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# THE PILLARS OF THE POLISH ECONOMY'S INTERNATIONALLY COMPETITIVE POSITION IN THE POST-ACCESSION PERIOD[2]

*The article presents the results of an analysis which attempts to identify the most important factors determining changes in the Polish economy's internationally competitive position com-pared to the other new member states of the European Union (EU-10) in the years 2004–2017. The hypothesis that, among the EU-10 states, Poland belongs to those where varied effects of membership have clearly occurred has been put forward. This has greatly influenced the for-mation of the internationally competitive position of the economy. In the research, analysis of the secondary data concerning the pillars of the economy's competitiveness specified in the* Global Competitiveness Report *has been applied. This has been compiled by the World Eco-nomic Forum. The article ends with a summary of the most important conclusions drawn from the presented analysis.*

**Keywords:** international competitiveness of economy, factors determining the competitive position of the economy, effects of EU membership, Poland compared to new member states.

**JEL Classification Codes:** E2, E6, F4, F5.

## Introduction

Similarly to other new EU members states, Poland has experienced a number of successes and failures in the post-accession period. The accession became an impulse for changes following the those initiated back in the early 1990s, and the first years of

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membership allowed the building of relatively permanent and stable bases for further development. They became the major factor for the improvement of the economy's internationally competitive position.

Based on the results of earlier analyses conducted by other scholars, the presented research has adopted the assumption that in the contemporary world economy, in order to achieve the developmental goals of the economy, the following are required: strategic building of interna-tional position, taking into consideration: ability to identify and promote 'sectors of the fu-ture' [Sung, 2006, pp. 38–42), development of human resources (Cho, Moon, 2000, p. 142), technological abilities and their institutional conditioning [Miozzo, Walsh, 2006), and the abil-ity to adapt to the changing external conditions (Oziewicz, 2007, p. 22–23). These 'strategic behaviours' of economies can be connected 'in the guise' of building macro-competitiveness.

The aim of the analysis presented in the article was to identify the most important factors determining changes in the Polish economy's internationally competitive position compared to other new EU member states (EU-10) in the years 2004–2017. The hypothesis that was adopt-ed was that among the EU-10 states, Poland is one country whose internationally competitive position improved the most in the post-accession period. Therefore, it seemed important to analyse how particular factors influenced the formation of this position. The analysis is based on indicators presented in the Global Competitiveness Report, compiled by the World Eco-nomic Forum. These Reports are among the most comprehensive and most frequently quoted rankings of the international competitiveness of economies.

## 1. Standards and methods of measuring an economy's international competitiveness

'Countries, just like international corporations, compete on the world markets.' This provoca-tive statement, announced by Bill Clinton in 1993, has been generating heated discussions for years (Dunn, 1994; Thurow, 1994; Krugman 1994; Wziątek-Kubiak, 2004; Olczyk, 2008; Ai-gigner, 2006), encouraging the creation of many rankings and comparisons of individual coun-tries' positions in the global economy (see more: Żmuda & Molendowski, 2016, pp. 323–343).

The assessment of an economy's international competitiveness consists in defining its com-petitive position (Bossak 2000) or an economy's competitive ability (Misala 2008). In recent years, there have been numerous standards of a national economy's international competitive-ness as well as methods to measure it. This concerns both measuring a national economy's in-ternational competitive ability and its internationally competitive position in a given period. The determinants defining the competitiveness of individual countries have become the sub-ject of analyses for many researchers and international bodies.

One such body is the International Institute for Management Development (IMD). The In-stitute publishes the results of its research in the annual World Competitiveness Yearbook re-port including several dozen countries. Since 2004, the World Bank has also been preparing annual an report called *Doing Business*, dedicated to an analysis of conditions for doing busi-ness in the researched countries. Foreign Direct Investment Confidence Index, drawn up year-ly by the consultancy company A. T. Kearney, is often comparatively used to assess an econ-omy's international competitiveness. A measure of a country's international competitive ability is also the Human Development Index (HDI), published by UNDP, which is a synthetic measure of the standard of living in any given country.

In recent years, *The Global Competitiveness Report* has been one of the most comprehen-sive and most frequently quoted rankings of economies' international competitiveness. It re-sults from the annual comparative study of conditions for countries' economic development, conducted by the World Economic Forum[3].

The ranking categorises analysed countries according to their competitiveness resulting from an indicator devised for this purpose. Currently (in 2017), it is calculated on the basis of 114 factors, arranged in 12 pillars which are divided into 3 categories for individual countries: basic requirements, efficiency enhancers, and innovation and sophistication factors. Under each factor, individual countries are given ratings from 1 to 7, where 1 is the lowest score, and 7 – the highest possible (WEF 2017, p. 11).

The positioning of a given country in the appropriate groups defining the level of develop-ment is crucial when calculating the synthetic index of competitive position. The values as-signed to individual groups of pillars depend on the analysed country's GDP per capita.

In the WEF ranking, basic requirements are of key importance for economies where devel-opment is based mostly on traditional factors of production (their GDP per capita does not exceed USD 2000). Efficiency enhancers are crucial for economies whose development is based mostly on investment (GDP per capita in the scope of USD 3000–17000). Innovation and sophistication factors are especially important for countries whose development is driven by innovations. These are countries on the highest (third) level of economic development (their GDP per capita exceeds USD 17000). It is worth emphasising that among the factors deter-mining a country's competitive position, efficiency enhancers have been given the greatest importance. Basic requirements, on

[3] This report was first published in 1979 and new countries are systematically added to it (in 2017 – 140 countries). Initially, it included the Competitiveness Index ranking devised under the supervision of Prof. J Sachs, in which the bases of mid- and long-term rapid economic development were identified. In 2000, its name was changed to the Growth Competitiveness Index, to differentiate it from the current microeconomic index appearing under various names in various reports. Since 2004, it has been replaced by the Global Competitiveness Index. It is devised by the World Economic Forum in cooperation with Prof. X. Sala-i-Martin and with the use of Prof. M. Porter's research [WEF 2017].

the other hand, play a relatively significant role in defining the competitive position of those countries with the lowest level of economic development (WEF 2017, p. 320).

## 2. Changes in Poland's competitive position compared to new member states

The results of the economy competitiveness study conducted by the World Economic Forum allow us to state that the position and competitiveness of the Polish economy in the interna-tional arena was relatively low (compared to the new member states) in the early 2000s.

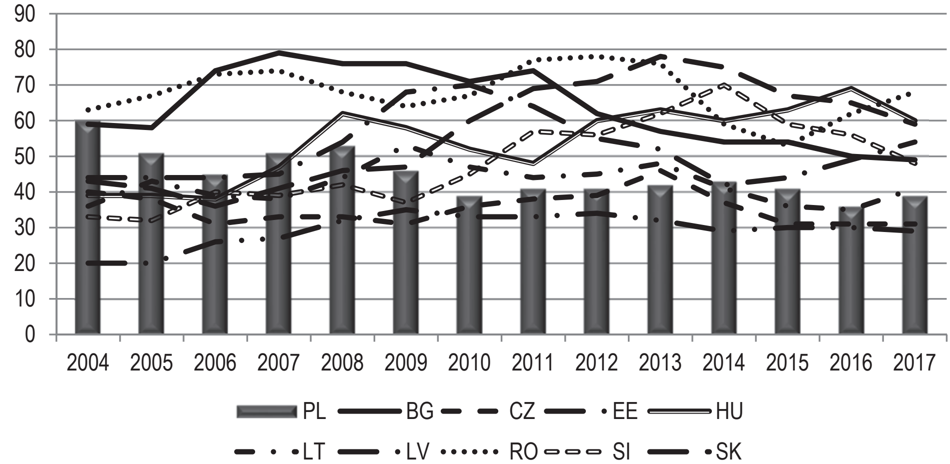
Based on the data compiled in Table 1 and Table 2 (illustration in graphs 1 and 2), it can be unequivocally concluded that in the post-accession period (the years 2004–2017) the position of Poland changed dramatically. While in 2004 the Polish economy ranked 60th in terms of competitiveness (3.98 points), in the following two years its competitiveness scored much bet-ter – position 51 and 45 (4.00 and 4.39 points respectively). In the period of the world crisis, the worst result was achieved by Poland in 2008, occupying 53rd position (4.28 points) in the ranking. The next two years were marked by a clear improvement of the position – 46th and 39th (4.33 and 4.51 points). In the following five years (2011–2015), the competitiveness of the Polish economy was assessed on a comparatively similar level (position 41–43, 4.46 points). However, in 2016 Poland considerably improved its position and was ranked 36th (4.56 points). Unfortunately, this positive trend proved impossible to maintain in 2017 (it slipped back to the 39th position – 4.59 points). Nevertheless, over the analysed period (2004 – 2017), Poland improved its position in the ranking by as many as 21 positions (by 0.61 points) in result.

As shown in graphs 1 and 2, it is difficult to indicate a uniform trend in forming the com-petitive position of the Polish economy in the entire period between 2004–2017. In the first years after the accession (2005–2006), the competitive position of the Polish economy im-proved clearly. In the years 2007–2008, this positive trend was reversed, yet in the years 2009–2010 there was another improvement. As a consequence of these changes, Poland's po-sition in the ranking improved from position 60 in 2004 to position 39 in 2010. However, in the following five years (2011–2015), this positive trend was reversed (or stopped). In 2016, yet another considerable improvement of the position took place, which allowed Poland to take the 36th position in the ranking. This was the highest position in the entire post-accession period. Unfortunately, this positive trend proved impossible to maintain in 2017.

