

ASPECTS OF REGIONAL COMPETITIVENESS THROUGH DYNAMIC PRICES OF PETROLEUM PRODUCTS

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Abstract:

This paper presents aspects regarding the dynamics of prices of petroleum products: gasoline and diesel in Romania in the period 2003(2007)-2014. Both focus on relationship-price raw material and finished product by the impact of market prices. Given that the price of fuel is a key factor in economic development but also in the living of population, this paper has proposed to analyze some aspects of the dynamics of prices of petroleum products in correlation with commodity prices in a competitive market in 2003 -2014. In the analized period, price of oil barrel has a dynamics substantially influenced by the global political turbulences but also by lower oil demand due to consumption reduction, especially lately. Increases and decreases were abrupt and unpredictable in the early years of the first decade of the XXI century. Political crises in the Middle East, the economic crisis started in 2007 and especially the crisis in Ukraine and policies adopted by the EU and the US have led to extremely large fluctuations in oil prices from one period to another . This dynamic will only cover the price of petroleum products namely gazoline and diesel for vehicles.

Key words: regional competitiveness, dynamics of prices, petroleum product prices, gasoline, diesel

JEL classification: A10, L71, R10

1. INTRODUCTION

Despite all the predictions, oil remains one of the most important energy resources for the economy of a country. However, few nations in the world and in Europe were blessed with "black gold", and they enjoyed a rapid growth based on the industry.

If in the world, Saudi Arabia holds the first position in the ranking, with a daily production of 11.726 million barrels of oil, oil production in Romania halved from the Revolution to the present, from almost 8 million tons of oil extracted in 1990 to 4 million tonnes in 2013. Although production fell to 86.000 barrels / day, our country has managed to maintain a leading position as the 10th largest producer of petroleum in Europe and Eurasia according to statistics from British Petroleum, black gold "is, in fact, the most sensitive area of Romania on energy imports, and no gas"[4].

On the other hand, consumption of oil and oil products decreased in Romania in 2012, standing at 182,000 barrels a day, which represents 0.2 percent of global consumption [10]. The economic crisis which began in 2007 had a significant impact not only on production branches (Zaharia, 2015) or services in most EU countries (Zaharia, Enăchescu & Bălăcescu, 2014) but also the price of oil, one of the most important resources of XX and XXI centuries (Enachescu, 2002).

On the other hand, the deteriorating of international situation and the political crisis caused by Ukraine, the economic restrictions imposed to Russia, one of the most important oil producing countries in the world (the third place) had a major impact on the decrease oil prices but also to finished products: gasoline and disel .

The paper aims to analyze the dynamics and correlations commodity prices: oil well finished products: diesel and gasoline in the period 2003-2014.

2. ANALYSIS OF THE DYNAMICS OF OIL PRICES AND FINISHED PRODUCTS

For analyzes on the prices of oil and oil products were used data from statistical databases INS (National Statistics Institute) (<http://www.insse.ro/cms/>), NBR (National Bank of Romania)

and portals Europe's Energy Portal official (<http://www.energy.eu>), International Energy Agency (IEA) (<http://www.iea.org/>), OPEC (<http://www.opec.org>), Eurostat and the National Union of Road Hauliers portal (<http://www.untrr.ro/>)

BARREL OIL PRICE DYNAMICS

It will analyze price dynamics for OPEC Reference Basket barrel of crude oil (ORB) annually, in the period from 2003 to 2015, and from February 2014 to 2015, monthly, when there were significant fluctuations.

The new OPEC Reference Basket (ORB) was introduced on 16 June 2005, is currently made up of the following oil sources: Saharan Blend (Algeria), Girassol (Angola), Oriente (Ecuador), Iran Heavy (Islamic Republic of Iran), Basra Light (Iraq), Kuwait Export (Kuwait), Es Sider (Libya), Bonny Light (Nigeria), Qatar Marine (Qatar), Arab Light (Saudi Arabia), Murban (UAE) and Merey (Venezuela)[8].

In the period 2013 - 2015, price of oil barrel has a dynamics substantially influenced by the global political turbulences but also by lower oil demand due to consumption reduction, especially lately. Increases and decreases were abrupt and unpredictable in the early years of the first decade of the XXI century. Political crises in the Middle East, the economic crisis started in 2007 and especially the crisis in Ukraine and policies adopted by the EU and the US have led to extremely large fluctuations in oil prices from one period to another (figure no. 1).

