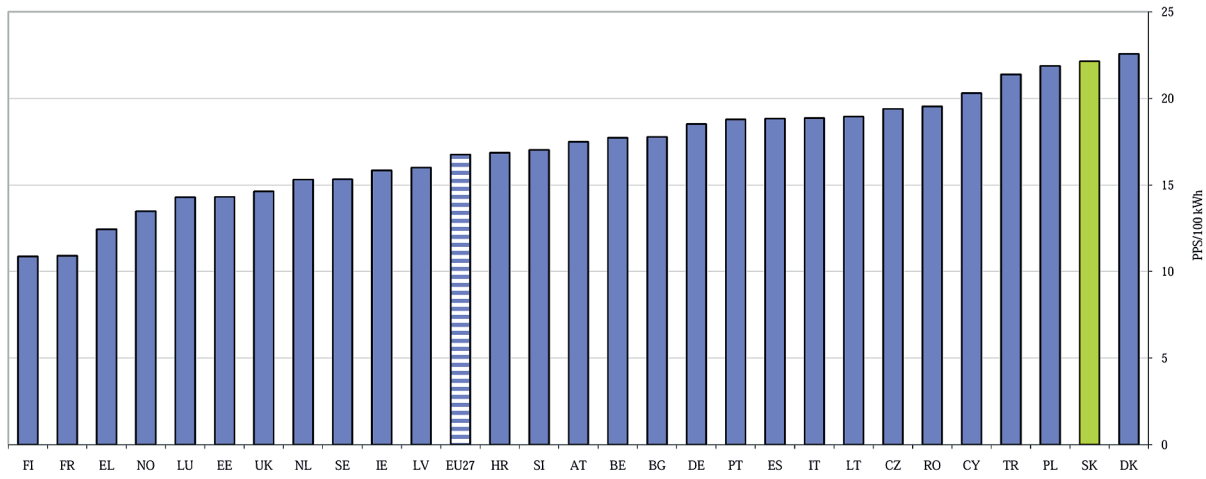

Fig. 3. Electricity prices in purchasing power standards (PPS) per 100 kWh for household consumers (all taxes included) in 2011

Source: Own compilation on the basis of Eurostat database

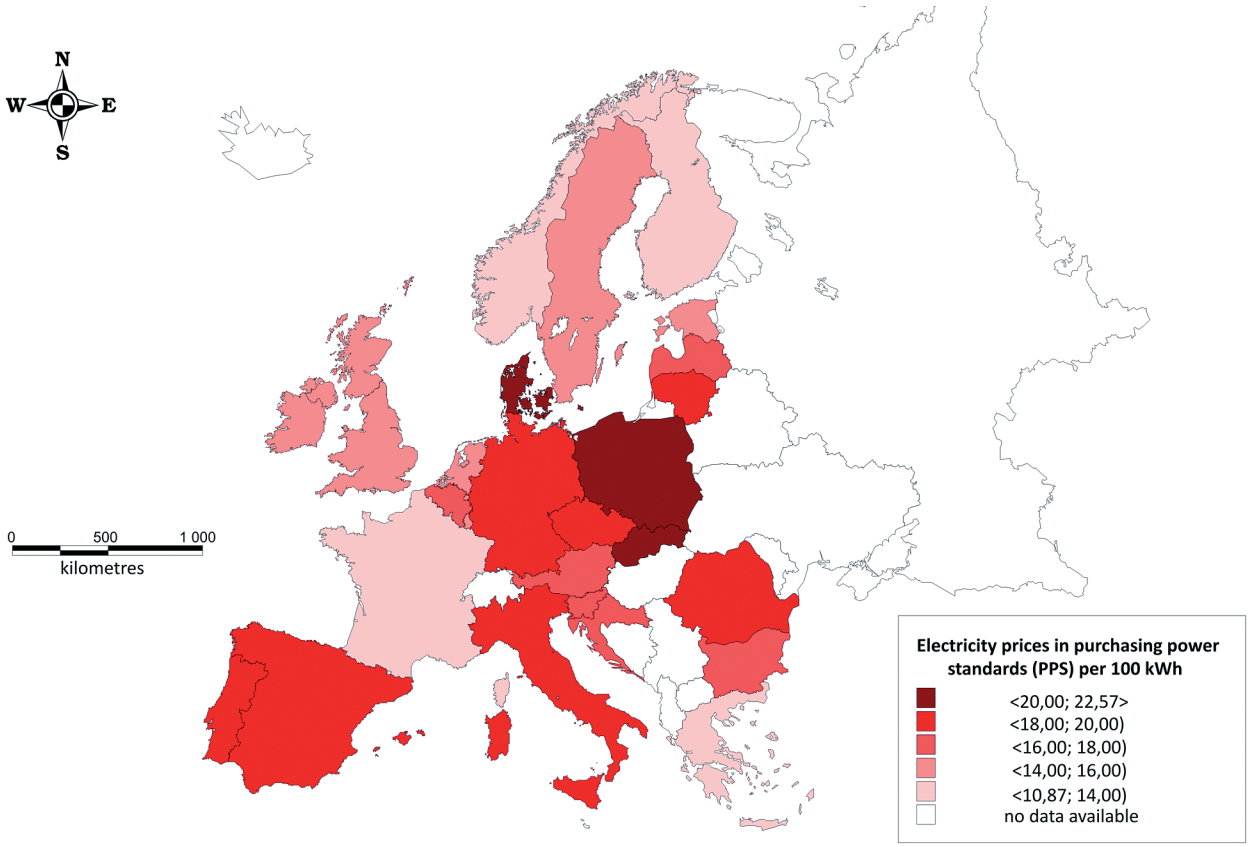

Fig. 4. Electricity prices in purchasing power standards (PPS) per 100 kWh for household consumers in selected countries of Europe in 2011 (all taxes included)

Source: Own compilation on the basis of Eurostat database

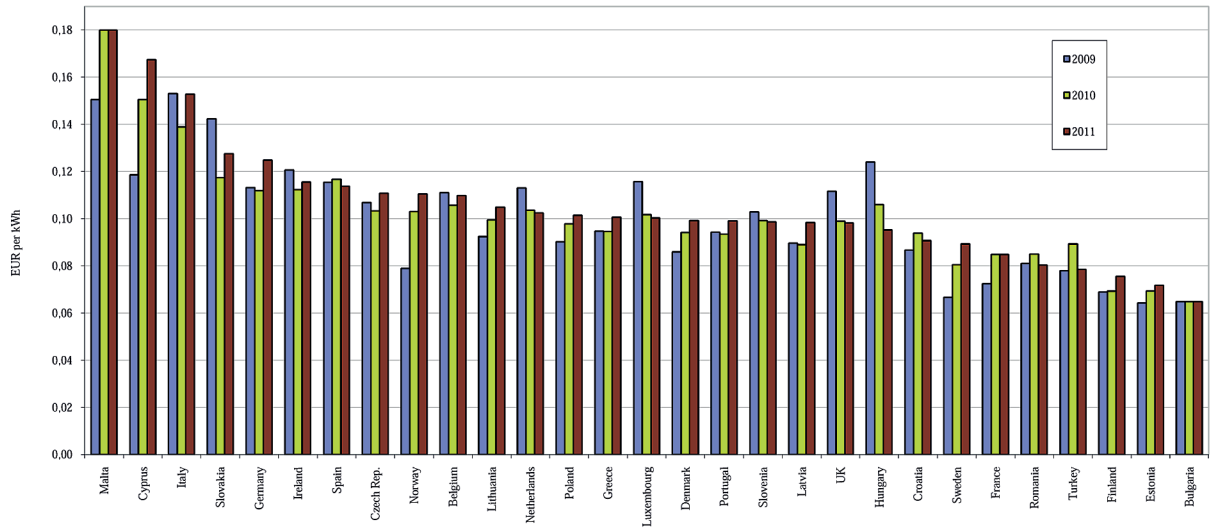

Fig. 5. Electricity prices for industrial consumers (in € per kWh)