**Table 1. The position of Poland compared to the EU-10 countries in competitiveness studies conducted by the World Economic Forum in the years 2004–2017**

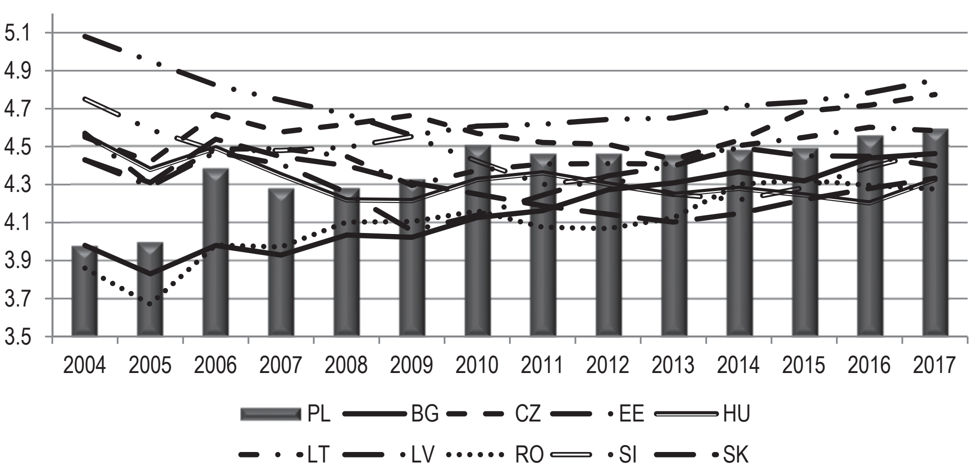
| YEARS | BG | CZ | EE | HU | LT | LV | PL | RO | SI | SK |
|---|---|---|---|---|---|---|---|---|---|---|
| Position in the ranking | | | | | | | | | | |
| 2004 | 59 | 40 | 20 | 39 | 36 | 44 | 60 | 63 | 33 | 43 |
| 2005 | 58 | 38 | 20 | 39 | 43 | 44 | 51 | 67 | 32 | 41 |
| 2006 | 74 | 31 | 26 | 38 | 39 | 44 | 45 | 73 | 40 | 36 |
| 2007 | 79 | 33 | 27 | 47 | 38 | 45 | 51 | 74 | 39 | 41 |
| 2008 | 76 | 33 | 32 | 62 | 44 | 54 | 53 | 68 | 42 | 46 |
| 2009 | 76 | 31 | 35 | 58 | 53 | 68 | 46 | 64 | 37 | 47 |
| 2010 | 71 | 36 | 33 | 52 | 47 | 70 | 39 | 67 | 45 | 60 |
| 2011 | 74 | 38 | 33 | 48 | 44 | 64 | 41 | 77 | 57 | 69 |
| 2012 | 62 | 39 | 34 | 60 | 45 | 55 | 41 | 78 | 56 | 71 |
| 2013 | 57 | 46 | 32 | 63 | 48 | 52 | 42 | 76 | 62 | 78 |
| 2014 | 54 | 37 | 29 | 60 | 41 | 42 | 43 | 59 | 70 | 75 |
| 2015 | 54 | 31 | 30 | 63 | 36 | 44 | 41 | 53 | 59 | 67 |
| 2016 | 50 | 31 | 30 | 69 | 35 | 49 | 36 | 62 | 56 | 65 |
| 2017 | 49 | 31 | 29 | 60 | 41 | 54 | 39 | 68 | 48 | 59 |
| 2004–2017 | 10 | 9 | -9 | -21 | -5 | -10 | 21 | -5 | -15 | -16 |
| **GCI value** | | | | | | | | | | |
| 2004 | 3.98 | 4.55 | 5.08 | 4.56 | 4.57 | 4.43 | 3.98 | 3.86 | 4.75 | 4.43 |
| 2005 | 3.83 | 4.42 | 4.95 | 4.38 | 4.3 | 4.29 | 4.00 | 3.67 | 4.59 | 4.31 |
| 2006 | 3.98 | 4.67 | 4.82 | 4.49 | 4.49 | 4.47 | 4.39 | 3.98 | 4.48 | 4.54 |
| 2007 | 3.93 | 4.58 | 4.74 | 4.35 | 4.49 | 4.41 | 4.28 | 3.97 | 4.48 | 4.45 |
| 2008 | 4.03 | 4.62 | 4.67 | 4.22 | 4.45 | 4.26 | 4.28 | 4.10 | 4.50 | 4.40 |
| 2009 | 4.02 | 4.67 | 4.56 | 4.22 | 4.30 | 4.06 | 4.33 | 4.11 | 4.55 | 4.31 |
| 2010 | 4.13 | 4.57 | 4.61 | 4.33 | 4.38 | 4.14 | 4.51 | 4.16 | 4.42 | 4.25 |
| 2011 | 4.16 | 4.52 | 4.62 | 4.36 | 4.41 | 4.24 | 4.46 | 4.08 | 4.30 | 4.19 |
| 2012 | 4.27 | 4.51 | 4.64 | 4.30 | 4.41 | 4.35 | 4.46 | 4.07 | 4.34 | 4.14 |
| 2013 | 4.31 | 4.43 | 4.65 | 4.25 | 4.41 | 4.40 | 4.46 | 4.13 | 4.25 | 4.10 |
| 2014 | 4.37 | 4.53 | 4.71 | 4.28 | 4.51 | 4.50 | 4.48 | 4.30 | 4.22 | 4.15 |
| 2015 | 4.32 | 4.69 | 4.74 | 4.25 | 4.55 | 4.45 | 4.49 | 4.32 | 4.28 | 4.22 |
| 2016 | 4.44 | 4.72 | 4.78 | 4.20 | 4.60 | 4.45 | 4.56 | 4.30 | 4.39 | 4.28 |
| 2017 | 4.46 | 4.77 | 4.85 | 4.33 | 4.58 | 4.40 | 4.59 | 4.28 | 4.48 | 4.33 |
| 2004–2017 | 0.48 | 0.22 | -0.23 | -0.23 | 0.01 | -0.03 | 0.61 | 0.42 | -0.27 | -0.1 |

Source: The Global Competitiveness Index Historical Dataset © 2007–2016: The Global Competitiveness Index Historical Dataset © 2005–2015; Global Competitiveness Index (GCI), 2004–2005, Scores; Global Competi-tiveness Index (GCI), 2005–2006, Scores, The Global Competitiveness Report 2017–2018, World Economic Forum (for the respective years).




**Graph 1. Changes in the competitive position of Poland compared to EU-10 countries in the studies conducted by the World Economic Forum in the years 2004–2016**

Source: Author's dataset based on the data in Table 1.




**Graph 2. Changes in the GCI value for Poland compared to EU-10 countries in the years 2004–2016**

Source: Author's dataset based on the data in Table 2.

An important element of the presented analysis was a comparison of Poland's results with those of other new EU member states. They are, as is known, those countries which were eco-nomically the most successful among all the Central and Eastern European countries in the transformation period (after 1990). The accession to the European Union became an impulse for permanent changes and for building a quite sustainable and stable foundation for their development. However, in the WEF competitiveness rankings, they achieved rather various results (see Table 1 and Graphs 1 and 2). At the beginning of this period (2004), Poland's competitiveness (position 60) was assessed as relatively the worst. Only Romania scored lower (63rd place), and Bulgaria occupied a similar position (59th place). The position of Poland dif-fered greatly from the position of the Visegrád Group countries (V4). At that time, the Czech Republic, Hungary and Slovakia had much higher positions (40, 39 and 43, respectively). Also the Baltic states: Estonia, Lithuania and Latvia ranked higher (20th, 36th and 44th position in the ranking respectively), were rated higher.

In the following years, until the year 2007, Poland still held a worse position than the other V4 countries and the Baltic states. In 2008 – Hungary, and in 2009 Slovakia, Lithuania and Latvia slipped behind Poland. In the first years after the crisis (2010–2012), Poland already ranked higher than 8 out of the 10 new member states. This situation continued until the end of the analysed period (2017). As a result, only Estonia and the Czech Republic ranked above Poland (29 and 31 respectively) in 2017. In this way, by achieving 39th place, Poland im-proved its position in the ranking the most (compared to the studied countries) as it advanced by 21 positions. Apart from Poland, only Bulgaria and the Czech Republic improved their rankings (by 10 and 9 positions respectively).

It is worth emphasising that, analysing the data illustrated in graphs 1 and 2, it can be de-cidedly stated that between the years 2004–2017 Poland was the most successful at improv-ing the international competitive position of its economy compared to the studied countries. While in the WEF ranking Poland improved by 21 positions (by 0.61 point), Bulgaria and the Czech Republic improved by 10 and 9 positions (by 0.48 and 0.22 points respectively). At the same time, 7 of the EU-10 countries ranked lower: Hungary – by as many as 21 positions, Slovakia – down by 16, Slovenia – by 15, Latvia – by 10, Estonia – by 9, and Romania and Lithuania – down by 5 positions.

Owing to that, Poland, from a country with one of the worst positions in the ranking in 2004, became a state with a much better position compared to two partners from the Visegrád Group (Slovakia and Hungary), two Baltic states (Latvia and Lithuania) and Bulgaria, Roma-nia and Slovenia. As a result of these changes, Poland joined the EU-10 leaders of the WEF ranking for 2017, i.e. Estonia and the Czech Republic (WEF, 2017, s. 11; Boguszewski 2016, s. 21–28).

## 3. Pillars (factors) determining Poland's competitive position compared to EU-10 countries

As already mentioned, the result of the annual comparative study of countries' economic development conditions conducted by the World Economic Forum is the ranking of econo-mies' international competitiveness – *The Global Competitiveness Report*. Currently (in 2017), it is calculated on the basis of 114 factors, arranged in 12 pillars which are divided into 3 cat-egories: basic requirements, efficiency enhancers, and innovation and sophistication factors. Table 2 includes a list of factors on the basis of which the competitive position of the analysed countries is assessed.

**Table 2. Classification of factors determining a country's competitive position according to the *Global Competitiveness Report***

| GLOBAL COMPETITIVENESS INDEX | | |
|---|---|---|
| **Basic requirements** | **Effectiveness enhancers** | **Innovation and sophistication factors** |
| Pillar 1 – Institutions<br>Pillar 2 – Infrastructure<br>Pillar 3 – Macroeconomic environment<br>Pillar 4 – Health and primary education | Pillar 5 – Higher education and training<br>Pillar 6 – Goods market efficiency<br>Pillar 7 – Labour market efficiency<br>Pillar 8 – Financial market development<br>Pillar 9 – Technological readiness<br>Pillar 10 – Market size | Pillar 11 – Business sophistication<br>Pillar 12 – Innovation |
| ↓ | ↓ | ↓ |
| **Development determined by traditional factors** | **Development determined by investment** | **Development determined by innovation** |

Source: Author's dataset based on *The Global Competitiveness Report 2017–2018*, Klaus Schwab (ed.), World Economic Forum, Geneva 2017.

It is worth emphasising that among the factors determining a country's competitive position, efficiency enhancers have been given the greatest importance. Basic requirements, on the other hand, play a relatively significant role in defining the competitive position of the countries with the lowest level of economic development (WEF, 2017, p. 22).

Obviously, an analysis of long-term trends plays a special role in analyses of this type. Therefore, the analysis presented in the article attempts to identify the main trends characterising the changes in Poland's competitive position and the factors determining it compared to the EU-10 countries in 2017 as contrasted with 2006[4]. The most important data illustrating these trends has been compiled in Table 3 (presented in Graphs 3 and 4).

The data presented in Table 3 shows that in 2006, Poland's competitive position (4.39 points) was mostly influenced (4.62 points) by basic requirements (pillars) and – to a lesser degree – by effectiveness enhancers (4.33 points). The position was least significantly influ-enced by innovation factors (3.73 points).

[4] The analysis only includes the period to 2006, as the rankings for previous years used a different classification of factors determining the competitive position of the studied countries.