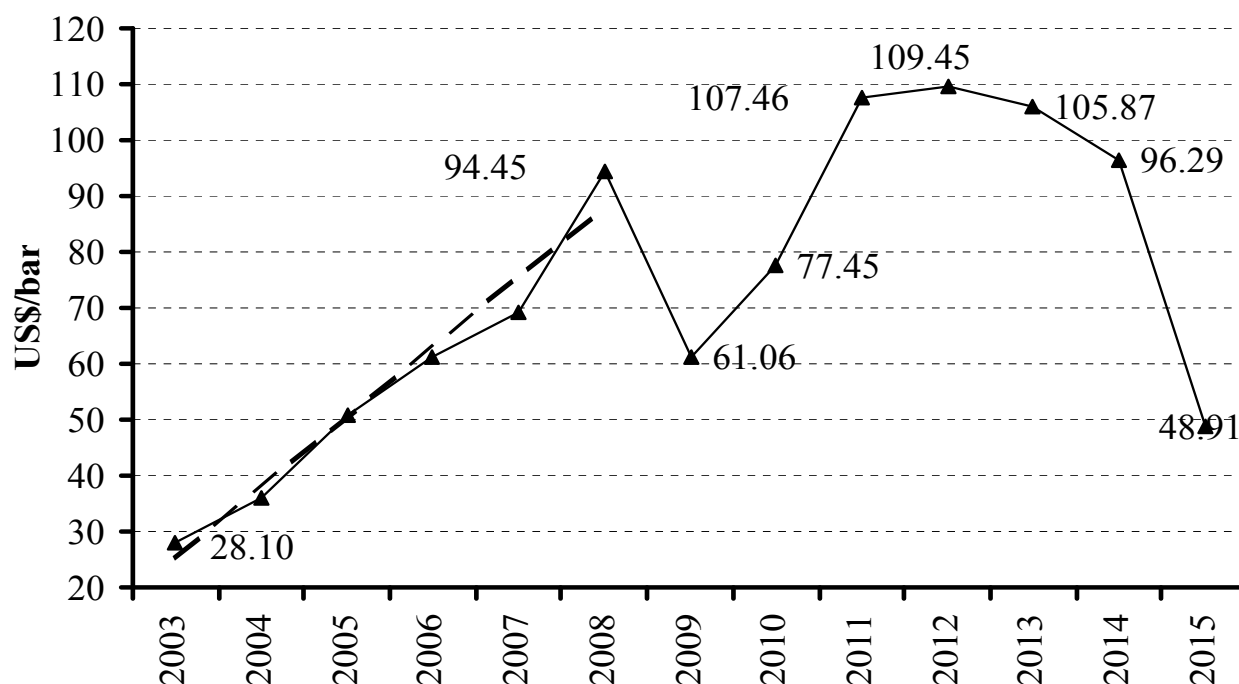


Figure no.1. Evolution of the price of a barrel of oil in the period 2003-2015

Source: own processing after http://www.opec.org/opec_web/en/data_graphs/40.htm

In the first part of the last decade, in the period 2003-2008, oil prices increased 2.36 times from 28.10 US \$ / bar in 2003 to 94.45 US \$ / bar in 2008. A very good approximation of this evolution is given by linear model:

$$P_{US\$/bar} = 12.608 \cdot t + 12.439 + \varepsilon, \quad t_{2003} = t_1 = 1 \quad (1)$$

The above statement is supported by the coefficient of determination ($R^2 = 9664$) corresponding to the model (1). Linear increase in the price of a barrel of oil, from this period can be attributed to the process of economic growth in a relatively stable in terms of the international situation, which led to continuous growth in demand.

First interrupting of this process occurs in 2009 and is determined by the magnitude of the financial crisis that affected nearly all oil-consuming states. Consequently, in 2009, the price of a oil barrel fell by 35.3% compared to 2008, being approximately equal to that of 2006. The years that followed have led to a rebound in oil prices, the biggest increase was recorded in 2011 when oil prices rose 30.01 US \$ / barrel above the level recorded in 2010.

The 2011-2013 period is characterized by relative stability of oil prices around an average of 107.5 US \$ / bar. This relative stability was maintained until mid-2014 (Figure no.2), when it evolved from 104.15 US \$ / bar in February 2014 and recorded 107.89 US \$ / bar registered in June 2014.