Source: Own compilation on the basis of Eurostat database

As in the case of households, the cheapest industrial electricity was observed in Bulgaria. In 2010, we can observe a sharp decline in prices in most EU countries. World economic and financial crisis has very often resulted in dramatic decline in electricity consumption, especially for large industrial companies. In this segment, prices of electricity have recorded a considerable decline. In 2011, gradual catching up of the prices to levels before the onset of the economic crisis was expected. Several experts supposed that the electricity price on the world commodity market would rise sharply and remain high after a nuclear accident in Japan and the German government decision on the gradual decommissioning of nuclear power plants. However, this prediction was not confirmed and the market responded illogically (Oberndorfer, 2011). In the Slovak Republic, electricity price declined very slightly (Fig. 5). In the case of households, the decrease in electricity consumption was not so dramatic and a price drop occurred in a few countries only (Fig. 1, 2).

Electricity prices for industry (corporate consumers) in Slovakia are ranked among the highest within the EU. Club 500, which includes large companies in Slovakia, protested repeatedly against expensive electricity for industry. The highest price was recorded only in two small island countries (Malta, Cyprus) and Italy (Fig. 5). In 2011, the average price in the EU-27 was at €0.110/ kWh, which means that the current Slovak electricity prices for industrial customers is more than 15% above the EU-27 average.

We have mentioned that the price of electricity consists of several components. It is not easy to identify these components accurately, although a basic comparison can be made at least. It can be very interesting to see how the different countries show distinct charges or dissimilar level of value added tax on the final price of electricity (Fig. 6, 7). Within the EU-27, taxes and fees pose € 0.051/ kWh on average, which represents nearly 30% of final electricity prices charged to households. Denmark is at the top of the ranking, since this proportion is more than 56%. After deduction of fees and taxes, the base price of electricity in Denmark is one of the lowest in the EU. In Slovakia, these contributions reach the share of 18.43% that ranks us among the countries with relatively low tax burden in electricity prices. The best situation for households is observed in the UK, where the price of electricity is imposed only by minimum tax (4.75%).

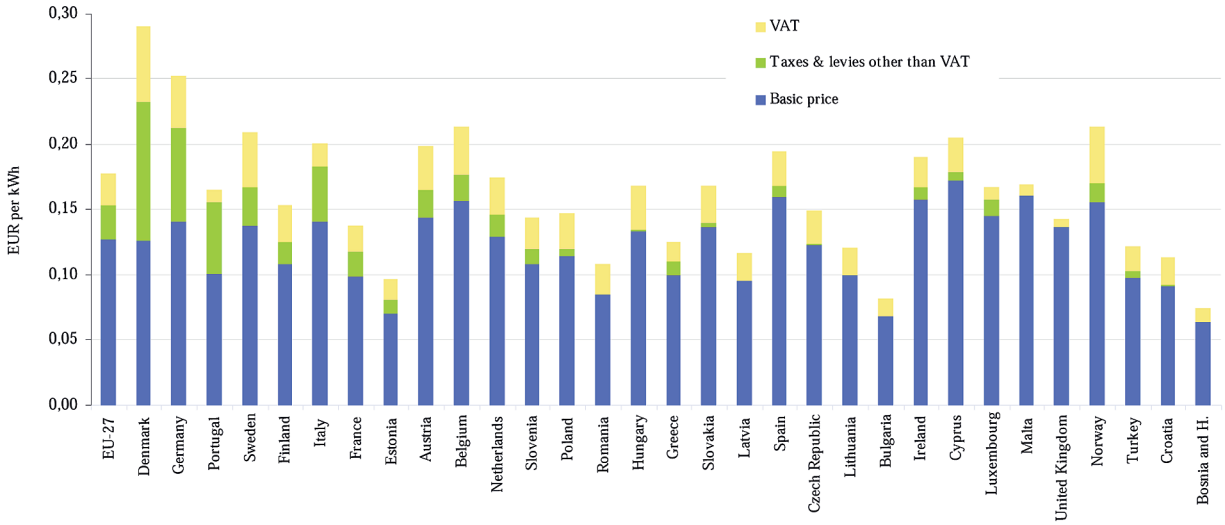

Fig. 6. Taxes and levies on electricity prices for household consumers in 2011

Source: Own compilation on the basis of Eurostat database

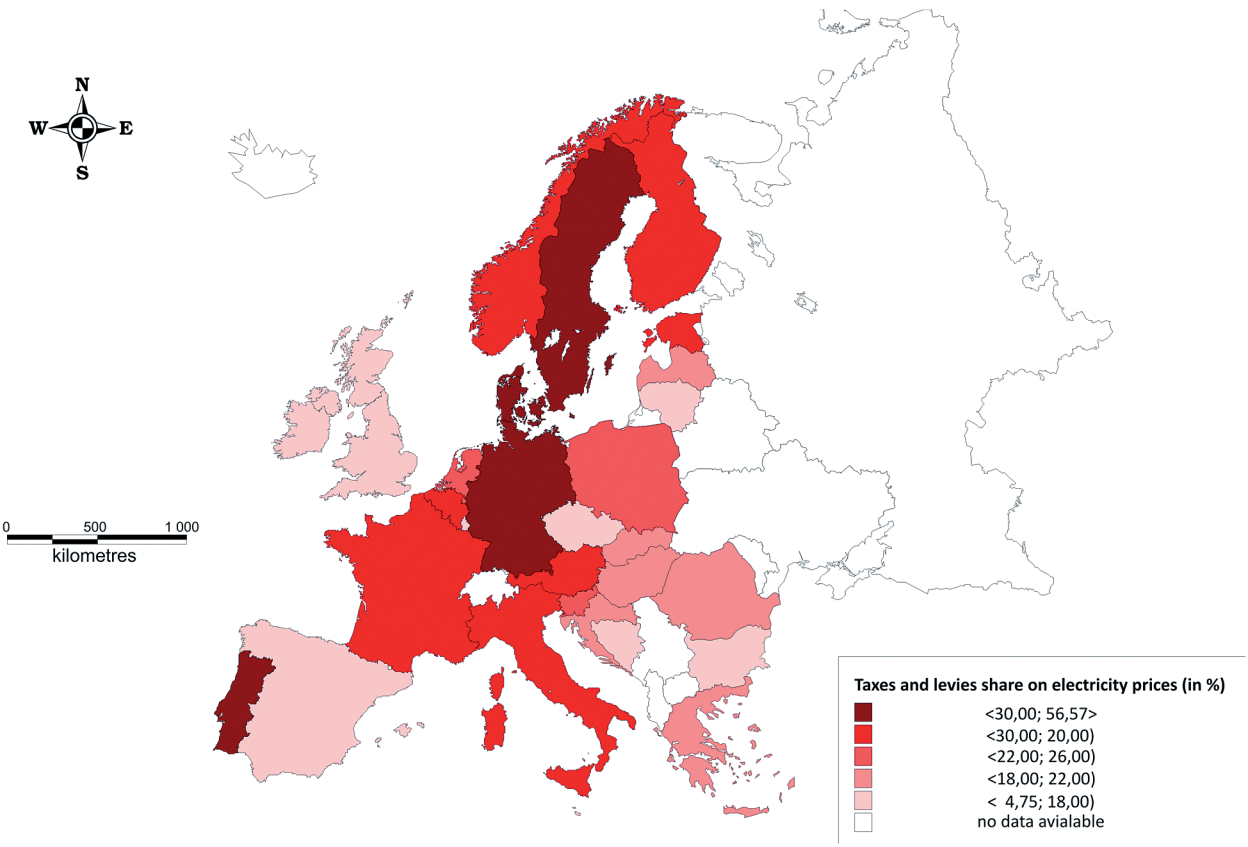

Fig. 7. Taxes and levies on electricity prices for household consumers in selected countries of Europe in 2011