**Table 3. The formation of factor (pillar) values determining Poland's and other EU-10 countries' competitive position in the years 2006 and 2017**

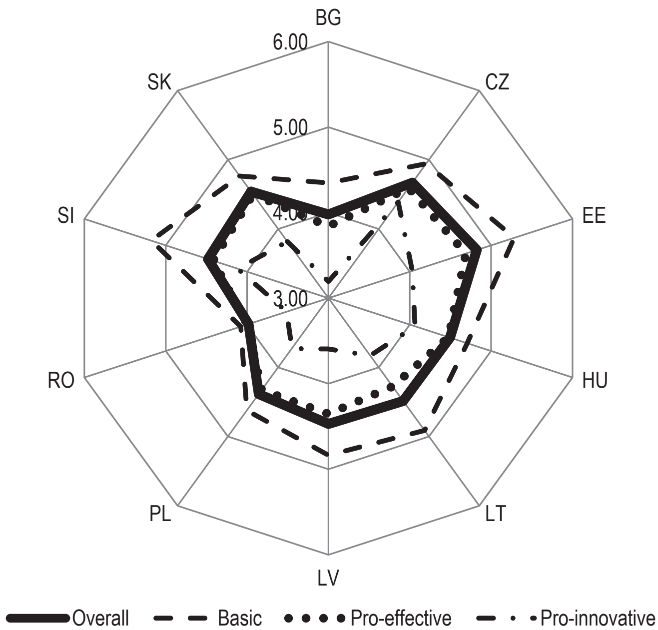
| Countries | 2006* | | | | 2017 | | | |
|---|---|---|---|---|---|---|---|---|
| | Overall | Basic | Proeffective | Proinnovative | Overall | Basic | Proeffective | Proinnovative |
| BG | 3.98 | 4.35 | 3.84 | 3.20 | 4.46 | 4.77 | 4.40 | 3.57 |
| CZ | 4.67 | 4.94 | 4.59 | 4.39 | 4.77 | 5.35 | 4.86 | 4.24 |
| EE | 4.82 | 5.28 | 4.69 | 4.03 | 4.85 | 5.66 | 4.92 | 4.20 |
| HU | 4.49 | 4.71 | 4.48 | 4.06 | 4.33 | 4.65 | 4.44 | 3.52 |
| LT | 4.49 | 4.91 | 4.28 | 3.83 | 4.58 | 5.15 | 4.57 | 4.04 |
| LV | 4.47 | 4.84 | 4.35 | 3.59 | 4.40 | 5.01 | 4.40 | 3.65 |
| **PL** | **4.39** | **4.62** | **4.33** | **3.73** | **4.59** | **4.99** | **4.65** | **3.75** |
| RO | 3.98 | 4.08 | 4.00 | 3.51 | 4.28 | 4.57 | 4.28 | 3.28 |
| SI | 4.48 | 5.18 | 4.42 | 4.11 | 4.48 | 5.14 | 4.39 | 4.18 |
| SK | 4.54 | 4.76 | 4.50 | 3.82 | 4.33 | 4.83 | 4.46 | 3.76 |

*The data presented in this Table only includes the period to 2006, as the WEF rankings for previous years used a different classification of factors determining the competitive position of the studied countries.

Source: Author's dataset based on the data in Table 1.

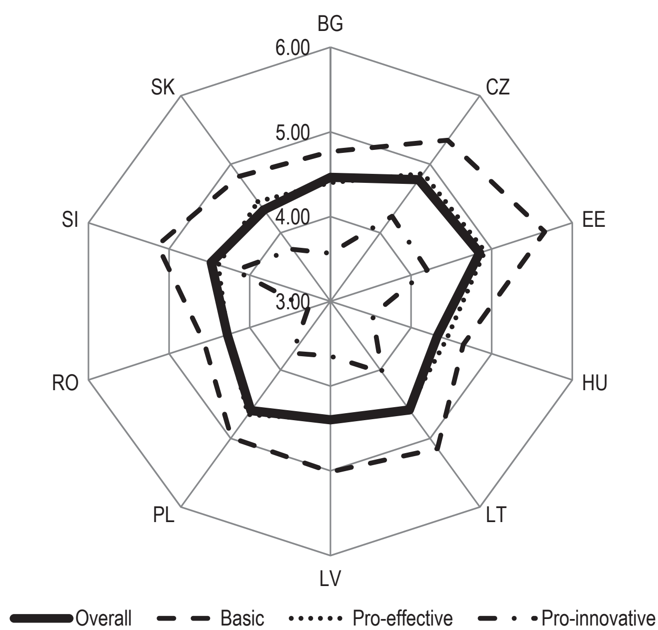
It is worth emphasising that in 2006, factors included in the basic pillars had the most con-siderable influence on the formation of the competitive position of all the analysed countries. The relevant indices for this group reached the highest values for Estonia, Slovenia, the Czech Republic, Lithuania and Latvia. In all these countries, the indices for the basic requirements were higher than the GCI values overall. The biggest difference between the values of basic indices and the overall indices occurred in the case of Slovenia, Lithuania and Bulgaria. On the other hand, effectiveness enhancers in all these countries had similar (slightly lower) values to those characteristic of basic requirements. Innovation factors had the lowest values (espe-cially in the case of Bulgaria, Romania and Latvia). It can be clearly seen in Graph 3.

As shown earlier, in the period from 2017 there was a visible improvement in the assess-ment of the Polish economy's competitiveness (up to 4.59 points). This improvement was pos-sible mainly due to a higher score for basic requirements (4.99 points) and, to a lesser degree, for efficiency enhancers (4.65 points). Yet, it is worth reiterating that the improvement in the basic requirements group was relatively bigger (by 0.37 points) than that in the efficiency en-hancers (by 0.32 points). At the same time, Poland's score in the innovation factors group, comparatively low in 2006 (3.73 points), basically remained stable in the period to 2017 (it went up slightly to 3.75 points). The changes are shown in Graph 4.




**Graph 3. Factors determining Poland's and other EU-10 countries' competitive position in 2006.**

Source: Author's dataset based on Table 2.




**Graph 4. ChaFactors determining Poland's and other EU-10 countries' competitive position in 2017.**

Source: Author's dataset based on the data from Table 2.

The analysis of the relevant data included in the WEF Reports (compiled in Table 4) also indicates that, in the studied period (2006–2017), Poland's competitive position improved for most (9 out of 12) factors determining it.

However, decidedly the biggest improvement took place in the basic requirements group which, according to the WEF, plays the most important role in defining the competitive posi-tion of the countries with the lowest level of economic development. The following pillars should be listed here: infrastructure (improvement by 1.41 points), institutions (up by 0.37 point) and macroeconomic environment (up by 0.09 point). At the same time, the score for health and primary education visibly worsened (by as much as 0.24 point).

In the pro-effective factors group, a clear improvement took place only in the technological readiness pillar (up by 1.5 points) and slightly in the goods market efficiency (up by 0.3 of a point) and higher education (up by 0.25 of a point). A visible deterioration of the score oc-curred in regard to the labour market efficiency factor (by as much as 0.3 point). Unfortunate-ly, there were no noticeable successes in the pro-innovative factors group. The values of the indices in 2017 were only marginally higher than in 2006 (in the case of the innovation factors there was even a small decline – by 0.03 of a point).

It is worth emphasising that in the case of Poland compared to the other EU-10 countries, relatively the most favourable changes in the formation of the competitive position took place in the post-accession period. As already proven, the competitive position of Poland and all the EU-10 countries in 2006 was determined by basic requirements (the value of the GCI in the basic requirements group – and individual pillars – exceeded the overall value). Yet, the value of the GCI in the pro-effective and pro-quality group was noticeably low.

On the other hand, in 2017, the pro-effective factors grew slightly in importance in the case of seven (including Poland) of the studied countries. The overall value of the index and for individual pillars was only marginally lower than the indices in the basic requirements group. In the case of Poland, Estonia, the Czech Republic and Hungary, it moderately exceeded the overall value of the index.

It should be stressed that in the pro-innovative factors group, both in the case of Poland and other EU-10 countries, no significant changes took place. After over 10 years, the overall value of the index for this group and the indices for individual pillars included in this group remained basically on the same level.

**Table 4. The formation of values for individual factors determining Poland's competitive position compared to other EU-10 countries in the years 2006 and 2017**

| Specification | Years | BG | CZ | EE | HU | LT | LV | PL | RO | SI | SK |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Global Competitiveness Index (GCI)** | **2006** | **3.98** | **4.67** | **4.82** | **4.49** | **4.49** | **4.47** | **4.39** | **3.98** | **4.48** | **4.54** |
| | **2017** | **4.46** | **4.77** | **4.85** | **4.33** | **4.58** | **4.40** | **4.59** | **4.28** | **4.48** | **4.33** |
| **Basic requirements** | **2006** | **4.35** | **4.94** | **5.28** | **4.71** | **4.91** | **4.84** | **4.62** | **4.08** | **5.18** | **4.76** |
| | **2017** | **4.77** | **5.35** | **5.66** | **4.65** | **5.15** | **5.01** | **4.99** | **4.57** | **5.14** | **4.83** |
| 1 – Institutions | 2006 | 3.05 | 3.89 | 4.67 | 4.21 | 3.79 | 3.96 | 3.64 | 3.32 | 4.26 | 3.98 |
| | 2017 | 3.48 | 4.16 | 5.04 | 3.46 | 4.13 | 3.76 | 3.84 | 3.70 | 4.05 | 3.51 |
| 2 – Infrastructure | 2006 | 2.92 | 4.42 | 4.34 | 3.85 | 4.04 | 3.85 | 3.29 | 2.71 | 4.35 | 3.72 |
| | 2017 | 4.06 | 4.61 | 5.09 | 4.36 | 4.65 | 4.40 | 4.70 | 3.82 | 4.80 | 4.29 |
| 3 – Macroeconomic environment | 2006 | 5.38 | 5.43 | 5.87 | 4.53 | 5.62 | 5.44 | 5.10 | 4.46 | 5.62 | 5.41 |
| | 2017 | 5.72 | 6.23 | 6.07 | 5.13 | 5.61 | 5.77 | 5.20 | 5.25 | 5.23 | 5.40 |
| 4 – Health and primary education | 2006 | 6.04 | 6.04 | 6.25 | 6.23 | 6.19 | 6.09 | 6.46 | 5.83 | 6.48 | 5.95 |
| | 2017 | 5.80 | 6.40 | 6.43 | 5.65 | 6.20 | 6.11 | 6.22 | 5.49 | 6.49 | 6.10 |
| **Efficiency enhancers** | **2006** | **3.84** | **4.59** | **4.69** | **4.48** | **4.28** | **4.35** | **4.33** | **4.00** | **4.42** | **4.50** |
| | **2017** | **4.40** | **4.86** | **4.92** | **4.44** | **4.57** | **4.40** | **4.65** | **4.28** | **4.39** | **4.46** |
| 5 – Higher education and training | 2006 | 4.02 | 4.95 | 5.22 | 4.87 | 4.93 | 4.89 | 4.73 | 4.18 | 5.08 | 4.45 |
| | 2017 | 4.62 | 5.25 | 5.52 | 4.33 | 5.16 | 4.95 | 4.98 | 4.41 | 5.37 | 4,54 |
| 6 – Goods market efficiency | 2006 | 3.75 | 4.69 | 5.01 | 4.42 | 4.38 | 4.48 | 4.26 | 4.04 | 4.60 | 4.59 |
| | 2017 | 4.32 | 4.66 | 5.09 | 4.38 | 4.57 | 4.42 | 4.55 | 4.14 | 4.64 | 4.48 |
| 7 – Labour market efficiency | 2006 | 4.12 | 4.62 | 4.74 | 4.50 | 4.43 | 4.58 | 4.44 | 4.01 | 4.36 | 4.73 |
| | 2017 | 4.25 | 4.49 | 5.02 | 4.21 | 4.33 | 4.47 | 4.14 | 3.97 | 4.10 | 4.01 |
| 8 – Financial market development | 2006 | 4.14 | 4.36 | 4.76 | 4.58 | 4.36 | 4.82 | 4.10 | 3.90 | 4.53 | 4.95 |
| | 2017 | 4.14 | 4.80 | 4.85 | 4.31 | 4.10 | 4.05 | 4.17 | 3.74 | 3.45 | 4.55 |
| 9 – Technological readiness | 2006 | 2.91 | 4.38 | 5.05 | 3.97 | 3.79 | 3.87 | 3.39 | 3.28 | 4.27 | 4.12 |
| | 2017 | 5.13 | 5.50 | 5.91 | 5.09 | 5.62 | 5.27 | 4.89 | 4.78 | 5.37 | 5.08 |
| 10 – Market size | 2006 | 4.12 | 4.55 | 3.36 | 4.52 | 3.78 | 3.49 | 5.06 | 4.58 | 3.67 | 4.16 |
| | 2017 | 3.92 | 4.49 | 3.10 | 4.33 | 3.62 | 3.24 | 5.17 | 4.61 | 3.41 | 4.08 |
| **Innovation and sophistication factors** | **2006** | **3.20** | **4.39** | **4.03** | **4.06** | **3.83** | **3.59** | **3.73** | **3.51** | **4.11** | **3.82** |
| | **2017** | **3.57** | **4.24** | **4.20** | **3.52** | **4.04** | **3.65** | **3.75** | **3.28** | **4.18** | **3.76** |
| 11 – Business sophistication | 2006 | 3.40 | 4.80 | 4.38 | 4.40 | 4.31 | 4.11 | 4.03 | 3.96 | 4.61 | 4.21 |
| | 2017 | 3.82 | 4.61 | 4.36 | 3.68 | 4.35 | 4.07 | 4.11 | 3.47 | 4.38 | 4.19 |
| 12 – Innovation | 2006 | 2.99 | 3.97 | 3.69 | 3.73 | 3.35 | 3.08 | 3.43 | 3.07 | 3.62 | 3.43 |
| | 2017 | 3.32 | 3.87 | 4.04 | 3.36 | 3.73 | 3.22 | 3.40 | 3.08 | 3.98 | 3.33 |

