

RISK EVALUATION IN ENERGETIC INDUSTRY

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Abstract: The keywords should be Energetic industry is presently meeting the pressure to provide stable availability of supplies with aim to secure economic growth, as well as pressure of living environment protection. There is therefore necessary to search position of energetic industry from the view of its risk to provide long-term prosperity and contribution for national economy in individual countries. Presented contribution searches external and internal aspects of threatening of the energetic industry stability from the view of sector risk and prediction of demand and offer development from area of energetic services. The prediction shows high dependence in EU on import of energetic commodities from unstable regions, which threatens energetic security of countries. There is therefore necessary to provide long-term prosperity by creation of positive financial indexes that would provide decreasing of bankruptcy risk.

1 Introduction

Development of human population is more and more connected also with natural, technical and technological catastrophes and their impacts to the society by the way of vast damages and losses [1]. Due to the mentioned there is necessary to increase importance of risks evaluation not only at the single working place and in the company, but also in the individual sectors and countries [2].

Presently the world economy is characterized by a globalization process, which means a national economy is part of a global economy, which influenced, but also determines a certain trend of the national economy development. In this connection industrial sectors present a part of the global economy, which determines certain complexity in the development of any industrial sector [3,4].

Industrial sectors (not excluding energetic industry) face presently pressure of living environment protection [5], both as an initiative from the side of governments, and from the side of global competition, not excluding pressure from the side of consumers [6].

Moreover, presently in energetic industry the task is how to provide energetic security of countries and regions [7]. This is perceived from various aspects, for example as stable availability of energetic supplies by the way to provide economic growth in producing, as well as in consumers countries with the lowest possible costs and prices differences [8].

Number of legislative decrees must be regarded, supporting and demanding in documented a way for evaluation of risks in various industrial activities and at the various level of business activities management [9,10]. Risk evaluation, as everyday part of management and decision processes, enables to create new solution and to improve „running“ processes by the way to achieve long

term determined goals of the company and satisfaction of employees, consumers and society.

The goal of presented contribution will be therefore to search the position of energetic industry from the view of its risk to provide long-term prosperity and contribution for the national economy of individual countries. To provide such long-term prosperity demands concentration to creation of positive financial indexes that would provide decreasing of bankruptcy risk in the given sector [11].

2 Methodology

Organization of Petroleum Exporting countries (OPEC) and its partners – including Russia, leading world producer – extended agreement to limit production to nine months till December 2018. Declared goal was to decrease stocks to their five years average, production by 1.8 million barrels per day, or to the level around 2% of world production. This time the agreement includes Libya and Nigeria, which should limit production to the highest level in 2017. The results of this agreement were that in January 2018 Brent and „West Texas Intermediate“ (WTI, north American index that had been used as well as reference index for determination of petroleum prices) at level 67 USD and 61 USD. Establishment of American pipelines of new generation with improved capacity could help to remove difference between prices Brent and WTI at level 4 USD in second half of 2018.

After achievement of record values in 2018, petroleum stocks remained too high (140 million barrels over five years averages), but they decreased and they should achieve five years average in second half of 2018 (Figure 1). Except of mentioned demand was increasing every half a year, overcoming gap between offers at the markets in 2017. Capital expenses could be smoothly increasing between leading companies in the sector (Chevron, ExxonMobil, Shell, Total, BP), acting in whole

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value chain (research, production, distribution), since they used an increased margin in 2017 [12].

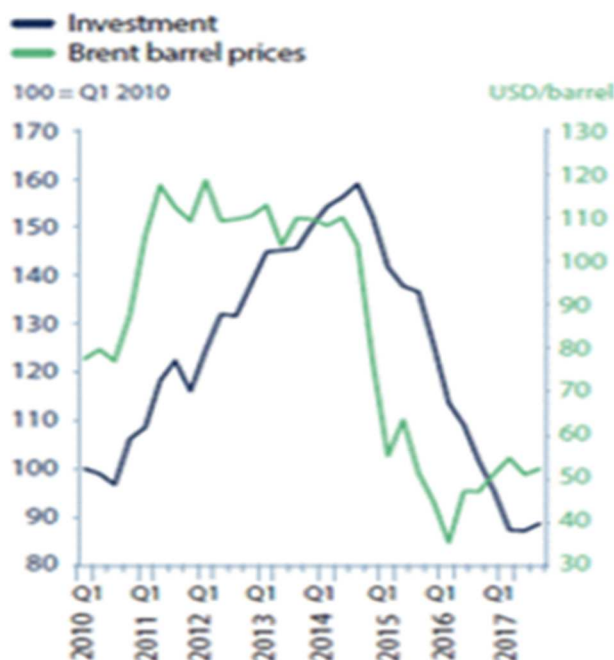


Figure 1 Trends of investments development in the sector
Source: www.macrotrends.net

Energetic industry demands from the view of long-term prosperity providing in the society to evaluate external and internal aspects of its stability threatening, to find out alternative possibilities for new sources using, as well as to manage reliably, safely and effectively everyday activities of its operation with a goal to observe quality [9]. Single evaluation of the sector risk results from the analysis of positive and negative sides in energetic industry (Table 1).