Source: Own compilation on the basis of Eurostat database

2.4. Electricity suppliers in Slovakia

At the end of 2011, 385 entities with a valid license to do business in the power sector offered electricity supply, which constitutes annual increase of 16 subjects. Despite this relatively high number, it is necessary to highlight the fact that in the category of 'supply of electricity to households' there were 41 suppliers and only 15 of them with a more significant volume of electricity supply (in addition to ZSE, SSE a VSE) (ÚRSO, 2012). The rest of them supply electricity to households located within the grounds, local distribution systems and enterprises. An important event took place on January 1 of 2011, when the ČEZ Slovensko, Ltd. (one of the biggest supplier of electricity and gas in Slovakia) entered the market. It signed more than 15,000 contracts on electricity supply and gas in two months after its entry into the household segment. The gradual increase in electricity supply by the new electricity suppliers has taken a significant position and thus we can say that today the suppliers are not already divided into traditional and alternative, but rather into the old and new or large and small as well.

Table 1. Electricity suppliers for households in Slovakia in 2012

Electricity supplier	A	B
A.En. Slovensko s.r.o.	Martin	17.72
BUSINESS COMMERCIAL FINANCE s.r.o.	Banská Bystrica	17.63
ČEZ Slovensko s.r.o.	Bratislava	17.75
Energetické centrum a.s.	Bratislava	17.35
KORLEA INVEST, a.s.	Košice	16.62
Komunal Energy a.s	Žilina	17.91
MAGNA A.E.	Piešťany	15.88
PB Power Trade, a.s.	Žilina	15.82
POWER-EN a.s.	Bratislava	17.58
SE Predaj	Bratislava	17.40
Slovakia Energy	Bratislava	17.58
Stredoslovenská energetika, a.s. (SSE)	Žilina	18.15
Vaša energia s.r.o.	Bratislava	17.27
Východoslovenská energetika, a.s. (VSE)	Košice	18.16
ZSE Energia, a.s. (ZSE)	Bratislava	18.16

Explanation: price are based on list of prices of electricity suppliers (with VAT, tariff zone DD2); the amount must be added the cost of distribution, which are however the same for all companies; A – location; B – electricity price in 2012 (EUR/100 kWh)

Source: ÚRSO SR

Households and small businesses are increasingly beginning to recognise the presence of market competition. Although not as large as for corporate clients, alternative suppliers got over the higher business margin and the positive trend of change in electricity supplier accelerated in order to get the new clients, too. A remarkable deal of customers has left great traditional suppliers, which represents a certain standard in liberalized markets. It is also a clear signal that the electricity market works indeed. However, the large companies have advantage in built customer centres and other infrastructure that will be gradually needed also by the other market players. Then, it can push on prices of new competitors. Furthermore, most alternative suppliers of electricity consider this area as some sort of supplementary sector, which means mainly the marketing potential for them (Galbas, 2011). This kind of competition also affects the market prices and it is clearly visible that delivers both the better services and the pressure on more favourable prices (Marčan, 2010).

Selected indicators characterizing the shares of three critical electricity suppliers and new suppliers in the electricity market are documented by data in the table below:

Table 2. The volume of electricity supplies from the old and new suppliers in 2009-2011

Volume of electricity supplies for non-household customers (GWh)	2009	2010	2011
ZSE Energia + SSE + VSE	10,481	10,064	9,732
SE Predaj, s.r.o	0	1,125	1,423
ČEZ Slovensko, s.r.o	750	961	1,036
Magna E.A	73	239	280
KORLEA INVEST, a.s.	0.862	0.045	20
PB Power Trade, a.s.	0.658	30	45
SLOVAKIA ENERGY s.r.o	40	34	19
POW-en, a.s.	0.8	2.72	12.25
Energetické centrum, a.s.	0	0.057	2.372
Volume of electricity supplies for household customers (GWh)	**2009**	**2010**	**2011**
ZSE Energia + SSE + VSE	4,966	4,920	4,884
SE Predaj, s.r.o	0	0	0.071
ČEZ Slovensko, s.r.o	0	0	14
Magna E.A	6.73	21	25
KORLEA INVEST, a.s.	0	0	0
PB Power Trade, a.s.	0.05	0.148	2.12
SLOVAKIA ENERGY s.r.o	40	91	99
POW-en, a.s.	0	0.009	0.0422
Energetické centrum, a.s.	0	1.08	45

Source: ÚRSO SR

Manifestation of both the progressive liberalisation and development in the electricity market is an annual increase in number of electricity customers who have changed their electricity supplier. Development is documented by the following information:

Table 3. Changes of electricity supplier in the years 2009–2011

Supplier change	2009	2010	2011
Number of household customers	7,697	17,171	40,574
Number of non-household customers	2,999	4,644	2,210

Source: ÚRSO SR

In period of 2009–2011, the end suppliers of electricity and alternative suppliers involved in the security of electricity supply to delivery points in the households as follows:

Table 4. Delivery points of electricity in the years 2009–2011

Indicator	2009	2010	2011
Number of delivery points in households in three RSC together	2,080,377	2,096,684	2,112,856
Number of delivery points in households in final suppliers of electricity	2,071,143	2,071,233	2,036,394
Number of electricity consumers in households with alternative suppliers of electricity	9,234	25,451	58,227

Explanation: RSC – regional supply companies

Source: ÚRSO SR

3 Gas

3.1. The liberalisation of gas market

Following the decision of the European Commission, the Slovak government had an obligation to liberalize the gas market. The first step came on 1 July of 2006, when the monopoly supplier and distributor of natural gas, Slovak Gas Industry, Inc. (Slovenský plynárenský priemysel, a.s. – SPP), broke away transmission and distribution activities from the supply of gas to final consumers, by which three new companies were established: (a) (supplier) Slovak Gas Industry, Inc. (SPP); (b) (distributor) SPP – Distribution (SPP – Distribúcia), Inc.; (c) (transit) Eustream, Inc.

The supplier sells natural gas to the final customers (households, industrial plants). Distributor is one who provides 'transportation' of natural gas to the end customer. The transit company is responsible for gas supplies from abroad (Russia) and abroad (Western Europe) through the territory of Slovakia. In its coverage is also care of high load carrying capacity. Newly established distributor, SPP – Distribution, Inc., would remain a monopoly distributor of natural gas in its defined territory. Therefore, if the end customer decides to change suppliers, natural gas will be still distributed to him by the same distributor. It can be very simply explained by the fact that it is not economical for anyone to invest a great deal of money to build a new distribution network – all such costs would be eventually paid by the end customer in a higher price for natural gas. However, this is not an obstacle for new distributors to build their new distribution networks, where SPP – Distribution, Inc. has not got an established distribution network. Therefore, small (local) distributors are already on the market covering a specific area. This concerns mainly the newly built flats and houses.