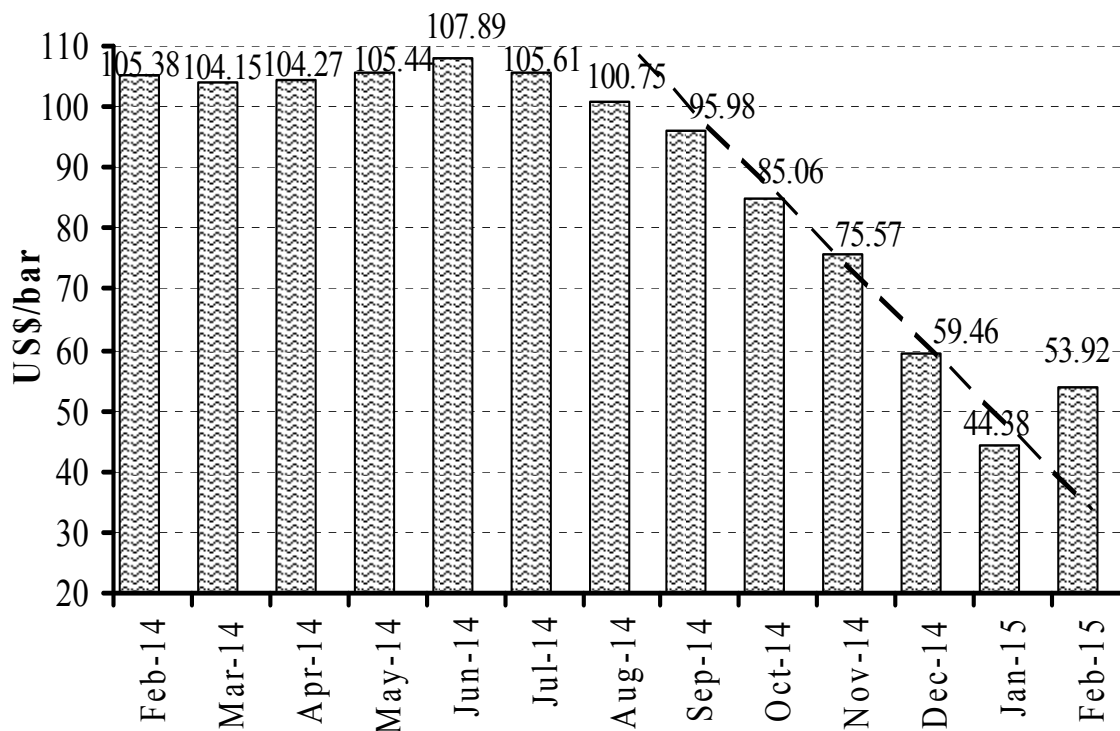


Figure no.2. Evolution of the price of a barrel of oil in the period February 2014 – Febr. 2015

Source: own processing after http://www.opec.org/opec_web/en/data_graphs/40.htm

Since August 2014, the Ukrainian crisis and Russian restrictions on both the EU and USA have led to significant decreases in the price of a barrel of oil on a linear trend:

$$P_{US \$ / bar} = -12.8 \cdot t + 96.2 + \varepsilon, \quad t_{Sep_14} = t_0 = 0 \quad (2)$$

Since for the model (2), $R^2 = 0.988$, we believe that it provides a good approximation of the evolution of oil prices during the period.

Consequently, during September 2014 - January 2015, the price of a barrel of oil has fallen every month, with approximately 12.8 US \$ / bar. Julie 2014 versus January 2015 he was with 61.23 US \$ / bar lower, ie 44.05% of the value recorded in July 2014. This value (44.38 US \$ / bar) is approximately equal to the average price of a barrel of oil in 2005, and the absolute minimum of the last 12 months.

3. THE VARIATION OF UNLEADED GASOLINE AND DIESEL PUMP PRICES IN ROMANIA

During the analyzed period, the dynamics of prices at the pump for major finished petroleum products: gasoline and diesel recorded significant fluctuations but not always in line with fluctuations in raw material prices, as would be expected.

Thus, if in periods of rapid growth of the oil price and the selling price at the pump has increased at a similar rate in periods when oil prices dropped significantly, the price of diesel or petrol has a relatively high inertia to follow the similar trend.

This is due to the following reasons: the desire of the main players on the fuel market to get higher profits in any situation, but also, because of excise variation rate, expressed in US \$, both as absolute value and due to depreciation of the leu versus the dollar.