Table 1 Positives and negatives of energetic industry

| Positives | Negatives |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| Resistance against prices fluctuation in leading companies | High debt level, especially between slate oil companies |
| Expected high demand in the future, connected to the high worldwide growth of consumption | High volatility of oil prices |
| Effort of gas companies to simplify the production | Surplus of oil production |
| Implementation of an agreement about production freezing | Redundant capacity of services in several oil and gas companies |

Source: COFACE handbook, 2017, p. 228

Evaluation of the risk in the sector can be done by various approaches. One of them is to follow up following:

- Corruption failures (in the country of energetic company residence) during four consequent quarters,
- Payment period, announced by purchasers (aggregated according to sectors and countries),
- Expected financial results for the next four quarters (aggregated according to sectors and countries),
- Experiences with payment ability according to the sector and country of residence [13].

Evaluation of the bankruptcy risk in the sector (through credit risk) by the company COFACE is based on changes in financial data, published by more than 6000 listed companies from emerging Asia, North America, Latin America, Western Europe, Middle Europe and Middle East with Turkey. An indicator of credit risk presently summarizes change of turnover, profitability, indebtedness, cash flow and claims, registered by analytics of company COFACE. It distinguishes four categories of the risk:

- Low,
- Medium,
- High,
- Very high risk.

3 Results and discussion

The results of the risk evaluation in the energetic industry according to the individual countries during (with determination of development), is illustrated by Table 2.

Table 2 Development of energetic industry risk in individual countries

| Year | 2018 | 2017 | Development |
|---------------------------|--------|-----------|-------------|
| Latin America | High | Very high | Improving |
| North America | Low | Very high | Improving |
| Middle and Eastern Europe | Medium | High | Improving |
| Western Europe | Medium | High | Improving |
| Asia | High | High | Stable |
| Middle East and Turkey | High | High | Stable |

Source: www.coface.com

Figure 2 illustrates development in the analysed period in graphical illustration. Mentioned risk results from the development of demand and offer of energetic services.

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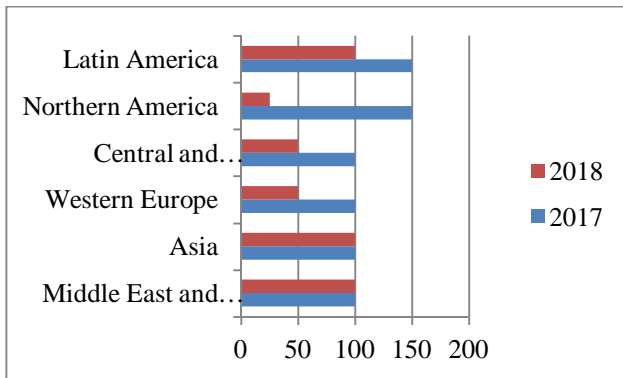


Figure 2 Development of risk in energetic industry in 2017-2018

3.1 Prediction of demand development in energetic services

According international energetic agency (International energy agency - IEA) the worldwide demand on oil should achieve in 2018 approximately 98.9 million barrels daily, which presents smooth growth by 1.3% in comparing with 2017, but it is significantly under worldwide economic growth by 3.7%. This trend shows more and more effective using of fossil fuels in main consumers countries.

Demand in Europe will be probably stagnating from 2018, almost by 15 million barrels per day. Development of consumption could be in case of strong winters increasing, which presents most a probable scenario. Refineries used rapid decrease of oil prices from June 2014 to improve their margin (calculated by NWE Brent range). But oil prices still present the most important part of total costs of refineries till 50% volume. Despite mentioned, costs on energy present 28% of total expenses, mainly in American refineries. The main consequence will be vulnerability of European demand, which will be less influenced by prices volatility. Meanwhile last years had recorded decrease of European capacity of refineries, the newest investments (for example in company Total at Anvers) record higher trust of the sector, mostly when speaking about earth gas [14,15].

Demand on oil products in USA should remain fixed and from 2018 there is expected growth by 1%. Margin of refineries should be still stabilized (after achievement of pick 29 USD per barrel – price determined after hurricanes, which caused offer decrease. Tax reforms in USA, orientated to decreasing of income tax for legal entities should help refineries. Except of mentioned measure of production capacities using in 2017 increased by 4 points against 2016. This trend is explained by combined effect of margin increasing, as well as oil prices Brent growth in comparing with WTI.