In Slovakia, there has been a choice of an alternative gas supplier since 2007. Despite this fact, the gas market was not sufficiently liberalized until 2011. Alternative suppliers were mainly focused on industrial customers, from whom they expected the biggest gains. Even in 2010, trading in gas was secured by monopoly of SPP, Inc., which has guaranteed long-term gas supply contracts with Gazprom Export.

2011 can be described as the first year when the gas market is in all segments (industry + households) real open in Slovakia (ÚRSO, 2012). This result is attributable to the excess of gas supply over its demand, hence its availability in terms of prices for gas retailers who sell gas purchased not only by long-term contracts, but also on the stock exchange. Trading of gas within the Baumgarten gas hub in Austria, which is the nearest trading place beyond the Slovak Republic, is dynamically increasing. Trading hub in Baumgarten (business place established in the territory where the pipelines are crossing) began in 2009. These changes in the conditions of gas market operation initiate the modification of the relationship between gas market participants. Both the development of production from unconventional sites in North America (so-called shale gas) and increase supplies of liquefied natural gas have resulted in surplus of gas supply over its demand (Scholtens, Yurtsever, 2012). This development also affects the price of gas when there is a positive development in favour of gas prices on spot markets compared to traditional gas purchases based on long-term contracts. New gas suppliers purchase gas on spot markets gaining a competitive advantage over traditional suppliers and the final selling price of gas for customers is made by a mix of spot market price and long-term contracts.

3.2. Gas prices

Gas prices are dependent on the projection of value concerning the planned purchase price of natural gas in €/m3 for a particular year, which is affected by a presumption of USD/EUR exchange rate for a particular year, assumption of an average annual price of heavy fuel oil FO for a specific year in USD/mt and the assumption of an average annual price of light fuel oil GO for specific year in USD/mt (ÚRSO, 2011b).

The gas market is characterised by better potential of having more players entered in the households sector than electricity is. Compared to the gas, the electricity price is caused by many factors (e.g. when current is drawn) and hence for people the bids can be much more transparent and readable. Moreover, we observe relatively few households with a sufficiently large consumption that would be also interesting for electricity suppliers in terms of profitability (Galbas, 2011). And also for the rea-

son that significantly less people heat their homes by electricity than gas. For gas, the households segment is more interesting.

However, regulated gas prices must achieve an acceptable level and suppliers must be confident that the state would not unreasonably interfere with pricing in the future. The same as in the case of electricity, price of natural gas is being closely monitored by the Regulatory Office for Network Industries (ÚRSO). Maximum retail prices of individual components regarding the natural gas prices for households are regulated by this office. Each alternative supplier of gas for households in Slovakia must have a maximum final price of gas approved by the ÚRSO. In the near future, abolition of this regulation is expected.

The development of gas prices for households and industry is shown by Fig. 8. In certain sections of the period under study we can see some differences between households and industrial segment. In 2004, the development of natural gas prices was showing divergent trend between these segments with unfavourable trend for households. During 2005 and especially in 2006, annual changes in gas prices recorded approximately the same trend for households as well as for industrial businesses. Over three quarters of 2007, gas prices for households were slightly growing year-on-year, and for industrial producers they were declining from the second quarter to the end of 2007. From early 2008, gas prices for households were at the same level as the previous year, but gas prices for industrial producers were constantly increasing and in September 2008 recorded growth almost of 24 (Cár, 2009). Since 2010, there has been a relatively rapid increase in prices of both categories, while the gap between households and industry begins to rapidly increase. Considerable differences in the development of energy prices for both the households and industrial producers are largely due to the different methodology of energy prices setting for producers on one hand and small consumers on the other. During the period of 2006–2010, we also observed a stricter regulation of eligible costs concerning suppliers and distributors of energy for households by the regulator.

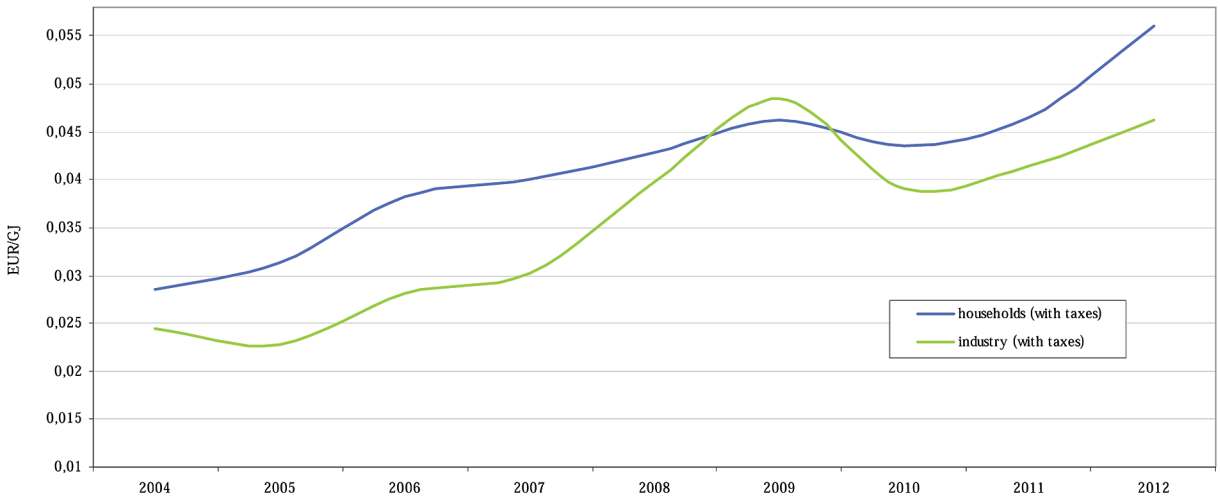

Fig. 8. Gas prices for household and industrial consumers in Slovakia (with all taxes)

Source: own compilation on the basis of Eurostat database

3.3. Comparison of the Slovak Republic and the EU in terms of gas prices

Demand for gas in Europe is growing together with the economic recovery after overcoming the economic crisis. Natural gas is increasingly gaining prominence due to the nuclear crisis in Japan, which caused that many European countries are beginning to review the use of nuclear energy. Instead of that, they plan to increase the use of renewable energy sources, but also gas.

From the perspective of the European Union, gas prices for households in Slovakia were slightly below the average in 2011, which reaches € 0.056/ kWh within the EU-27 countries (Fig. 9). From the data of the three years period under study, it is clear that gas prices are extremely stable in Slovakia. Households pay for gas the most in Sweden and Denmark, the least in Bulgaria. Within the V4 countries, Slovakia has the second lowest gas prices after Poland, but the differences are minimal. The same as in the case of electricity, we observe reduction in gas prices due to a decrease in consumption in 2010, which slowly got to their previous values in 2011, however.

If we recalculate the gas prices to purchasing power parity, the situation is getting worse again. Among the 27 members of EU, Slovak households have 8th the most expensive gas. On the other hand, Slovakia has the cheapest gas within the V4 countries. EU-27 average in 2011 stood at € 0.5. The most expensive gas for households was registered in Bulgaria, while Romania was the country where people spent the least for this kind of energy (Fig. 10, 11).