Source: Author's dataset based on the data in Table 1.

## Conclusions

Accession to the European Union provided Poland and other EU-10 countries with an opportunity for rapid economic growth with a simultaneous conversion and modernisation. This considerably influenced the improvement of the countries' international competitive posi-tion.

The most important literature on the subject presented in the article indicates that an economy's competitiveness should be recognised in a dynamic way, through the lens of the development of available (domestic and foreign) factors of production, through the abilities of seizing opportunities connected with the progress of globalisation, and through the adapting abilities of companies, sectors and the whole economy to the changing conditions of the ex-ternal environment so, in effect, the ability to achieve developmental aims. Such an approach to an economy's competitiveness was adopted by the authors of the Global Competitiveness Report, devised by scholars centred around the World Economic Forum.

Analysis of the WEF Reports for the years 2004–2017 indicates unambiguously that Po-land, compared to the new member states (EU-10), was relatively the most successful in im-proving its economy's international competitive position. At the beginning of this period, Po-land's competitiveness (60th place) was assessed much more poorly than that of 8 out of the 10 analysed countries. In 2017, however, Poland's position had rallied and became stronger in comparison with the majority of the studied countries. Only Estonia and the Czech Republic were slightly ahead of it. It is worth mentioning that, in 2017 compared to 2004, as many as seven of the analysed countries' positions deteriorated. Those included Hungary (down by 21 positions), Slovakia (down by 16), Slovenia (by 15), Latvia (by 10), Estonia (by 9), as well as Lithuania and Romania (down by 5 positions).

When studying the influence of the individual factors (pillars) on the formation of international competitive position, it should be stated that Poland owes these successes to an im-provement in the score for most of them. Their values in 2017 were higher than in 2006 for as many as 9 (out of 12) pillars. Definitely the biggest improvement took place in the basic re-quirements group (infrastructure, institutions, macroeconomic environment). In the efficiency enhancers group, only technological readiness improved significantly, and goods market effi-ciency and higher education became only marginally better. Unfortunately, there were no no-ticeable successes in the efficiency enhancers group.

It is also worth emphasising that such an impressive advancement of Poland in the quoted WEF reports is attributed especially to dynamic GDP growth, particularly during the world economic crisis. As is known, in the entire analysed post-accession period, Poland stood out from the new EU member states with the highest GDP growth index (Molendowski 2015, pp. 5–18; Molendowski 2016, pp. 125–135). Due to that, despite a deterioration in the public fi-nance situation, the Polish economy was considered one of the most stable economies on the continent macroeconomically.

## References

Aiginger K. (2006). Competitiveness: From a Dangerous Obsession to a Welfare Creating Ability with Positive Externalities, „Journal of Industry, Competition and Trade", No. 2, pp. 161–177.

Boguszewski P. (2016). Globalny raport konkurencyjności 2016–17 Światowego Forum Ekonomicznego, NBP, Warszawa.

Bossak J. (2000). Międzynarodowa konkurencyjność gospodarki kraju i przedsiębiorstwa. Zagadnienia teore-tyczne i metodologiczne. [In:] Konkurencyjność gospodarki Polski w dobie integracji z Unią Europejską, Bossak J., Bieńkowski W. (ed.), Wydawnictwo SGH, Warszawa.

Cho D., Moon H. (1998). A nation's international competitiveness in different stages of economic development, „Advances in Competitiveness Research", Vol. 6, No. 1, pp. 5–19.

Dunn M.H. (1994). Do Nations Compete Economically? A Critical Comment on Prof. Krugman's Essay „Com-petitiveness: A Dangerous Obsession", „Intereconomics", November/December, pp. 303–308.

Krugman P. (1994). Competiveness: A Dangerous Obsession, „Foreign Affairs", Vol.73, No 2, pp. 28–44.

Miozzo M., Walsh V. (2006). International Competitiveness and Technological Change, Oxford University Press, New York.

Misala J; Misztal P., Młynarzewska I., Siek E. (2008). Międzynarodowa konkurencyjność gospodarki Polski w okresie 1990–2007, Politechnika Radomska, Radom.

Molendowski E. (2015). 10 Years of Membership in the European Union – Poland in Comparison with the Visegrad Group countries, "Central European Review of Economics & Finance", Vol. 10, No. 4, pp. 5–18.

Molendowski E. (2016). Dekada członkostwa w Unii Europejskiej – Polska na tle nowych państw członkowskich, „Studia i Materiały Miscellanea Oeconomicae" No 3, tom 1, pp. 125–135.

Olczyk M. (2008). Konkurencyjność. Teoria i praktyka, CeDeWu, Warszawa.

Oziewicz E. (2007). Dylematy rozwoju gospodarczego krajów Azji Południowo-Wschodniej na tle procesów globalizacyjnych, Wydawnictwo Naukowe Uniwersytetu Gdańskiego, Gdańsk.

Sung J. (2006). Exploring Economic Success of Singapore, Edward Elgar, Northampton.

Thurow L.C. (1994). Microchips, not potato chips, „Foreign Affairs", Vol. 73, pp. 189–192.

WEF (2006). The Global Competitiveness Report 2006–2007. World Economic Forum. Basingstoke and New York: Palgrave Macmillan.

WEF (2007). The Global Competitiveness Report 2007–2008. Basingstoke and New York: Palgrave Macmillan.

WEF (2008). The Global Competitiveness Report 2008–2009. Geneva: World Economic Forum.

WEF (2009). The Global Competitiveness Report 2009–2010.Geneva: World Economic Forum.

WEF (2010). The Global Competitiveness Report 2010–2011. Geneva: World Economic Forum.

WEF (2011). The Global Competitiveness Report 2011–2012.Geneva: World Economic Forum.

WEF (2012). The Global Competitiveness Report 2012–2013. Geneva: World Economic Forum.

WEF (2013). The Global Competitiveness Report 2013–2014. Geneva: World Economic Forum.

WEF (2014). The Global Competitiveness Report 2014–2015. Geneva: World Economic Forum.

WEF (2015). The Global Competitiveness Report 2015–2016. Geneva: World Economic Forum.

WEF (2016). The Global Competitiveness Report 2016–2017. Geneva: World Economic Forum.

WEF (2017). The Global Competitiveness Report 2017–2018. Geneva: World Economic Forum.

Weresa M. A. (2008). Definicje, determinanty oraz sposoby pomiaru konkurencyjności krajów [In:] Czynniki i miary międzynarodowej konkurencyjności gospodarek w kontekście globalizacji – wstępne wyniki badań, „Prace i Materiały" nr 284, SGH, Warszawa.

Wziątek-Kubiak A. (2004). Kontrowersje wokół konkurencyjności w teorii ekonomii, „Ekonomista", No. 6, pp. 805–807.

Żmuda M., Molendowski E. (2016). W poszukiwaniu istoty konkurencyjności gospodarki narodowej: studium interdyscyplinarne, „Finanse, Rynki Finansowe, Ubezpieczenia" nr 3 (81), pp. 323–333.

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# THE CHARACTER AND EFFECTS OF SANCTIONS IMPOSED ON RUSSIA IN CONSEQUENCE OF AGGRESSION AGAINST UKRAINE

*The purpose of this article is to present sanctions applied to Russia after 2014 by the countries of the European Union, the United States, Canada, Switzerland and other. In addition, an attempt was made to determine the impact of sanctions on Russia's economy based on the analysis of Russia's economic situation. This task was not easy, since the economic situation of Russia in the analysed period was influenced by two significant factors – the sanctions and a fall in the prices of fossil fuels. In the author's opinion, the economic sanctions imposed on Russia have adversely affected the development of the Russian economy after 2014. Russia's GDP has decreased, GDP growth rate has slowed down, global demand has declined, prices and interest rates have risen. Inflation has increased, the rouble has become devalued, the amount of foreign exchange reserves has gone down, and life quality of Russian citizens has deteriorated. The sanctions of the Western states against Russia as well as the sanctions reciprocally applied by Russia against the broadly understood foreign countries have negatively influenced the economies of many Western states which have also been affected by worse conditions of economic growth after 2014. The final conclusion of this text is the conviction that the introduction of economic sanctions against Russia and the isolation of Russia on the international stage has led to the weakening of Russia's economic development in the short term. In the longer term, the impact of sanctions on the Russian economy has been compensated. In this context, a question arises about the effectiveness of political and economic sanctions as a tool for restrictions in international relations. Higher effectiveness of sanctions will be ensured in small economies, but lower in the case of large economies such as Russia.*

**Keywords:** sanctions against Russia, Russia's economy, consequences of sanctions on the Russian economy.

**JEL Classification Codes:** F51.

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## Introduction

Russia's involvement in the conflict in Ukraine in 2013 and 2014 and annexation of Crimea and Sevastopol caused many states to protest and take actions condemning and denouncing such a policy of Russia. Various types of sanctions, including economic ones, have been imposed on Russia by many states, such as the EU, USA, Canada and Switzerland.