Moreover, of retail price of gasoline at the pump 95, taxes (VAT) and excize is, in february 2015:

Excluding taxes	Excise duties	VAT	Retail price
€ 0.508	€ 0.460	€ 0.232	€ 1.200

Source:

<https://www.energy.eu/fuelprices/>

Do not forget the fact that OMVPetrom, with a market share of 34% in 2013, the oil obtained from own production, so it is not influenced of international market price quotations. Moreover, OMVPetrom, the largest company of Romania, has reached the end of the five years of crisis, 2009-2013, in a historic profit of over one billion euros, 5.5 times higher than in 2009, most difficult year for the local economy after the collapse of Lehman Brothers, and the net profit margin higher than that of oil giant Shell and ExxonMobil[11].

In Figures no.3 and no. 4 are presented graphically the variation of liters of petrol price and diesel in the period 2000-2012. Thus we see that the price per liter of unleaded gasoline pump prices rose from 2000 to 2014, the average value of 1.2 to 5.8 ron, so 4.83 times or 383%

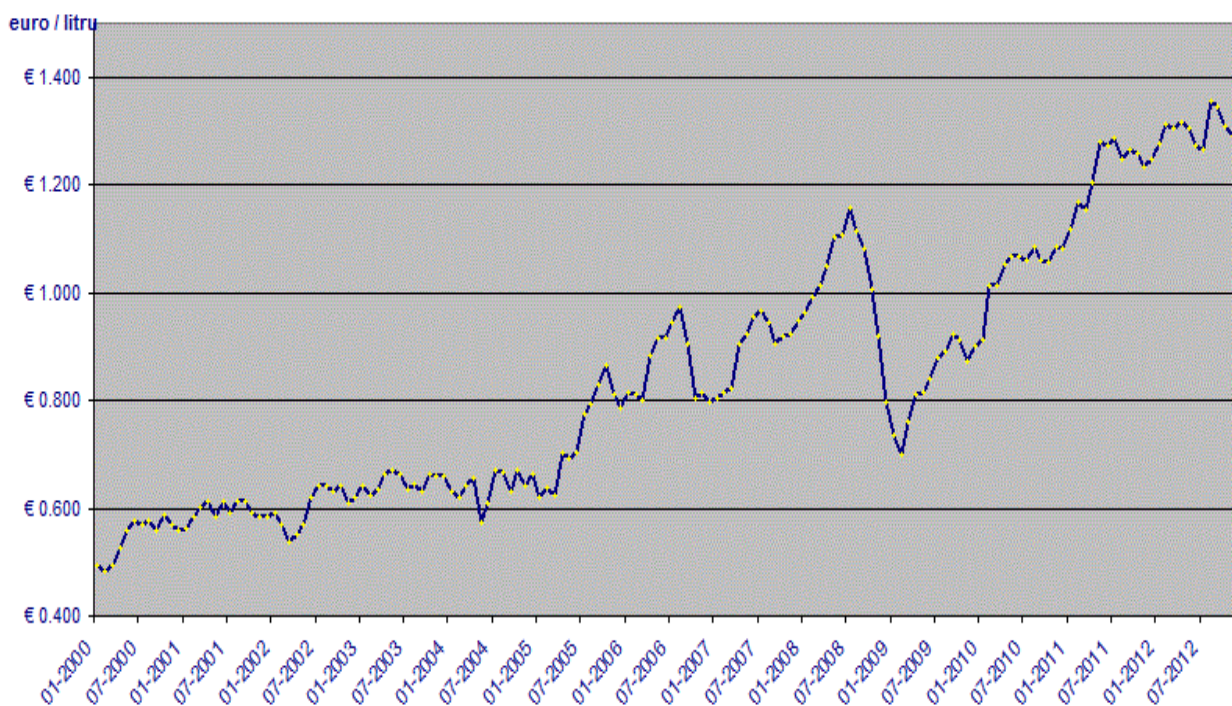


Figure no. 3. Variation unleaded gasoline pump prices in Romania in the period 2000-2012 (euro / liter)

Source: <https://www.energy.eu/historical-prices/Romania/> and <http://www.untrr.ro/preț-motorina/evoluție-preț-motorina-petrom-cotații-titei-si-cursuri-valutare.html#.VDqe0RY4jzg>

The price of diesel has increased from 2000 to 2014, the average value of 0.92 lei (RON) to 6.02 lei /liter or so of 6.54 times.