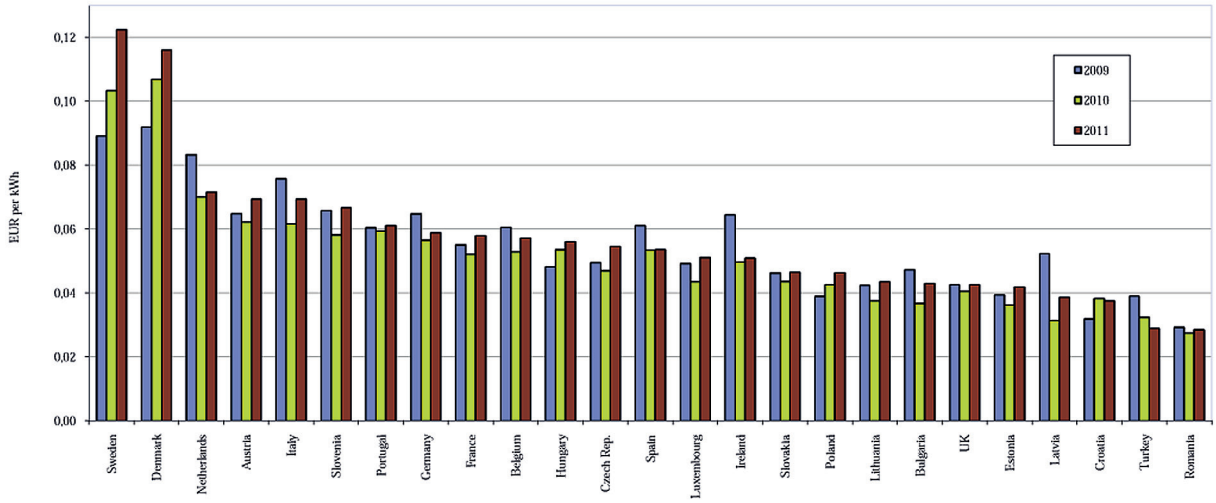

Fig. 9. Gas prices for household consumers (in € per kWh)

Source: own compilation on the basis of Eurostat database

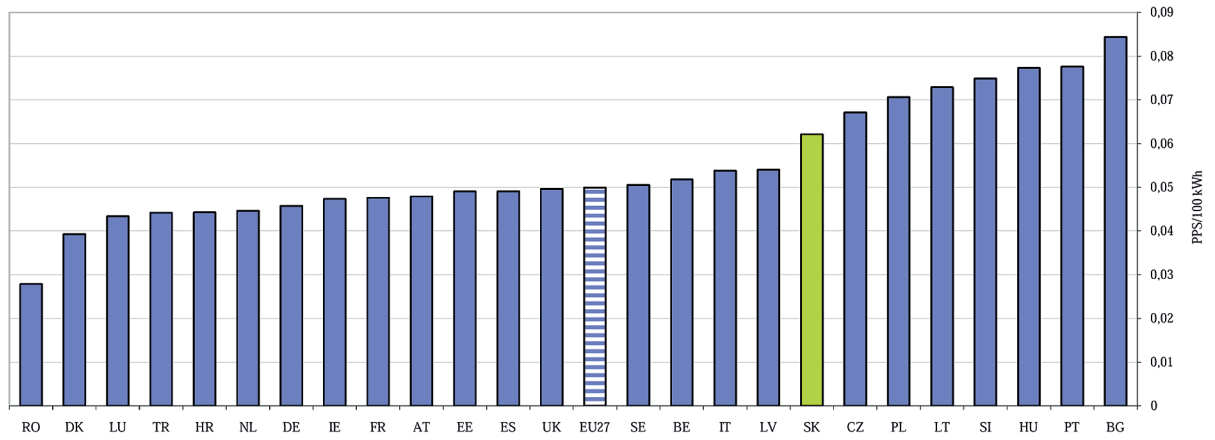

Fig. 10. Gas prices in purchasing power standards (PPS) per 100 kWh for household consumers (all taxes included) in 2011

Source: own compilation on the basis of Eurostat database

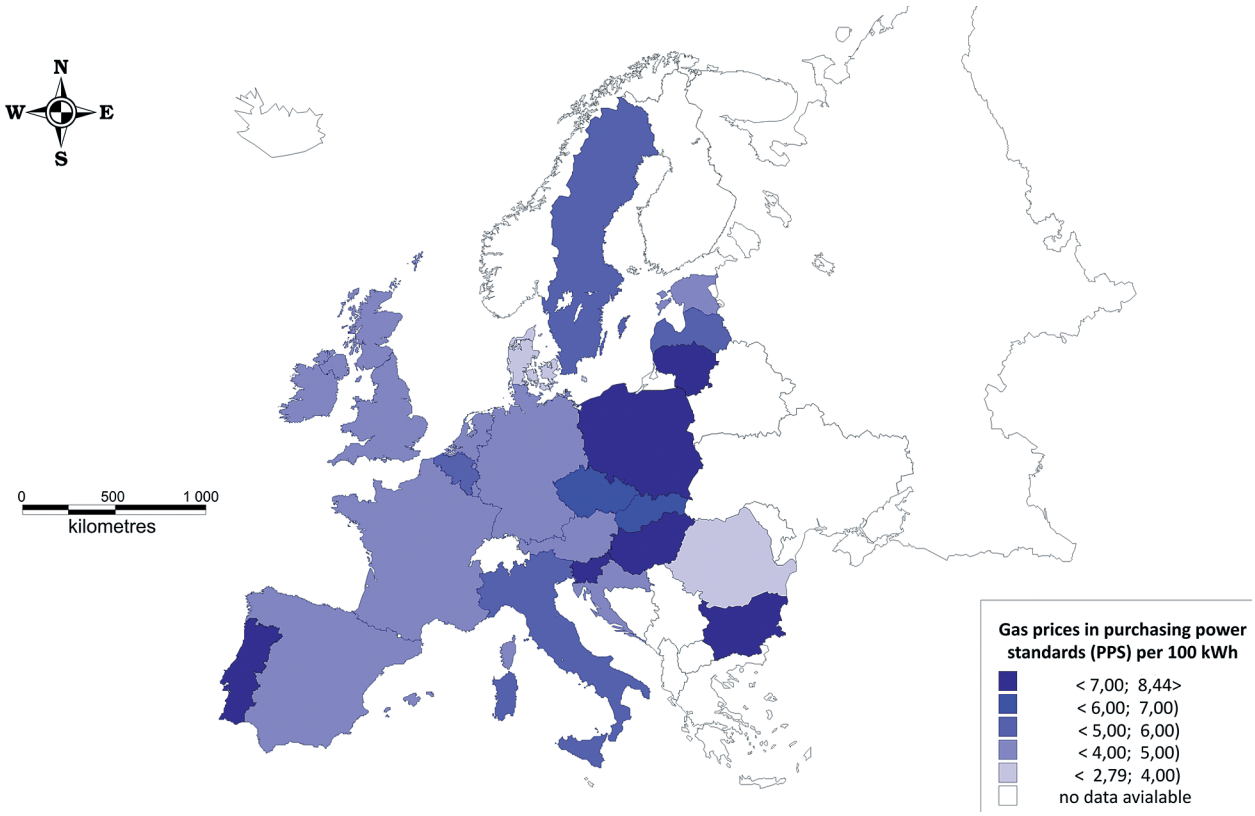

Fig. 11. Gas prices in purchasing power standards (PPS) per 100 kWh for household consumers in selected countries of Europe in 2011 (all taxes included)

Source: own compilation on the basis of Eurostat database

Gas prices for industrial consumers in the EU shows a little difference only, except some countries such as Denmark, where it is considerably higher than average (Fig. 12). Slovakia is located in the lower half of the price ranking at €0.035/kWh, which is the highest value among the V4 countries (80% of the EU-27 average). In 2010, there was a significant price reduction in most states. On the European gas market, the global economic crisis led to excess of supply over demand, which resulted in both a significant drop in gas prices on spot markets and the diversion of development in gas prices from the oil prices path (European Commission, 2011). The most expensive gas is purchased by companies in Denmark and conversely the cheapest in the United Kingdom.