The main objective of the article is general assessment of the consequences of using economic sanctions in relations between countries. Another aim is to present the effects of sanctions applied against Russia on the Russian economy.

## 1. Sanctions of the European Union

In specific situations the European Union undertakes actions aimed at persuading individuals, economic entities and governments of countries affected by sanctions to change their policies or conduct. In this way, the EU promotes objectives of the Common Foreign and Security Policy.

Among the tools of the EU Common Foreign and Security Policy there are also sanctions. Sanctions are instruments limiting certain actions undesirable by the European Union, as well as preventive measures enabling the EU to react quickly to political events and situations which stand in contradiction to its objectives and values. Sanctions are applied in response to terrorist incidents, spread of nuclear weapons, infringement of human rights, annexation of a foreign territory or purposeful destabilization of a sovereign state. Goals of sanctions are:

- safeguarding of values, vital interests and security of the EU,
- keeping peace in the world,
- strengthening and supporting democracy, human rights and rules of international law,
- preventing conflicts and increasing international security (*How and When the EU Adopts Sanctions*, 2017).

All the EU sanctions are fully compliant with international agreements and regulations of the international law. Sanctions can be imposed on:

a) governments of non-EU countries, due to their policies;
b) economic entities and other institutions financing these policies;
c) groups and organizations, mostly terrorist groups;
d) individuals supporting particular policies, e.g. involved in terrorist activities.

Sanctions are applied by the EU is such a way so that civilian populations, not responsible for particular policies and actions of governments, should be affected as little as possible (*Guidelines on implementation and evaluation of restrictive measures*, 2012; *Best practices for the effective implementation of restrictive measures*, 2016).

Depending on the scope of influence, sanctions can be divided into those targeted at individuals and at economic entities (*How and When the EU Adopts Sanctions*, 2017).

Furthermore, depending on the type of influence, we can distinguish diplomatic sanctions (sanctions in a broad sense), sanctions in a narrow sense, as well as sanctions applied on the EU's own initiative or jointly with the United Nations (*Types of sanctions*, 2017).

**Diplomatic sanctions** are e.g. suspension of diplomatic relations with a given country, or coordinated recall of diplomatic representatives of the EU and its member states from a country affected by sanctions.

**Sanctions in a narrow sense** must have a specific legal basis in the EU treaties. They include: embargo on purchase and sale of weapons; entry restrictions – a ban on travelling for people put on a special list: these people cannot enter the EU and if they are EU citizens they cannot enter other member states; freezing of assets of individuals or entities put on a special list; economic sanctions that is restrictions on specific business sectors, e.g. a ban on import or export of certain goods, a ban on investment, a ban on provision of some services.

**Sanctions on the EU's own initiative or on the initiative of the United Nations** are distinguished according to the initiating entity. Sanctions can be imposed on the EU's own initiative or in order to implement a resolution of the UN Security Council.

a) UN sanctions are implemented by the EU when they are adopted by the UN Security Council.
b) Mixed sanctions pertain to situations when the EU acts jointly with the UN and then the EU can toughen the UN sanctions or use additional measures apart from those imposed by the UN Security Council.
c) Autonomous sanctions are those introduced by the Council of the European Union on its own initiative.

Sanctions are adopted by the Council of Europe at the motion of the High Representative of the Union for Foreign Affairs and Security Policy. The decision about sanctions must be taken unanimously by all members of the Council of Europe. If a decision about introduction of sanctions provides for asset freezing or other economic and financial sanctions of the EU, the Council's resolution is necessary to implement them. The Council notifies the European Parliament that such a resolution has been adopted. The resolution contains a detailed list of measures and information how to implement them. Furthermore, as a legal act extending all over the EU, it is binding on each individual and each entity in the EU (enterprises, public bodies etc). Both decisions and resolutions of the Council become effective upon their publication in the Official Journal of the European Union. A decision and a resolution are enacted together so that their effects could occur at the same time. Individuals and entities on whom asset freezing or a travel ban have been imposed are informed about the sanctions either directly or through an announcement published in the Official Journal of the European Union, the C series (*How and When the EU Adopts Sanctions*, 2017).

All sanctions are reviewed at least once a year. Moreover, individuals on whom sanctions have been imposed can file a substantiated motion to the European Council for reconsideration of the decision about sanctions.

## 2. The EU sanctions in response to the crisis in Ukraine

In connection with hostile actions towards Ukraine taken by Russia in 2013 and 2014, that is deliberate destabilization of Ukraine and illegal annexation of Crimea, the EU has introduced a broad range of sanctions against Russia since March 2014, such as:
a) diplomatic measures,
b) individual sanctions in the form of asset freezing and travel restrictions on natural and legal persons,
c) restrictions on economic relations with Crimea and Sevastopol,
d) economic sanctions and restrictions on economic cooperation (*EU restrictive measures in response to the crisis in Ukraine*, 2017).

### *Diplomatic measures*

The summit EU-Russia was cancelled in 2014. The member states decided not to hold meetings with Russia at regular bilateral summits. Moreover, bilateral talks with Russia on visa issues were also suspended. On 4–5 June 2014, instead of G8 summit in Sochi, G7 summit was organized in Brussels. Since then, meetings of G7 states have been held. Furthermore, the EU states have backed up suspension of negotiations on Russia's accession to the Organisation for Economic Co-operation and Development (OECD) and to the International Energy Agency.

### *Individual sanctions targeted at Russian and Ukrainian natural and legal persons*

Individual sanctions include mostly freezing of assets and restrictions on travel of natural persons and representatives of legal persons. In 2014–2017 such sanctions were imposed on 150 natural persons and 40 legal persons whose actions infringed territorial integrity, sovereignty and autonomy of Ukraine. For instance, on 21 November 2017 sanctions for infringement of territorial integrity of Ukraine were imposed on the Governor of Sevastopol (*EU restrictive measures in response to the crisis in Ukraine*, 2017).

Individual sanctions, effective since March 2014, have been maintained and regularly extended, and in September 2017 they were prolonged until 15 March 2018.

### *Sanctions for misappropriation of Ukrainian public funds targeted at citizens of Ukraine*

In March 2014 the European Council decided to freeze assets of people responsible for misappropriation of Ukrainian public funds. These sanctions have been extended until 15 March 2018.

### *Restrictions on economic relations with Crimea and Sevastopol*

The Council of Europe adopted restrictions in response to the illegal annexation of the territory of Crimea and Sevastopol by Russia. These restrictions are binding on the EU citizens and the EU-based companies. They are limited to the territory of Crimea and Sevastopol and comprise:

a) a ban on import of goods from Crimea and Sevastopol to the EU,
b) restrictions on trade and investment in certain sectors of economy and infrastructure projects,
c) a ban on providing tourist services by the EU enterprises in Crimea and Sevastopol,
d) a ban on export of certain goods and technologies (*EU restrictive measures in response to the crisis in Ukraine*, 2017).

On 19 June 2017 the European Council extended these sanctions until 23 June 2018.

### *Economic sanctions against Russia in certain sectors of economy*

In July and September 2014 the EU imposed economic sanctions on trade with Russia in selected sectors of economy. In March 2015 the EU leaders decided that lifting of the sanctions would be conditional upon full implementation of the Minsk agreements aimed at solution of the conflict in Ukraine. As it has not happened, the economic sanctions have been extended and they are currently binding until 31 January 2018. These sanctions comprise:

- limitation of access of certain Russian banks and companies to the EU financial market,
- a ban on export and import of weapons,
- a ban on export of dual-use products to Russia (that is products which can be used for military purposes),
- limitation of Russia's access to technologies and services which can be used for production and extraction of crude oil from the seabed or in Arctic.

### *Restrictions on economic cooperation with Russia*

In July 2014 the EU introduced restrictions on economic cooperation with Russia:

- an appeal was lodged with the European Investment Bank to suspend approval of new financing operations in the Russian Federation,

– the EU member states agreed to coordinate their positions within the Board of Directors of the European Bank for Reconstruction and Development in order to suspend also the financing of new operations with participation of Russian entities,
– the implementation of the EU programmes of bilateral and regional cooperation with Russia was reassessed and some of them were suspended.

To sum up, the EU sanctions have been imposed on such natural and legal persons whose actions pose a threat to sovereignty and territorial autonomy of Ukraine, mostly from Russia, but also from Crimea and from the regions of Donetsk and Luhansk (Ukraine). The list of individuals covered by the EU sanctions has been modified and e.g. in December 2017 it contained 160 people, whereas the number of institutions and organizations was 40 (*List of persons and entities under EU restrictive measures over the territorial integrity of Ukraine*, 2017).

## 3. Sanctions of other highly developed countries against Russia

### *The United States*

The United States introduced individual sanctions in the relations with Russia already on 17 March 2014. First, a list of 11 people covered by sanctions was published. These were mostly people from the administration of the President of Russia (adviser to the President) and the Russian government (the Chairman of the Federation Council and the Prime Minister and Deputy Prime Minister of Crimea). On 20 March 2014 the list was extended to include 20 more people from the central authorities (the government and the parliament of the Russian Federation). In March the cooperation with Russia on combating drugs was also suspended (*Kublik*, 2016).

In April 2014 economic sanctions were introduced – American-Russian military and energy projects (including nuclear energy) were suspended, and a ban on export of military products to Russia was imposed. Moreover, sanctions were extended to include further individuals representing important Russian companies from the oil and gas sectors (altogether 7 people from oil companies located in Crimea and about a dozen of people and 17 Russian enterprises from the banking and fuel sectors).

In June 2014 individual sanctions were imposed on further 6 people from the authorities of two Ukrainian regions: Donetsk and Luhansk supporting Russia’s aggression against Ukraine.

In July 2014 sanctions targeted at Russian banks and fuel companies were introduced. Assets of these entities were frozen in American banks. Furthermore, Russian companies could not be granted credit by American banks for a period longer than 90 days. Moreover, licensing of export to Russia was introduced pertaining to such goods as: equipment for oil extraction from the seabed and in Arctic, and products for the construction industry.

In August and September 2014 sanctions were imposed on several more Russian banks, including the largest Russian bank – Sberbank of Russia – and the period of granting credit to all Russian banks was shortened from 90 to 30 days. Furthermore, 5 companies from the defence industry were denied access to the US-based assets. A total ban on export of goods, services and technologies for the Russian mining industry was introduced, as well as a ban on granting credit to many enterprises from the Russian energy industry.

Moreover, in December 2014, a ban on export of American goods to Crimea and a ban on import from Crimea were introduced. In addition, sanctions were imposed on 17 natural persons and 7 legal persons operating in Crimea and on the leaders of the Ukrainian separatists.

In March 2015 the above-mentioned sanctions were extended for the whole year 2015, and the list of entities covered by sanctions was further expanded to include the Euroasian Youth Union and a branch of one of the Russian banks, operating in Crimea. Moreover, sanctions were imposed on 14 people – citizens of Russia, Crimea and the Ukrainian separatist republics of Donetsk and Luhansk.