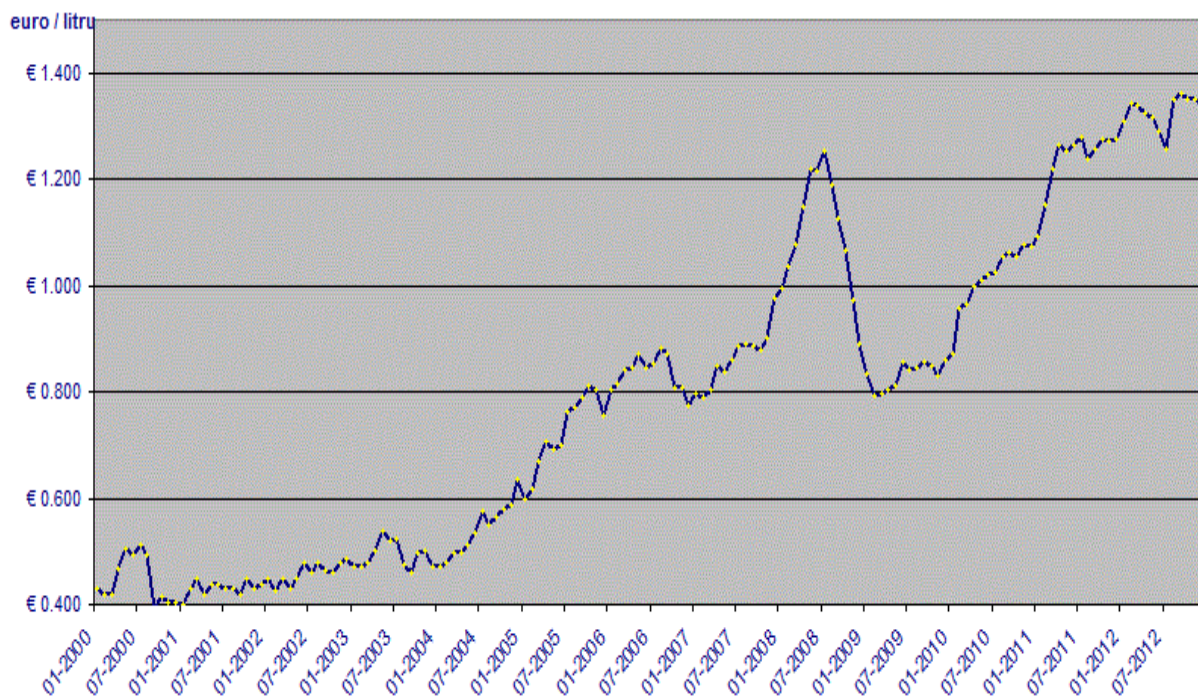


Figure no. 4. Variation of diesel price at the pump in Romania in the period 2000-2012 (euro / liter)

Source: <https://www.energy.eu/historical-prices/Romania/> si <http://www.untrr.ro/preț-motorina/evoluție-preț-motorina-petrom-cotații-titei-si-cursuri-valutare.html#>.

The influence of the steep decrease in the price of raw materials, from February 2014 to January 2015 at 105.38 US \$ / barrel to US \$ 44.38 / bbl, did not materialize in a similar decrease for finished products: gasoline or diesel (figure no 5)