As the price of electricity, the gas price consists of several parts, especially taxes. The highest tax burden of gas prices for households is observed in Denmark – almost 50%. In Slovakia, the share of taxes on the final price of gas is one of the smallest in the European Union (Fig. 13, 14). Remarkable dynamics in average energy prices for producers has been mainly due to the rapid rise in gas prices in recent years, which are most associated with the development of oil prices on world market (Greene, 2011). Within the former EU-25, the average gas prices for producers cumulatively increased in 2005 by over 50% compared to 2000. In Slovakia, the increase was of 133% in 2005, up to over 180% one year later (Cár, 2009).

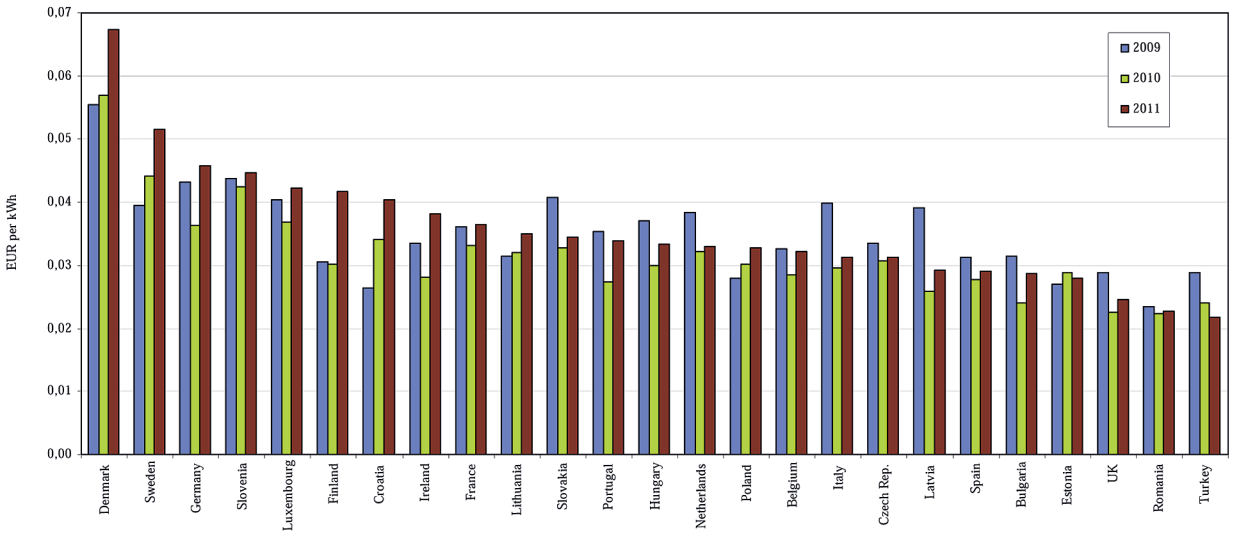

Fig. 12. Gas prices for industrial consumers (in € per kWh)