In the subsequent months of 2015 the scope of sanctions was broadened:

- in July sanctions were extended to include further 11 natural persons and 15 legal persons, mostly from Russia but also from other countries, e.g. from Finland. Restrictive measures were applied against 35 entities connected with Vneshtorgbank and Rosneft company;
- in August the US government suspended cooperation with Russia (credit granting and export of equipment) on oil extraction in the Sea of Okhotsk,
- in December the US Department of the Treasury imposed sanctions on further 11 individuals and 109 enterprises mostly from the financial, fuel and defence sectors.

As a result of the restrictive measures introduced, at the end of 2015 the US sanctions covered 110 people and 209 enterprises from Russia, Crimea and two separatist republics of Ukraine – Donetsk and Luhansk.

In general, the US sanctions were applied to basically the same entities as the EU sanctions. The US government declared its intention to exert pressure on Russia by means of sanctions until Russia fully carries out the provisions of the Minsk agreements on stopping fights in Donbas and restoring Ukraine's control over its territories. Hence, the EU position on extension of the binding sanctions for the years 2016 and 2017 was adopted (*Wsie sankcji zapada protiw Rosii*, Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/2).

### *Canada*

Canada introduced first sanctions against natural and legal persons „posing a threat to sovereignty and territorial integrity of Ukraine" simultaneously with the USA, that is on

17 March 2014. The sanctions were targeted at 7 people holding public offices in Russia and 3 people from Ukraine. These sanctions consisted in asset freezing and a ban on granting entry visas to Canada.

After this date, the list of people covered by the sanctions was extended. On 18 March 2014 sanctions were imposed on 11 Russian and 6 Ukrainian political activists, and on 21 March also on the employees of the central bank (Bank of Russia) and 14 Russian politicians. On 12 April the list of people covered by sanctions was further extended to include the chairmen of election commissions in Sevastopol and Crimea, as well as a company from the fuel sector – Chornomornaftogas. Then, on 21 April, sanctions were imposed on 2 banks and 9 Russian individuals from the world of politics and business.

On 4 May 2014 Canada applied further sanctions against 16 Russian enterprises and banks, and on 12 May against 12 people (6 Russian citizens and 6 people from South-Eastern Ukraine). In June 2014, sanctions were imposed first on 11 citizens of Russia and Ukraine and then on more than 20 people and 10 enterprises and banks. In the subsequent months of 2014, 2015 and 2016 the sanctions were maintained and extended to include further people, institutions and companies from Russia, Crimea, Sevastopol and the Ukrainian separatist republics – Donetsk and Luhansk. At the end of 2016 the sanctions imposed by Canada covered 176 natural persons and 102 legal persons (institutions and enterprises) (*Wsie sankcji zapada protiw Rosii*, Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/4*).*

After 3 November 2017 Canada introduced further sanctions against 30 Russian citizens responsible for the so-called Magnitsky case. Sergei Magnitsky, a Russian lawyer, investigated financial crimes in Russia, e.g. illegal taking over the ownership of foreign investments in Russia. He was arrested in 2009 on a feigned charge of fiscal crimes and died in a Russian prison as a result of being beaten. The group of people covered by sanctions includes both representatives of mafia structures and officials of the Russian judiciary and tax offices (*Russia condemned Canada's sanctions against 30 Russian citizens, Retrieved November 5, 2017 from: https://wiadomosci.onet.pl/swiat/rosja-potepila-sankcje-kanady-na-30-jej-obywateli/fvkp03b).*

Since the introduction of the first sanctions against Russia, that is since 17 March 2014, Canada has been extending its list of people and institutions affected by sanctions. In November 2017 the list of individuals covered by sanctions comprised over 200 people, whereas the list of enterprises and organizations contained more than 100 entities (*Sankcii Kanady w otnoszenii Rossii. Dosie*, Retrieved October 8, 2017 from: http://tass.ru/info/4702366).

### *Switzerland*

As a consequence of the negative evaluation of the Russian government's position in the conflict in Ukraine, on 19 March 2014 Switzerland broke off the talks with Russia over negotiations of free-trade agreements (WTO). On 26 March 2014 Switzerland stopped the supply of military products to Russia and ceased to finance trainings of Russian servicemen, and on 2 April introduced restrictions on conducting monetary settlements in Switzerland for 33 Russian enterprises. As a result, from March to August 2014 Switzerland imposed sanctions on 87 people and 20 institutions and enterprises from the aviation industry and the financial sector (*Wsie sankcji zapada protiw Rosii,* [online:] http://tass.ru/mezdunarodnaja-panorama/1055587/5 [Retrieved October 8, 2017]).

In comparison to the EU, USA and Canada, Switzerland's sanctions against Russia were far less severe and affected a smaller number of citizens.

### *Sanctions of other countries against Russia after its aggression towards Ukraine*

Although the majority of states worldwide negatively evaluated Russia's position in the conflict in Ukraine, they did not take an unequivocal stance towards application of economic sanctions against citizens and companies of Russia, Crimea and the separatist republics of Donetsk and Luhansk. Economic sanctions against Russia, of various forms and scope, have been imposed by the United States, Canada, Switzerland, Australia and Japan and the majority of the EU states. However, it should be emphasized that the attitudes of the EU states towards introduction of sanctions are not uniform. In July 2014 as many as 9 EU countries (France, Germany, Luxembourg, Austria, Bulgaria, Greece, Cyprus, Slovenia, Italy) were cautious about using sanctions against Russia, despite their consent to the sanctions granted in 2014 (all the EU states voted for introduction of sanctions because this decision has to be unanimous). Nevertheless, representatives of some EU countries spoke against sanctions:

- „sanctions do not solve anything" (Prime Minister of Slovakia),
- „sanctions should be changed because they do not produce expected effects" (President of the Czech Republic),
- „sanctions is a road to nowhere" (Prime Minister of Greece) (*Wsie sankcji zapada protiw Rosii*, [online:] http://tass.ru/mezdunarodnaja-panorama/1055587/7 [Retrieved October 8, 2017]).

## 4. Summary of the list of sanctions used against the aggressors towards Ukraine

Sanctions for purposeful destabilization of Ukraine and illegal annexation of Crimea – against Russia, Crimea and the Ukrainian separatist republics (Donetsk and Luhansk) have been introduced by several countries of the world. The sanctions have been imposed on natural persons, state institutions, community organizations and legal entities, mostly enterprises. Comprehensive and detailed data about the entities covered by the sanctions is available also in information materials of the Russian News Agency TASS, which should be evaluated positively (*Wsie sankcji zapada protiw Rosii*, Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/8).

In the group of natural persons sanctions have been imposed on:
- Russian politicians and state officials: 78 people,
- Russian businessmen: 16 people,
- other Russian citizens (4 people) who actively support the Russian aggression against Ukraine (e.g. leaders of a youth movement or the leader of the „Night Wolves" Motorcycle Club),
- citizens of Crimea: 29 people,
- citizens of other countries: 2 people (Sweden and Finland),
- political activists representing Donetsk Republic and Luhansk Republic: 75 people,
- former President of Ukraine – Viktor Yanukovych, his family members and people from his close environment: 20 people,
- Russian community organizations: 2 (Euroasian Youth Union, „Night Wolves" Motorcycle Club),
- various state institutions and community organizations of the separatist republics of Donetsk and Luhansk (25), including Donetsk and Luhansk Republics themselves, about a dozen of armed military units, unions of enterprises, political and social movements and associations supporting Russia's aggression against Ukraine.

The group of enterprises (legal persons) affected by sanctions of the USA, Canada and the EU has comprised, in various periods, over 350 Russian and foreign entities. Each of the countries imposing sanctions took individual decisions to use them against particular entities. There is not one coordinated register of entities covered by sanctions, even though some individuals and enterprises are listed among the entities on which even several countries have imposed their sanctions.

Sanctions applied against enterprises differ in character. Two types of sanctions can be distinguished:
- asset freezing and a ban on conducting operations of various levels,
- sector sanctions (against the fuel sector, financial sector or defence sector) consisting in restrictions on export, re-export, import and credit granting.

The longest list of legal persons covered by sanctions has been compiled in the USA: it contains 345 enterprises. Among them, 232 are covered only by the sector sanctions and 11 only by restrictions on international trade. 58 legal persons on which the US sanctions have been imposed are registered outside Russia (9 in Cyprus, 5 in Switzerland, 3 in the Netherlands and the rest in other countries).

Taking into account the types of enterprises affected by sanctions, various restrictive measures have been imposed on 122 banks or other financial institutions, 84 enterprises from the new technologies sector and the defence sector, 85 enterprises from the fuel sector and energy sector, 21 transport companies, 16 construction companies and 5 wine producing companies in Crimea (*Wsie sankcji zapada protiw Rosii*, Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/8).

**Table 1. Economic sanctions imposed on Russia**

| Economic sector | List of sanctions |
|---|---|
| Oil sector | 1. Restrictions on cooperation with selected enterprises from the oil sector and associated companies from other economic sectors<br>2. A ban on export to Russia of technologies for oil extraction and processing<br>3. Freezing of existing cooperation agreements and refusal to sign new cooperation agreements under new projects |
| Gas sector | 4. Restrictions on cooperation with selected enterprises from the gas sector and associated companies from other economic sectors<br>5. Freezing of existing cooperation agreements and refusal to sign new cooperation agreements under new projects |
| Financial sector and banking sector | 6. Freezing of financial assets of Russian natural and legal persons<br>7. Separation of Russia's banking structures from international payment systems<br>8. Restrictions on placement of financial means in foreign banks<br>9. Restrictions on access to bank loans for Russian entities<br>10. Restrictions on conducting business activity abroad for Russian entities |
| Defence sector | 11. A ban on conducting operations with Russia in the area of export and import of weapons<br>12. A ban on export of dual-use products to Russia, as well as any other technologies which can be used for defence purposes |
| Other | 13. Sanctions against particular people, institutions and organizations of the Russian Federation<br>14. A ban on financing investment projects, supply of materials and equipment for objects of infrastructure, transport and energy sector of entities from Russia, Crimea and Sevastopol |

Source: Łoginova I. W., & Titarienko B. A. (2015). *Ekonomiczeskije sankcji protiv Rossii*, Aktualnyje Woprosy Ekonomiczeskich Nauk, no. 47, 41–42.

Even though President of Russia Vladimir Putin expressed in the media no concern about any significant impact of economic sanctions on the Russian economy, experts pointed to a number of threats to Russia's economic growth after the introduction of sanctions. Effects of sanctions have been observed both in the Russian economy and in economies of other countries of the world (both imposing sanctions and neutral in this respect). Increasingly, in publications of Russian authors there are expectations that sanctions against Russia should be lifted soon (*Barkowskij & Ałabjan*, 2015).

## 5. Effects of economic sanctions

Effects of economic sanctions imposed on Russia in 2014 should be perceived from the following two perspectives, as:

- effects of foreign sanctions on Russia's economy,
- effects of Russia's embargo on economies of the countries using sanctions.

After three years since of the introduction of sanctions, statistical data demonstrate that they have caused considerable losses for the Russian economy. A slowdown in GDP growth in 2014–2017 is estimated at 8.4%. As a result of a decrease in crude oil prices on the global market, state budget revenue has dropped by ca. 400 bn USD. In total, as a result of economic sanctions imposed on Russia, losses amount to almost 170 bn USD (*Nowicki*, 2017).