Present balancing of China economy should lead in following years to slowdown of its growth. Growth of GDP is expected in China economy by 6.5% in comparing with 6.7% in 2017. Due to the mentioned consumption of energy in China should be growing according IEA not so quickly – by 2.7%. There is probable that China will import

less oil and improve effectiveness of oil using. India will be from 2018 probably again one of the main consumers countries with rapid demand growth (in 2018 by 6.7%).

3.2 Prediction of offer demand in the energetic industry

In spite of agreement, in which there is expected freezing of production level in OPEC countries and in Russia, from 2018 offer should increase again by 1% and it should achieve 100 million barrels per day due to the positive prices for American shale oil producers. Prediction of development for capital expenses (by 4.3% in 2018) in the energetic sector is still not sufficient, and companies of oil and gas services will have permanent problems.

According US Energy Information Administration (EIA) oil production in USA should achieve from 2018 record level 10 million barrels per day. Main producers of shale oils managed to decrease significantly its profit and to increase by this way productivity and decrease the costs. Production in USA was strengthened by increased production of wells, although it remains under levels in last years. Next positive aspect is decrease of bankruptcies in the mining sector. But companies have still limited cash flow with debt payment that is in 2018 higher than in previous year (115.8 milliard, which is by 172% higher). It could cause next bankruptcies in energetic business. Investments prospects in energetic companies will be limited due to the financial demands.

In Western Europe after 2016 there was recorded turnover in financial results of leading companies. Segment E & P make profit from higher prices Brent. Smoothly improved financial situation of the companies helped from 2018 to increase forecasts of European companies, providing oil and gas services that are depended on investments. According JPMorgan Chase & Co. in 2017 average profit of the sector increased in Europe by 9% against 6% in North America.

Production in China should remain in decrease, which started in 2016 and 2017, decreasing by 2.6% in 2018. It is caused by governmental industrial policy, preferring production of earth gas. Government is therefore trying to privatize companies in this sector gradually. In Latin America perspectives of the sector should be strengthened from 2017 due to the Brasilia returned to the growth, production in area Lula and investments in area Libra.

Due to the position of energetic industry in national economy structure we made comparing of its position with other sectors. Table 3 illustrated the comparison of industrial sectors from the view of risk evaluation.

From the comparing of industrial sectors risk there is obvious that position of Energetic industry, together with construction, is the worst almost in all analysed areas, in spite in European space there is recorded high risk, but in American space the risk is still significantly high. The energetic industry did not recorded in any area medium

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risk. Therefore, there is sufficient space for its decreasing [16].

Table 3 Risk comparing in the individual industrial sectors

| Sector | North America | Latin America | Middle Europe | Western Europe | Asia | Middle East |
|------------------------|---------------|---------------|---------------|----------------|--------|-------------|
| Agriculture | Yellow | Orange | Yellow | Orange | Yellow | Orange |
| Automotive industry | Yellow | Orange | Green | Green | Yellow | Orange |
| Chemical industry | Green | Orange | Yellow | Yellow | Orange | Orange |
| Construction | Yellow | Orange | Orange | Yellow | Orange | Orange |
| Energetic industry | Orange | Orange | Orange | Orange | Orange | Orange |
| ICT | Yellow | Yellow | Yellow | Green | Orange | Orange |
| Pharmaceutics industry | Green | Yellow | Yellow | Yellow | Green | Green |
| Retail | Orange | Orange | Yellow | Yellow | Yellow | Orange |
| Clothing industry | Orange | Orange | Yellow | Orange | Orange | Orange |
| Transport | Yellow | Orange | Yellow | Yellow | Yellow | Yellow |
| Low risk | Green | | | | | |
| Medium risk | Yellow | | | | | |
| High risk | Orange | | | | | |
| Very high risk | Orange | | | | | |

Source: own processing according COFACE, 2017, p.223

4 Conclusions

Providing of sustainable economic growth is conditioned by providing of reliable energy supply with optimal costs and proper protection of living environment. Presently European Union disposes with most open and most integrated unique market with electric energy and gas. Majority of industrial developed countries recorded during last decades of energetic market significant tasks and together with collapse of central planned economies the trend of its liberalization became global – influencing policy of transitive economies, developing countries and international agencies. High EU dependence on import of energetic commodities from unstable regions threatens energetic security of countries. Therefore, the task to the future will be to deal with this problem with great attention not only from the side of research institutions, but mostly by the narrow cooperation with practice in effort to find out solutions for optimal solving of energetic security.

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Single-blind peer review process.