Source: own compilation on the basis of Eurostat database

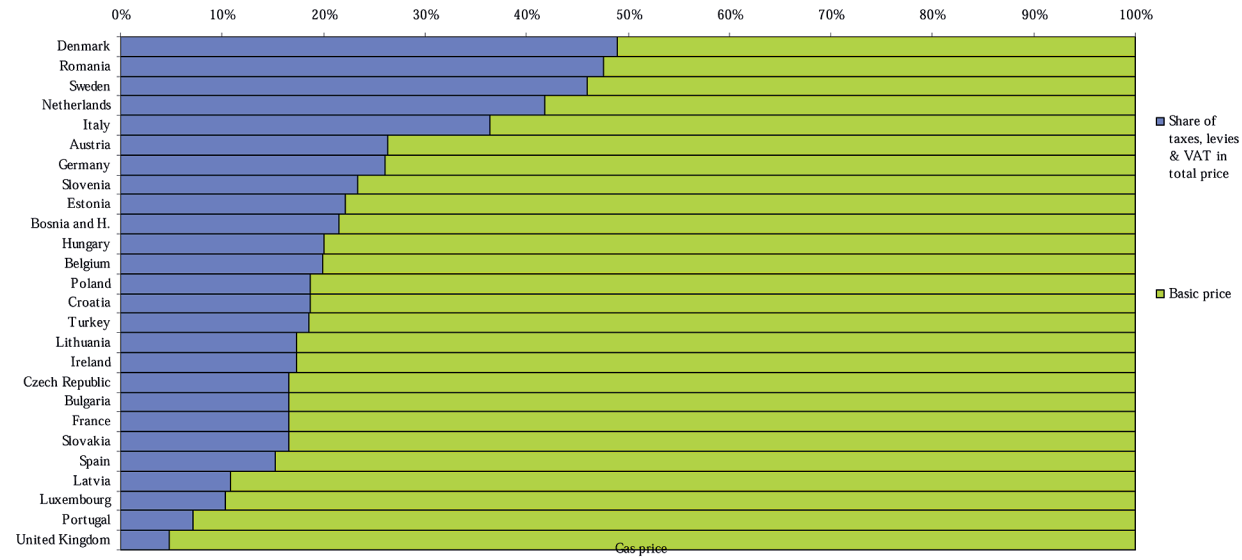

Fig. 13. Taxes and levies on natural gas prices for household consumers in 2011

Source: own compilation on the basis of Eurostat database

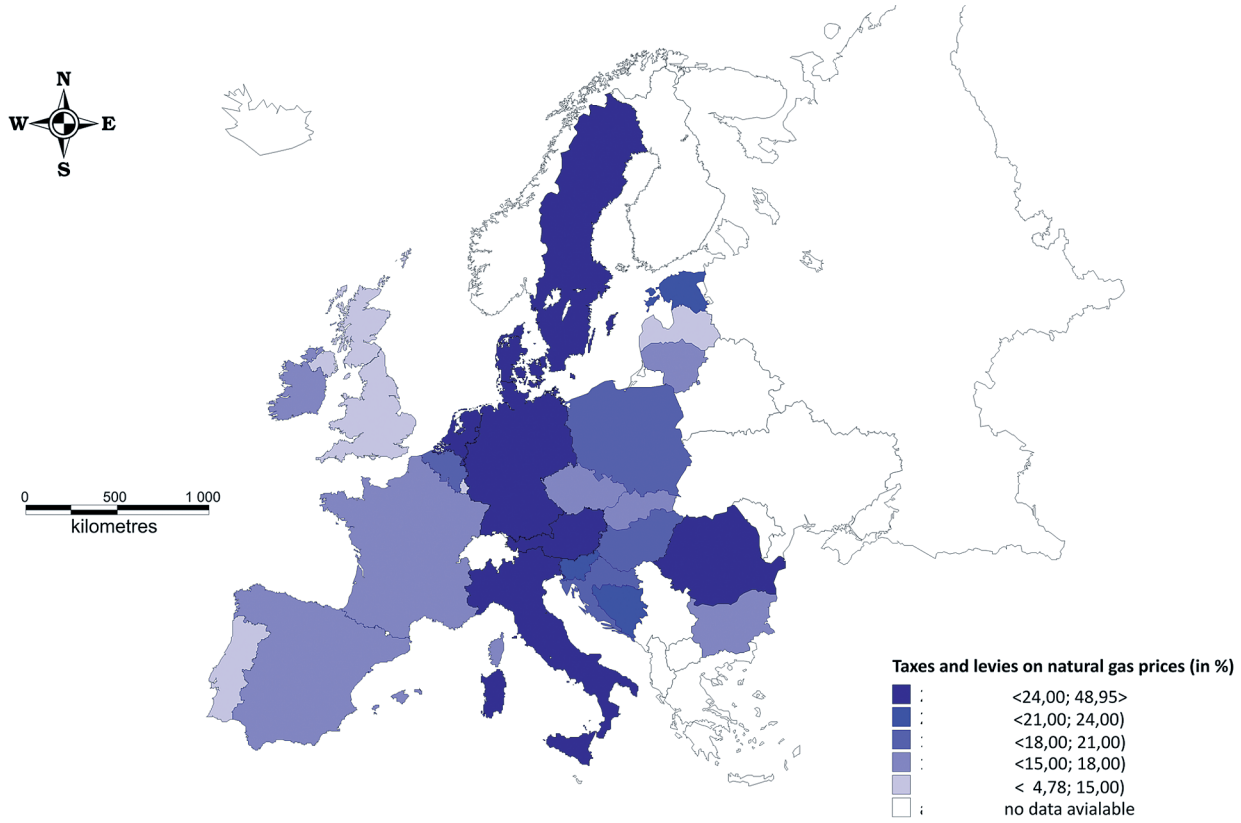

Fig. 14. Taxes and levies on natural gas prices for household consumers in selected countries of Europe in 2011

Source: own compilation on the basis of Eurostat database

By energy prices for standard households and industry, Slovakia got closer to the average level for EU-25 in early 2006 more significantly than the neighbouring countries did. Since the energy prices are an important inflation factor, from a monetary policy point of view it is a good starting point for keeping the relatively favourable price development in Slovakia in relation to neighbouring countries and also to Europe in the upcoming years (Cár, 2007). In Slovakia in recent years, gas prices for producers have grown much faster than oil prices on world markets.

3.4. Gas suppliers

Except the SPP, there was another supplier of gas for households in Slovakia in 2011 for the first time. In the households segment, seven other companies joined the gas market, although the office issued a price decision on gas supply to households up to 11 gas suppliers. In addition to the dominant supplier of gas, which is still SPP, the following suppliers began to supply gas to the households in 2011: RWE Gas Slovakia, Ltd., ČEZ Slovakia, Ltd., Vaša energia, Ltd, Slovakia Energy, Ltd., Energie2, Inc., Energetické Centrum, Inc. All these companies supplied gas to households at a lower price level than the SPP company. For them, the source of gas supply constituted the purchase of gas on both the spot market and the stock exchange through the long-term contracts and from other gas suppliers. The share of new companies within this market represents only about 1%. Unlike the SPP having contracts on gas supply with households for an indefinite period, the new suppliers contracted with customers to supply the gas mainly with two-year commitment.

The portfolio of these companies consists of businesses, which delivery points are included in all categories of customers, namely small, intermediate and large consumption. Switching the gas supplier across various user categories in period of 2009 – 2011 is shown in the following table.

Table 5. Gas suppliers for households in Slovakia in 2012

Gas supplier	A	B	C
A.En. Gas a. s.	Martin	32.08	96.37
ČEZ Slovensko, s.r.o.	Bratislava	31.62	91.56
Energetické Centrum a. s.	Bratislava	31.40	89.28
Energie 2, a.s.	Bratislava	31.67	92.06
LAMA energy a. s.	Bratislava	32.08	96.37
MAGNA E.A. s.r.o.	Piešťany	31.54	92.04
RWE Gas Slovensko, s.r.o.	Košice	32.08	96.37
SLOVAKIA ENERGY, s.r.o.	Bratislava	31.63	91.68
Slovenský plynárenský priemysel a.s.	Bratislava	31.79	93.33
Stredoslovenská energetika, a.s.	Žilina	31.79	93.33
Vaša energia s.r.o.	Bratislava	31.76	93.08
ZSE Energia, a.s.	Bratislava	31.79	93.33

Explanation: Price are based on list of prices of electricity suppliers (with VAT, tariff zone DD2); the amount must be added the cost of distribution, which are however the same for all companies; 1 m3 = 10,55 kWh; A – location; B – gas price in 2012 (EUR/100 kWh); C – gas price in 2012 (EUR/100 m^3)

Source: ÚRSO SR

Table 6. Changes of gas supplier in the years 2009–2011

	2009		2010		2011	
Categories of delivery points for consumers	Number of DP with change supplier	%	Number of DP with change supplier	%	Number of DP with change supplier	%
Large offtake	39	4.4	84	10.12	99	12.42
Medium offtake	14	0.4	84	2.67	267	9.04
Small offtake	5	0.01	2950	4.1	5270	6.44
Overall	58	0	3118	0.21	5636	1.8

Explanation: DP – delivery point

Source: ÚRSO SR

Number of registered changes at all delivery points increased from 3,118 to 5,636 compared to 2010, which means an increase of 81%. In the category of intermediate consumption, the growth is about 318%, whereas in the category of small consumption about 177%. Thus, the largest increase in supplier switching occurred in the category of intermediate consumption. Regarding the duration of contracts, most gas supply contracts were concluded for one year, in the case of traditional gas supplier for a longer period. Also in 2011 some industrial gas customers returned to the traditional gas supplier – SPP, thus the fight for customer is permanent. In 2011, none of the gas customers did secure supply of gas by more gas suppliers. We must mention the first events of 2012, when traditional suppliers of electricity joined the gas market and vice versa – the accession of the traditional gas supplier to the electricity market.

In 2011, the category of industrial users was dominated by SPP. Table 7 shows the share of the most significant companies on the industrial customers market:

Distribution of the gas market in the category of customers – households in 2011 is shown by Table 8:

Table 7. Major companies in the market of industrial customers in 2011

The amount of gas supplied to industrial customers in 2011	**4.0 bil. m³**
SPP, a.s.	69%
RWE Gas Slovensko, s.r.o	21%
The share of other gas suppliers in the total gas supply to industrial users of gas in 2011	10%

Explanation: share of other suppliers is in the range from 2.5% to 0,00001%

Source: ÚRSO SR

The structure of the gas suppliers in the period of 2009–2011 and their market shares (industrial customers and households supply) is shown by Table 9:

Table 8. Major companies in the sector of households in 2011

The amount of gas supplied to household customers in 2011	**1.4 bil. m³**
SPP, a.s.	99.19%
RWE Gas Slovensko, s.r.o	0.46%
ČEZ Slovensko, s.r.o	0.28%
Others	0.07%

Source: ÚRSO SR

Table 9. The market shares of leading suppliers of gas in the years 2009 – 2011

Leading suppliers	**2009 (%)**	**2010 (%)**	**2011 (%)**
SPP, a.s.	94.8	84.5	77.1
RWE Gas Slovensko, s.r.o	4.1	13.5	15.6
Other suppliers	0.9	1	7.3

Explanation: share of other suppliers is in the range from 1.9% to 0.00001%

Source: ÚRSO SR

It is likely that the business in electricity and gas would be stabilised after several years and around 10 suppliers would remain on the market. The number of valid business permits for the period under study is approximately at the same level, which means from this perspective that the market is relatively stabilised. An emergence of more companies coming from the Czech Republic is to be expected, where the market is traditionally more liberalised and the share of alternative suppliers is much greater than in the case of Slovakia. Assumptions of lower energy prices are promoted by the surplus of supply over demand on world commodity markets. Currently, the possibility of accurate forecasts for price development over a longer period is under the effect of numerous factors. Decisions on large investments in new gas deposits or building the new power plants based on gas valid mainly in the past are going through both the development and the review of business plans.

