

## The Pharmaceutical Sector of Kazakhstan's Economy: Trends and Problems

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### ABSTRACT

This research is devoted to the investigation of the general trends in the development of the pharmaceutical industry in the current conditions of economical socialization. The determination of the economic specificity of the modern operation of the pharmaceutical industry is the purpose of the research. It was found that pharmacy is a profitable sphere of investment in spite of the economic crisis. Furthermore, it was found that national pharmaceutical markets of developing countries contributed significantly to the national economies (since the job of locating pharmaceutical manufacturing facilities is being vacated by developed countries), while the markets of developed countries facilitated the prospering of the economies of their countries (since new ways of making manufacturing cheaper provides for comfortable business). In addition, the correlation of data on export and import of pharmaceutical products gives an idea of the leaders of the pharmaceutical market and the peculiarities of their work. The research also found that the manufacturing of generic drugs was a promising branch of pharmacy. The novelty of this research is determined by the necessity of a comprehensive analysis of rapidly changed trends, which can serve as the basis from relevant economic planning.

### KEYWORDS

Pharmaceutical sector, pharmaceutical industry,  
world pharmaceutical branch, pharmaceutical  
production, directions of development

### ARTICLE HISTORY

Received 14 April 2016  
Revised 19 May 2016  
Accepted 23 May 2016

### Introduction

The pharmaceutical market is an economically attractive sector. However, has the status of pharmacy on the national and global market changed in terms of its attractiveness after the economic crisis?

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Published materials emphasize national economies (Dong & Yang, 2015, Chen & Fu, 2015) and innovation (Bettiol, 2015; Gautam & Pan, 2016); however, a comprehensive analysis of the trends in the development of the pharmaceutical industry requires more extensive data, the processing whereof will give a relevant idea of what pharmaceutical business should expect in the near future.

One of the directions of the modernization of national economies is the support of the development of pharmaceutical industries and socially oriented markets (Dogramatzis, 2015). This also applies to the economies of developing countries.

The most dynamically developing markets, alongside China and India, are countries of the Eurasian Economic Space (EES). In general, the production level of the pharmaceutical industry in the GDP of these countries is insignificant (0.5% on average), but the growing wellbeing and state support facilitate (Pan, 2016; Chen & Fu, 2015) the growth of local production and consumption due to the import of pharmaceutical products.

This economic sector has been growing steadily by 3-4% over the course of the last decade (Whiteman, Mc.Veigh & Watters, 2016); at that, the size of the pharmaceutical market was assessed at 1 trillion US dollars in 2014. The crucial factor of growth (Hartung, 2015) is the active development of the generic and biosimilar drug segment, which is currently a promising direction in pharmacy.

The relevance of the research lies in the necessity of the data of an economic analysis that determines the hypothetical success of business.

The practical value of this material lies in the relevant development of a business strategy in the pharmaceutical industry.

This material contributes to world science by expanding the possibilities of economic forecasting – both global and national.

### ***Aim of the Study***

The aim of this study is to obtain economic data from a comprehensive analysis of the pharmaceutical industry.

### ***Research questions***

The objective of the research is to conduct a basic economic assessment of a sector of global pharmacy. Is the industry promising? Is it profitable? In addition, the research aims to analyze comprehensively the national pharmacy by the example of the USA, Chinese, European Union, Russian, Kazakhstani, Belarussian, and Indian markets.

### ***Method***

The economic methods of studying national and international pharmaceutical markets of export and import used in this research are based on mathematical data. The statistics of these data enabled characterizing pharmaceutical markets economically through comparison, analysis, and synthesis.

### ***Results***

The novelty of this research lies in the comprehensive analysis of current trends in the pharmaceutical market – both global and national. In terms of the globalist concept, the economic sector is demonstrating trends of unification (developing



countries are interested in collaborating with developed countries, which is proven economically).

Based on the comprehensive analysis of the economic consistency of the pharmaceutical industry, it is possible to conclude that pharmacy is a promising area of investment even in current conditions of increased economic risks.

The investigation of the national export and import when compared to the GDP of the country gave insight into the potential of the development of pharmacy, which is significant at present. In particular, India is showing high development rates due to its geographic location and cheap workforce, while the USA is showing its intellectual potential in patenting, which also affects pharmacy.

## Conclusion

There is an opinion that the pharmaceutical market of European Union states will develop inconsistently (Blanc, 2015). A policy of curtailing expenses on healthcare is in effect, which curtails the expenses on the development of innovative drugs. In addition, M.N. Norazmi & L.S. Lim (2015) argue that the European tolerance policy in the context of an expanding consumer market is turning to the Muslim segment by offering it halal pharmaceutical products.

The pharmaceutical products manufactured in China amounted to 304.4 billion US dollars in 2013 (Pan, 2016), which was 20.1% more than in 2012 (253.4 billion US dollars). In general, the rate of growth of pharmaceutical manufacturing in China are impressive. The amount of manufactured pharmaceutical products grew by 2.3 times from 2008 (131.1 billion US dollars) to 2013 (304.4 billion US dollars). The general export of China's pharmaceutical industry in the first quarter of 2014 was 1511.2 million US dollars, with a significant part aimed at the USA – 243.7 million US dollars. Other big importers (Ogorodova, 2016) of Chinese drugs were Australia (157.4 million US dollars) and Germany (76.9 million US dollars).