Moreover, sanctions result in worse conditions of economic development for the countries using them. According to data of the Austrian Institute of Economic Research, the sanctions imposed on Russia only until 2016 inclusive cost the EU almost 18 bn EUR and a loss of 400,000 workplaces. The largest economic losses due to the introduction of sanctions against Russia were sustained by the German economy (over 6 bn EUR and 97,000 workplaces). Austria lost ca. 550 million EUR and 7,000 workplaces, and Austrian export to Russia has decreased by almost 40%. Due to the cooling of the economic relations with Russia Poland has lost 1.4 bn EUR and has ranked second in the list of the EU states the most harmed by the introduction of sanctions against Russia (*Nowicki*, 2017).

## 6. The economic situation of Russia in the period covered by the economic sanctions

The macroeconomic data demonstrate that 2014–2016 was a difficult period in the development of the Russian economy, also as a consequence of the sanctions imposed. However, it is not easy to isolate solely the impact of the Western sanctions on the Russian economy due to the fact that the development of the Russian economy in that period was adversely affected not only by the introduction of economic sanctions on a broad scale but also by a drop in crude oil prices. Even though the drop in oil prices was not directly associated with the sanctions introduced, it was a negative factor in the Russian economy. Both these circumstances produced a synergy effect and strongly contributed to adverse development trends in the Russian economy during that period.

As it is impossible to isolate the influence of particular development factors of the Russian economy, Russia's situation shall be discussed below in the context of two determinants of development – the sanctions and a drop in oil prices.***A drop in oil prices***

The introduction of economic sanctions against Russia coincided with a significant drop in oil prices on the global market. The price of oil was going down since mid-2014.

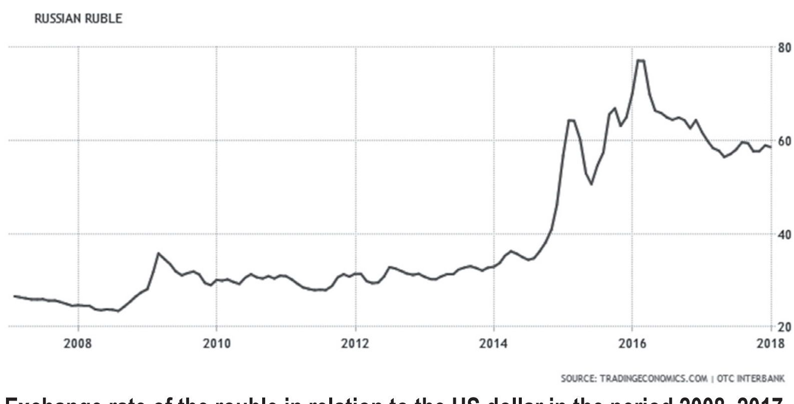
While at the beginning of 2014 Brent crude oil cost almost 120 USD per barrel, in the middle of the year the price was only ca. 50 USD per barrel. At the beginning of 2016 oil cost only ca. 30 USD and in October 2017 the price rose to ca. 60 USD per barrel.


**Graph 1. Oil price in 2012–2017 (in USD per barrel)**

Source: Trading Economics. Retrieved December 4, 2017 from: https://pl.tradingeconomics.com/commodity/brent-crude-oil; Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/historical.png?s=CO1&v=20171208230000&d1=20120101&d2=20171231

## *Change in exchange rate*

In the years 2014–2017 there was strong depreciation of the rouble (a drop in value of the rouble). From the beginning of 2014 until the beginning of 2015 the price of the US dollar rose from 34 to 65 roubles, and in certain periods of 2016 even to 75 roubles for 1 USD (*Bugatova & Abelguzin*, 2015). In 2017 the price of the US dollar went down slightly and it fluctuates around 60 roubles for the US dollar.




**Graph 2. Exchange rate of the rouble in relation to the US dollar in the period 2008–2017**

Source: Trading Economics.com, OTC Interbank. Retrieved December 4, 2017 from: https://pl.tradingeconomics.com/russia/currency, Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/historical.png?s=USDRUB&v=20171205190000&d1=20070101&d2=20171231&type=line.

The rouble depreciation led to many negative consequences for the economy – a drop in GDP level and its growth rate, a decrease in trade with foreign states (export and import), a rise in prices of imported goods, worse conditions for the Russian export, an increase in interest rates and inflation, a drop in foreign exchange reserves etc.

It should be mentioned here that the condition of the Russian economy is strongly dependent on the levels of prices and sale of fuels, mostly crude oil, on international markets. A thesis can be put forward that in the recent years the Russian economy has exhibited strong symptoms of the „Dutch disease" – a so-called „resource curse" – that is heavy dependence on extraction and sale of natural resources. Scientific research confirms a strong adverse effect of natural resources of an economy on the rate and directions of economic growth, especially in countries with low levels of democracy and economic development (*Oomes & Kalcheva*, 2007).

The fact that Russia is currently affected by the „Dutch disease" is confirmed by the latest macroeconomic data. The drop in oil price in mid-2014, lasting until today, has been reflected in a significant decrease in Russia's GDP, lower state budget revenue, a decline in foreign exchange reserves, a rise in exchange rate and many other negative effects on the economy and the society.

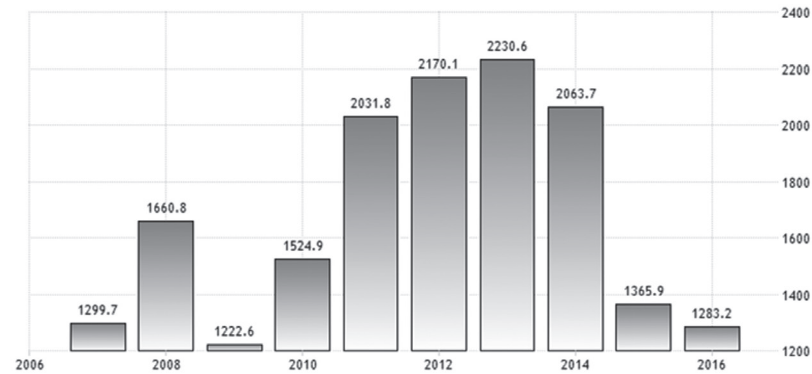
### *A drop in GDP level and a slowdown in economic growth rate*

The growth rate of Russia's GDP in 2012–2017 dropped drastically – from almost 6% in 2012 to 2% in 2014, 0% in 2015, and to a decline by almost 4.5% in 2016. Only in 2017 positive GDP growth rate was observed.


**Graph 3. Rate of change in Russia's GDP in 2012–2017 (%)**

Source: Trading Economics. Retrieved December 4, 2017 from: https://pl.tradingeconomics.com/russia/gdp-growth-annual, Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-gdp-growth-annual.png?s=rudpryoy&v=201711131314v&lang=all&d1=20120101&d2=20171231.

Russia’s GDP in absolute values decreased significantly after 2014 (as a result of a drop in oil prices and economic sanctions). In comparison to good 2013, Russia’s GDP in 2016 decreased by almost a half.




**Graph 4. Russia’s GDP in 2007–2016 (bn USD)**

Source: Trading Economics and World Bank. Retrieved December 4, 2017 from: https://pl.tradingeconomics.com/russia/gdp, Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-gdp.png?s=wgdpruss&v=201707092232v&lang=all.

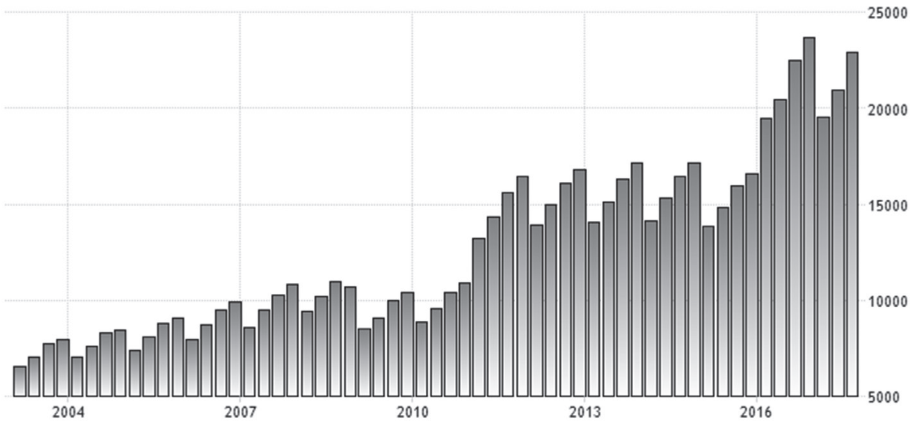
The drop in oil price and in GDP caused a decrease in Russia’s foreign exchange reserves and in the rouble exchange rate in relation to the US dollar, as it has already been mentioned.

Broadening the analysis of the impact of economic sanctions on Russia's socio-economic development by GDP per capita confirms a deterioration of the economic situation after 2014.


**Graph 5. Russia’s GDP per capita (USD)**

Source: Trading Economics. Retrieved March 18, 2018 from: https://pl.tradingeconomics.com/russia/gdp-per-capita, Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-gdp-per-capita.png?s=rusnygdppcapkd&v=201707101728v&lang=all&d1=20080101&d2=20181231.

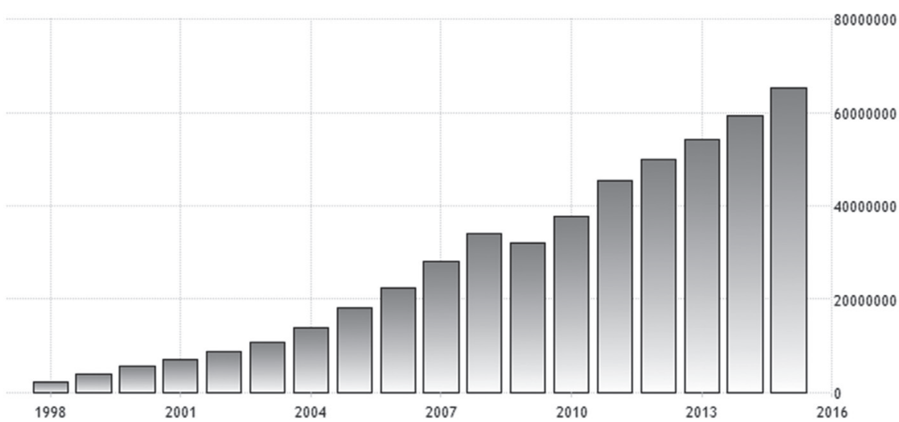
However, the subsequent data – GDP in constant prices – make it possible to say that Russia's real GDP shows only stagnation in the years 2012–2016 and not a decrease in GDP.




**Graph 6. Russia's GDP in constant prices (bn roubles)**

Source: Trading Economics. Retrieved February 22, 2018 from: https://pl.tradingeconomics.com/russia/gdp-constant-prices, Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-gdp-constant-prices.png?s=russiagdpconpri&v=201712121335v&lang=all&d1=19180101&d2=20181231&type=column.

However, there is no evidence of a weakening of Russia's economic growth during the period covered by sanctions, based on the analysis of gross national product category (GNP). According to the data, Russia has systematically increased its economic growth since 1998, measured by the gross national product category.