It is appropriate to point out how the prices of gas and electricity can affect each other. We have mentioned that the price of gas is directly linked to the price of oil and reacts to its fluctuations (although much less than before). The same argument is also valid for electricity, since it is produced based on the combustion of oil and gas in several plants. Consequently, a rise in gas prices results in the same development in the electricity segment as well. Due to the economic crisis, an interesting situation occurred in connection with a reduction in wholesale electricity prices, when energy consumption

in Europe has appreciably dropped down. Namely, considering current prices it is not worthwhile to produce electricity from environmentally friendly combined cycle and thus producers mainly use coal-fired plants. In addition to low prices of electricity, combined cycle power plants are forced to face the problem of relatively high gas prices as well. For example, on stock exchange in Leipzig, the price of this commodity has increased from 23 euros to more than 25 euros per megawatt hour over the past year. Gas is a relatively attractive commodity for speculators in international markets currently, and thus it is dealt in increasing demand more and more, which finally results in an increase of electricity prices (Kilian, 2010).

4. Conclusions

In recent years, power sector in Slovakia has been characterized by careful separation of the production, transmission and distribution of electricity. The restructuring process within the sector has been organizationally and legally completed. The development of resources and insufficient regulatory power have been driven by market principles, which favour the development of competition. The level of the economic development of the country has affected the market situation, which has been also impacted by external economic factors. Proper legislative conditions set in conjunction with appropriately chosen methods of price regulation in electricity and gas supplies have resulted in a significant number of suppliers operating on the electricity and gas market in Slovakia.

In terms of the market operation with electricity and natural gas, the current period can be described as a combination of the global financial and economic crisis and its effects and gradual liberalisation. Electricity and gas market in Slovakia does not work autonomously, but in the context of a much larger regional energy market, which is operated by many players and where a large amount of electricity and gas is daily traded. Compared to the past, the market situation is thus characterized by high dynamics and less predictability. It is expected that this trend would continue in the oncoming years.

The Slovak electricity market is fully liberalised, open to all market participants and has sufficient transmission capacity. Increasing participation in regional markets, the existing surplus of electricity in the region and sufficient cross-border exchange of electricity create together a highly competitive market environment. Concerning the natural gas, competition has firstly developed in the segment of corporate customers, since until 2010, the gas supplies to households were secured by only one traditional supplier (SPP). 2011 can be characterised as the first year with real competition in all segments of gas market, when the structure of the gas was not 'one-coloured' for the first time. In that year, the gas market in Slovakia became liberalized in all categories of customers, indeed. Slovak Gas Industry (SPP) still holds its dominance with 77.1% market share. The most serious competitor is a company of RWE Gas Slovensko, Ltd. with 15.6% market share. Nevertheless, it can be concluded that the situation in the gas sector is more complex than in the case of electricity, since the only gas distributor – Eustream is a part of the vertically integrated company SPP. The leftist government of Robert Fico (2006--2010), as well as the subsequent right-wing government of Iveta Radičová (2010-2012) supported the ITO model as the best option for Slovakia. After many years of peaceful agreement with the ITO model, section 50 in the current draft of the Energy Act stirred up debate, which unexpectedly assumes full ownership unbundling as an initial model.

Within the EU, Slovakia has not shown dramatic differences in energy prices. The basic price for both the electricity and gas is around the EU-27 average and tax burden is also at a relatively low level. However, since Slovakia is not among the most developed EU countries and the level of its GDP is one of the lowest within community, the gas and electricity prices in Slovakia count even among the highest in Europe after calculation of purchasing power parity. Compared to the last year, almost 5% increase in electricity prices has resulted in higher market share of photovoltaic power plants. Extremely high purchasing costs of such electricity are the reason for that, because they are included in the tariff for system operation, which is part of the end price for consumers. If the state does not restrict the photovoltaics, we will probably not miss a the high price increase in 2012. Although the role of re-

newable energy in power sector of Slovak Republic will keep gaining importance, further development is rather questionable. For energy mix, the more important it is, the more opponents appear. Currently, particular energy sources are fighting with certain restrictions or possibly are moving forward just in the narrow boundaries.

External events can be considered to be the main reason for an increase in energy prices, since a small country like Slovakia has no impact on price development within the global market. In Slovakia, the prices of particular energy sources simply follow the development on world markets. Oil prices are especially important, because they greatly affect the final consumer prices. Gas prices for households rose from January 2011 to January 2012 by more than 17 percent, and the increase in oil prices due to the conflict in Libya is considered to be one of the most important reasons for that. Therefore the trend in oil price is not favourable. Other armed conflicts emerged in the region of the Wider Middle East (Egypt, Syria, potentially Iran) may also increase the price of this commodity on stock exchange. It is expected that if the situation in Iran escalates, the oil prices will increase much more than during the war in Libya in 2011. Both the development in Europe and continuing debt crisis also do not pose predispositions to cheaper gas. Moreover, this commodity is traded in dollars and the sinking euro has increased costs of its purchase. On the other hand, gas would keep its price because of its abundance on the market (except during heavy frosts in exceptional situations). Its surplus is strengthened by the fact that the world economy has been rather stagnant and thus the demand for energy has not increased so far.

The positive effects of liberalisation on energy prices have not been confirmed. Our hypothesis (the more energy market is liberalised, the greater pressure on the prices of energy commodities is developed) has proved to be incorrect. Despite all the promises made by EU leaders it is clear that liberalisation does not lead to lower energy prices inevitably. Many more factors than just competitive struggle between suppliers on the national market are projected in the final price of gas and electricity. A long-term balance in the energy market can only be achieved if the level of energy prices is consistent with the motivation of companies to invest into the future energy production capacities. Only tough competition may lead to a policy of companies to economise the investing in new products. Namely, investments in the energy sector are characterized by high demands on the funding extent, construction timeline for production capacities and recoverability is very long as well. In the context of energy security, liberalisation can paradoxically lead to the long-term shortage of supply. Moreover, in the absence of energy (of any form) the liberalised markets can also contribute to higher prices. This unfavourable situation is subsequently projected to companies' costs and then it is reflected in their competitive position in the world markets. On the other hand the question remains what kind of price development would be recorded in the case of regulation and it cannot be excluded that regulators would permit the growth of prices as well. Ultimately, liberalisation can paradoxically lead to the opposite effects than originally were expected.

Finally we can note that energy prices are becoming more valuable in time and thus also more expensive. The development in recent years has confirmed that we will have to cope with price increases in the near future. Moreover, they will not be subject to price regulation. In Slovak conditions, regulation is just a tool for an endurable growth of prices, since the regulator (ÚRSO) monitors this area quite hard and closely. It can be expected that after the abolition of this power, the state will interfere with the energy segment in some way in order to prevent an unrestrained price increase, however.

Note

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