CRO (O'Brien, 2015; Bettiol, 2015) in China mostly focus on pre-clinical and clinical trials of new drugs. About one-third of Chinese companies are located in Beijing due to the initiative of local authorities. Shanghai is also a rapidly growing market.

According to estimations, the Asian-Pacific market of clinical services (not including the development of drugs) generated about 1 billion US dollars of income (Talasov & Abdrakhamanova, 2015); the forecast is that the CAGR (Compound Annual Growth Rate) will grow by 20% – to 2.5 billion US dollars in 2015.

According to analytical data of Bloomberg, the "Big Pharma" hoped that China would solve its problems related to insignificant growth of sales in developed countries and reducing income caused by enhancing competition from generic drugs (Chen & Fu, 2015). For instance, the sales of such companies as GlaxoSmithKline, Pfizer, and Merck grew by 40% in 2011, but in 2013, sales grew by only 20%. According to Bloomberg, the main reason for the deceleration is the general slowdown of the Chinese economy.

The Indian pharmaceutical market is the fourth largest manufacturer in terms of goods and the 11th largest in terms of money (Dixit & Yadav, 2015). The export of Indian pharmaceutical products amounted to 2951 million US dollars in the first quarter of 2014, with a significant part of them going to the USA (969.4 million US dollars) (Suri & Banerji, 2016). Other large importers of Indian pharmaceutical

products are South Africa (123.8 million US dollars), Russia (123.3 million US dollars), and Great Britain (113.2 million US dollars).

According to the report of the Deloitte consulting company on the prospects for 2014 in the field of biological sciences, the sales of pharmaceutical products in India grew from 22.6 billion US dollars in 2012 to 23.6 billion US dollars in 2013.

India is one of the top five developing pharmaceutical markets that has achieved double-digit growth of certain socioeconomic factors, which includes the growing manufacturing of generic drugs, continuous growth of chronic disease treatment, and entry of products to the rural regions of the country. Other favorable factors, such as low cost of production and rapid growth of research and development, have drawn international pharmaceutical companies to India. It is also worth noting that the growing demand for generic drugs also plays a major role in India's establishment and development as a center of generic drug manufacturing. The US Food and Drug Administration (FDA) took measures to limit drug import from India to the USA, which is the biggest export market for Indian pharmaceutical products. In January 2014, the Administration banned the import of pharmaceutical products manufactured by Ranbaxy Laboratories in Toansa (Punjab, India), which caused the value of company shares to drop by 20%. This ban is the fourth sanction imposed by the FDA on the factories of Ranbaxy – the largest pharmaceutical manufacturer of India – after similar bans were issued on the factories in Mohali, Paonta Sahib, and Dewas. Before that, in 2013, the FDA fined Ranbaxy 500,000,000 US dollars for serious violations in manufacturing and distribution of certain counterfeit pharmaceutical products manufactured at Ranbaxy factories in Paonta Sahib and Dewas. At that, India is the largest exporter of generic drugs to the USA in terms of goods. India also hosts 320 pharmaceutical factories that have been approved by the FDA. India is the country with the second greatest number of pharmaceutical factories approved by the FDA after the USA.

Nowadays, the pharmaceutical market of the EES is one of the most dynamically developing markets. EES member-states have a relatively small pharmaceutical industry, the share of which in the GDP of each country does not exceed 0.5%. At that, it is worth noting that the size of local production and the general size of consumption has been growing in recent years. The growing wealth of EES member-states also changes the structure of consumed pharmaceutical products. The demand for more expensive brand drugs is growing as a result. This trend has a negative effect on the share of generic drugs on the market – the drugs in which local manufacturers specialize.

In January-August of 2014, the manufacturing of pharmaceutical products amounted to 6069.2 billion Belarussian rubles (100.7% volume index). Belarus has the highest percentage of local drugs on the market in terms of value – 24.84% (Adriaenssens, 2015). The pharmaceutical market of Belarus includes more than 5000 items, more than 1200 of which are made in Belarus. Under the import substitution program of Belarus, Belarussian companies learn to manufacture new drugs each year, with a view to reducing the need to import similar products. Belarussian companies learned to produce 103 new drugs in 2013. The main advantage of Belarussian drugs is their price, which enables them to compete with imported pharmaceutical products. In addition, Belarus has a program for stimulating sales of domestic drugs by providing bonuses to drugstore employees for raising sales of domestic pharmaceutical programs.



The pharmaceutical market of the Russian Federation grew by 13.4% in 2013 and reached 1045.4 billion rubles. Foreign drugs amounted to 76.3% of the pharmaceutical market in terms of value in 2013. For comparison, the percentage of foreign pharmaceutical products in 2012 was 75%. On the other hand, Russian drugs prevailed in physical quantity (number of packages, ampoules, flasks, etc.) – 61.9%, compared with about 60% in 2012. In January-March of 2014, the Russian pharmaceutical market grew by 3% to 188.7 billion rubles. The size of drug production in ampoules, doses, packages, flasks, and units was 43.5 billion rubles in the first six months of 2014.