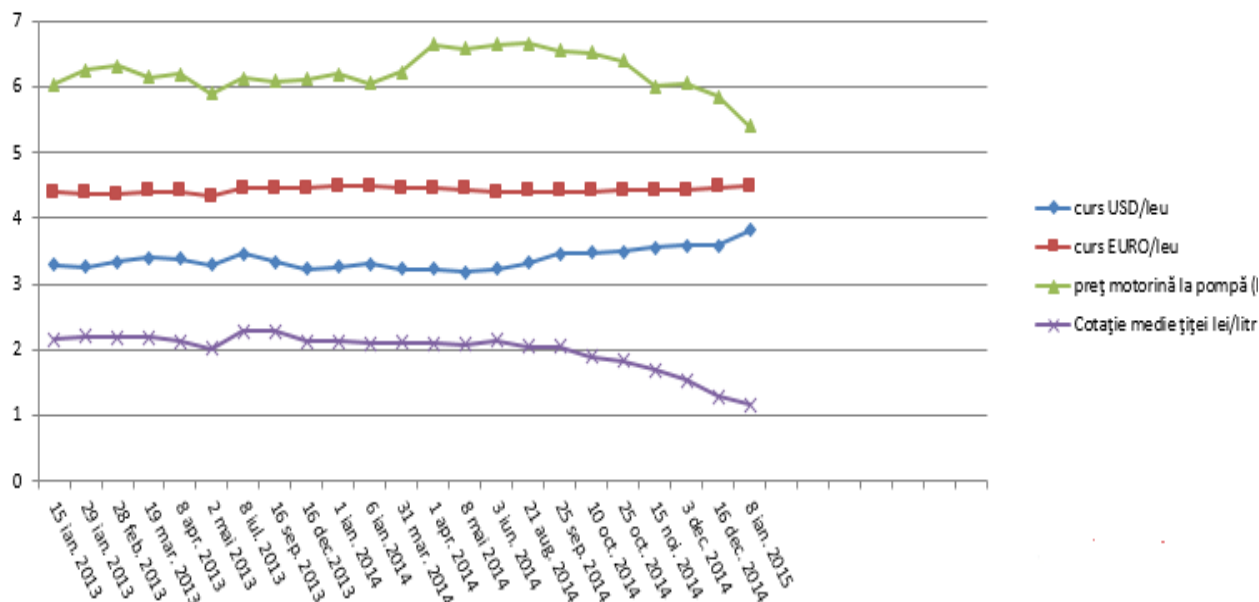


Figure no 5. Average oil price action, the exchange rate and the price of diesel at the pump (OMV-PETROM) during 2013-2015

Source: <http://www.untrr.ro/userfiles/files/Variatie%20motorina%202015.PNG>

4. CONCLUSIONS

Given that the price of fuel is a key factor in economic development but also in the living of population, this paper has proposed to analyze some aspects of the dynamics of prices of petroleum products in correlation with commodity prices in a competitive market in 2003 -2014.

Romania, which was one of the main oil producing countries in Europe (14 million tons annually) and one of the largest processing capacity of over 34 million tons per year after 2000 experienced strong impact of oil price fluctuations but also of derivatives.

This was reflected in continued growth in prices of petrol and diesel, with a major impact in all areas of economic and social activity but also in the welfare of the population.

During the financial crisis household consumption has been falling, which was reflected in falling prices, but major oil companies increased profit.

Aligning the prices in Romania prices within the EU has led to artificially increase the price, with a negative impact on the welfare of the population, the more so as the minimum wage / average in Romania is very small compared to the rest of the EU. No gasoline or diesel fuel surcharges (over 58% of the sale price) does nothing more than deepen these issues. In addition, in Romania, the price of gasoline and diesel (1.2 euro / l, 1.24 euro / l) is higher than in neighboring countries, Bulgaria (1,043euro / l, 1,067euro / l), Hungary (1146 EUR / l, 1,205euro / l), Poland (1,021 euro / l, 1.045 euro / l) (27 February 2015).

REFERENCES

1. Enachescu Daniela, (2002), *Industria de prelucrare a titeiului, componenta principala a industriei romanesti*, The 27th Annual Congress of the American Romanian-Academy of Arts and Science (ARA), Univ of Oradea, May 29—June 2, 2002, Proceed, voll, Polytechnic International Press
2. Zaharia M., Babucea A.G., Bălăcescu A., Rabontu C. (2015). *Metallurgical Industry in Romania in the Context of the Economic Crisis*, Metalurgija, 54(5), pag.445-448, Zagreb, Sijecanj-Oyujak, Croatia.
3. Zaharia M., Enachescu D., Bălăcescu A. (2014). *Evolutions of employment and turnover in services in EU*, Industrija, Serbia, Vol 42, No 2 (2014) , p. 21 -34.
4. http://adevarul.ro/economie/stiri-economice/infografie-romania-mai-dependenta-importurile-titei-decat-gaze-1_542830710d133766a87f5239/ index. html-[access at 9.03.2015]
5. <https://www.energy.eu/historical-prices/Romania/>
6. <http://www.iea.org/statistics/topics/pricesandtaxes/>
7. http://www.opec.org/opec_web/en/data_graphs/334.htm
8. http://www.opec.org/opec_web/en/data_graphs/40.htm
9. <https://www.energy.eu/historical-prices/Romania/>
10. <http://www.ziare.com/articole/top+tari+petrol>
11. <http://www.zf.ro/zf-24/petrom-9-300-angajati-putin-pierdut-8-puncte-cota-piata-rafineaza-27-putin-petrol-profitul-crescut-pestecinci-ori-iar-marja-neta-mare-cea-exxon-12464881>
12. <http://www.untrr.ro/premotorina/evolutie-premotorina-petrom-cotatii-titei-si-cursuri-valutare.html#.VDqe0RY4jzg>
13. <http://www.untrr.ro/userfiles/files/Variatie%20motorina%202015.PNG>
14. <http://www.insse.ro/cms/>
15. <https://www.energy.eu/fuelprices/>