The peculiarity of the Russian pharmaceutical market is not only a large number of registered drugs, but also the large number of economic entities and sectors of production and distribution. Five hundred fifty Russian companies have licenses for manufacturing drugs and more than 1000 foreign pharmaceutical companies supply their products to Russia.

At the same time, the number of wholesale suppliers of pharmaceutical products decreased by 13% in 2013 (from 54 in 2012 to 47 in 2013). In July of 2014, the size of the homeopathic drug market was 37.1 billion rubles, which is a 2.6% increase when compared to June of 2014. In July of 2014, the commercial drug market in terms of quantity was 308.8 billion packages, which was 11.7% lower than during the same period of 2013. The average value of a drug package on the commercial market of Russia was 120.1 rubles, which was a 0.1% increase when compared to June of 2014.

According to the Laspeyres index, which is used to assess changes in prices, the prices in rubles grew by 1.7% in July 2014. The price index in the dollar equivalent increased by 1.1%. The price inflation in drugstores from the start of 2014 was +5.5% in terms of rubles and +0.2% in terms of dollars.

The pharmaceutical market of Kazakhstan is assessed at 1.2 billion US dollars. Most of the market are imported products. The pharmaceutical industry of Kazakhstan largely depends on the import of medical equipment, raw materials, and packaging; the industry is under pressure from rapidly developing economies of China, India, and EACU member-states. The geographic location is a favorable factor for the location of manufacturing facilities in the southern regions of Kazakhstan, considering how close this region is to the Chinese market – the main supplier of raw materials, and Central Asian states – potential consumers of manufactured products.

It is worth noting that recent years witnessed a trend, associated with changes in groups of drugs that are losing patent protection (Liu & La Croix, 2015). Multiple biological and injectable drugs will lose patent protection. This will have a significant impact on the pharmaceutical market of generic drugs.

The second important trend in the global pharmaceutical industry is the serious regulatory influence of governmental agencies on healthcare systems in developed countries (Diestre, Rajagopalan & Dutta, 2015). The state regulatory policies are mostly aimed at cutting expenses on healthcare. This is especially obvious in countries with a high level of healthcare expenses that is caused by certain internal characteristics, for instance, ageing population and associated morbidity structure. Under limited expenses, the use of generic drugs, the cost of which is significantly lower than that of original drugs, is especially common.

The third trend that affects the development of the generic drug segments on the world pharmaceutical market is related to the largest transnational pharmaceutical companies entering developing pharmaceutical markets (Roschangar, Sheldon & Senanayake, 2015).

As the growth of pharmaceutical markets slows down, the attention of global players often turns to the developing markets with significant growth potential (Paolucci, 2015). The entry into the market of Asian and Eastern European countries and Brazil is characterized by a considerable contribution to the world economy. This aspect will become more pronounced as the years go by.

The fourth trend concerns the development of both the original drug segment and that of generic drugs – the increase in mergers-and-acquisitions (M&A). The research of Ernst & Young Global Limited emphasized several factors that could affect the M&A market in 2014 and further on.

Acquisition of assets to hedge risks associated with the development and launch of new drugs. In 2014, the list of possible buyers will include large pharmaceutical companies, the income growth whereof will be lower than the average market index, and the companies that will decide to hedge risks related to research and development and launch of new drugs.

Considering the growth of assets assessment, some large pharmaceutical companies may resort to selling their assets to increase their solvency. According to the Ernst & Young Global Limited assessment, large pharmaceutical companies will be able to seal about 12 asset-sale deals, mostly for non-core assets, the income from which will generate additionally up to 100 billion US dollars for M&A.

The serious stress on the original drug market due to the expiry of pharmaceutical companies' patents to certain drugs will raise interest in M&A of companies with steady or reducing solvency (Roschangar, Sheldon & Senanayake, 2015). This will have a stimulating effect on the M&A market and will help companies to cope with the consequences of loss of patents to original drugs, reduction of income, and growing competition from generic-drug companies.

The structure of this sector is a result of dependency on the previous historical path of development. The pharmaceutical industry differs from other civil sectors of the economy, primarily in the amount of funding, certainty and stability of demand, and higher risks of commercial undertakings and projects. The development of the generic drug sector is the most promising area for the pharmaceutical industry.

### Implications and Recommendations

The scientific value of this material lies in the analysis of trends in the important global and national economic branch of pharmacy.

The latter is one of the most profitable and rapidly growing sectors of the world economy, which continues to develop in spite of the economic crisis. According to the assessment of IMS Health international research company, the size of the world pharmaceutical market was 971 billion US dollars in 2013. The market grew by 3.3% when compared to 2012. The assumption is that the annual growth will be 3-4%.

The results of this research can be used in the specific pharmaceutical sphere of business planning, marketing, and economics.

The advantage of the methods of this research is that they use latest data, which can be effective in economic planning.



## Disclosure statement

No potential conflict of interest was reported by the authors.

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