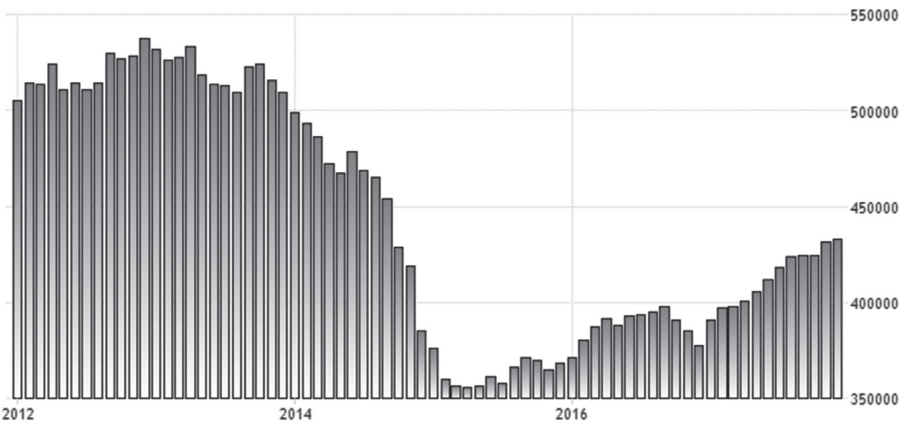

**Graph 7. Gross national product of Russia (million roubles)**

Source: Trading Economics. Retrieved February 22, 2018 from: https://pl.tradingeconomics.com/russia/gross-national-product, Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-gross-national-product.png?s=russiagronatpro&v=201707031850v&lang=all&d1=19180101&d2=20181231&type=column.

With high probability it can be concluded that the economic sanctions imposed against Russia have not led to a permanent weakening of the economic growth measured by GDP in constant prices and GNP. As soon as the sanctions were introduced, the growth rate declined. In the longer term, barriers to development caused by sanctions have been implanted by the economy.

### *A drop in foreign exchange reserves*

In 2014–2017 the level of foreign exchange reserves went down considerably. While in 2014 Russia's foreign exchange reserves amounted to almost 500 bn USD (and were even higher several years before), in mid-2015 they dropped to ca. 360 bn USD, and at the beginning of 2016 they rose a little to ca. 380 bn USD. The level of Russia's foreign exchange reserves was increasing slightly to reach about 420 bn USD at the end of 2017.




**Graph 8. Russia's foreign exchange reserves in 2012–2017 (million USD)**

Source: Trading Economics. Retrieved December 4, 2017 from: https://pl.tradingeconomics.com/russia/foreign-exchange-reserves, Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-foreign-exchange-reserves.png?s=russiaforexcres&v=201711091128v&lang=all&d1=20120101&d2=20171231&type=column.

### *International trade*

The sanctions were reflected in a decline in Russia's international trade, both in export and import. In comparison to 2013, Russia's international trade decreased in total by 5.7% in 2014 and amounted to 794 bn USD. The largest drop occurred in trade with Great Britain (by 19.6%), followed by France (16.7%), Poland (15.8%) and Finland (14.4%) (*Bugatova & Abelguzin*, 2015).

In the subsequent years Russia's trade with foreign states was still declining. In 2015 it amounted to 534 bn USD (of which export was 341 bn USD and import 193 bn USD). In 2016 Russia's international trade further decreased – export level was 281.8 bn USD and import 191.5 bn USD.

**Table 2. Russian export and import in 2013–2016**

| Year | Export | Import | Total trade |
|---|---|---|---|
| 2013 | 523.3 bn USD | 341.3 bn USD | 864.6 bn USD |
| 2013 (in relation to the previous year) | 99.2 % | 101.7 % | 100.2 % |
| 2014 | 497.7 bn USD | 308.0 bn USD | 805.7 bn USD |
| 2014 (in relation to the previous year) | 95.1 % | 90.2 % | 93.2 % |
| 2015 | 341.4 bn USD | 193.0 bn USD | 534.4 bn USD |
| 2015 (in relation to the previous year) | 68.7 % | 62.7 % | 66.3 % |
| 2016 | 281.8 bn USD | 191.5 bn USD | 473.3 bn USD |
| 2016 (in relation to the previous year) | 82.6 % | 99.3 % | 88.6 % |

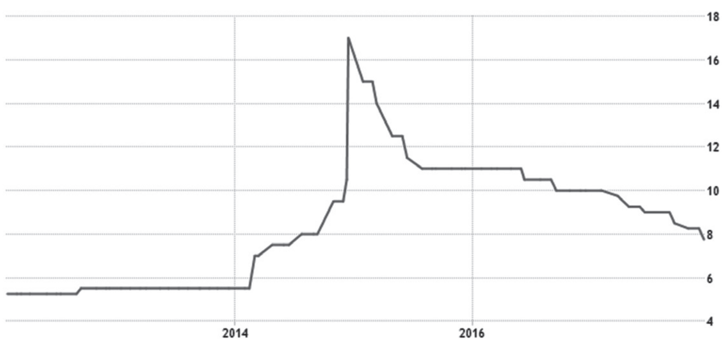
Source: „Biulettien Bankowskoj Statistiki". (2014). No. 12 (271) p. 37; „Biulettien Bankowskoj Statistiki". (2016), no. 10 (293), p. 37.

Thus, a breach in Russia's international trade is clearly visible after the introduction of sanctions in 2014. Trade turnover in 2016 fell by almost a half in relation to 2013, while a decreasing but still positive trade balance was maintained.

As a result of the rouble depreciation, prices of imported goods rose and, in consequence, import to Russia was reduced. In the first half of 2015 import of furniture, cotton, medicines, shoes and passenger cars went down by almost a half in comparison to the analogous period of 2014. Import of trucks in the same period reached only 20% of the import level from the first half of 2014 (*Nuriejev, & Pietrakov*, 2016).

### *An increase in interest rates*

One of the consequences of the sanctions introduced against Russia was an increase in interest rates of the central bank. At the turn of 2014/2015 interest rate was raised from 5.5% to 17%. In the first half of 2015 interest rate was reduced to 11% and then became stabilized at the same level until mid-2016. After that time it started to go down and reached a level of ca. 8.5% at the end of 2017.



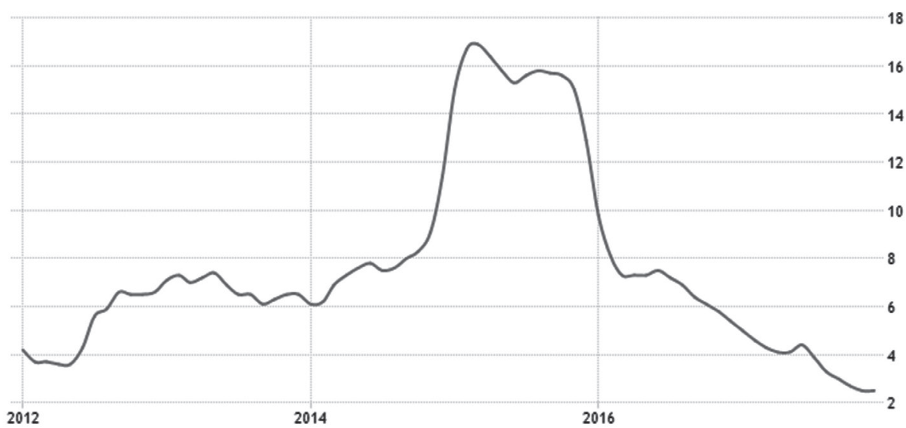

**Graph 9. Interest rate of the central bank in Russia in 2012–2017 (%)**

Source: Trading Economics. Retrieved December 4, 2017 from: https://pl.tradingeconomics.com/russia/interest-rate. Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-interest-rate.png?s=rrefrate&v=201710271043v&lang=all&d1=20120101&d2=20171231.

One of the reasons for the increase in interest rate was the introduction of sanctions consisting in limited financing of the leading Russian enterprises and banks on the international financial market. Access to sources of financing on the international markets was also limited for Russian exporters and importers. This resulted in a lower supply of money in the Russian economy and enforced a rise in interest rates of the central bank. The increase in interest rates and the decrease in money supply in the Russian economy resulted in a slowdown in the economic growth rate of Russia with its numerous consequences.

### *Change in inflation level*

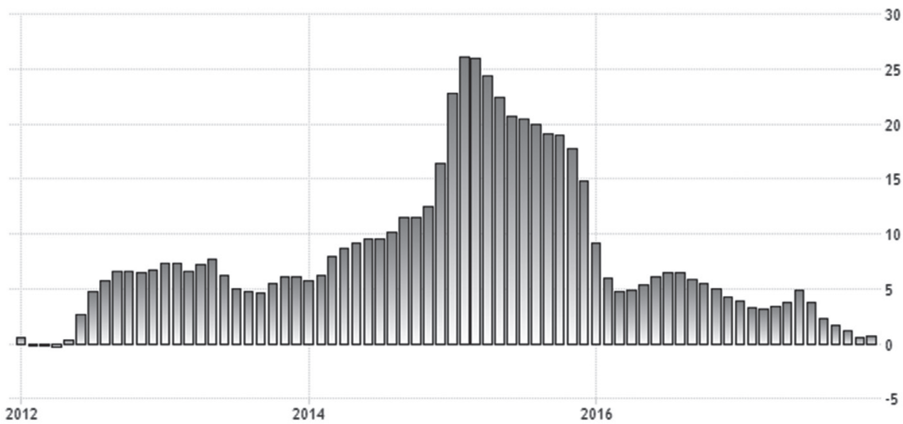
As a result of the economic sanctions, a rise in inflation level was observed, measured by the core inflation indicator, prices of consumer goods and administered prices. In 2014 – the year when the sanctions were introduced – the inflation rate rose from 5–6% to 12%, in 2015 from 12% to over 17% in the first half of the year, but in the second half of the year the rate of inflation growth became slower and finally the core inflation reached 12% at the end of 2015. In 2016 the inflation rate decreased to ca. 5% at the end of the year. In 2017 the inflation rate was still going down and at the end of the year it reached negative values (disinflation) (*Godovoj Otcziot Banka Rossii*, 2017).




**Graph 10. Inflation rate (yearly) in Russia in 2012–2017 (%)**

Source: Trading Economics. Retrieved December 12, 2017 from: https://pl.tradingeconomics.com/russia/inflation-rate-mom. Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-inflation-cpi.png?s=rucpiyoy&v=201712051518v&lang=all&d1=20120101&d2=20171231&type=spline.

The highest increase in prices in 2014–2016 was observed in the group of consumer goods – some prices went up even by 25%.




**Graph 11. Increase in food prices in Russia (month to month) in 2012–2017 (%)**

Source: Trading Economics. Retrieved January 4, 2017 from: https://pl.tradingeconomics.com/russia/food-inflation. Graph: https://d3fy651gv2fhd3.cloudfront.net/charts/russia-food-inflation.png?s=russiafooinf&v=201711071318v&lang=all&d1=20120101&d2=20171231&type=column.

Since the beginning of 2017 a decrease in inflation could be observed, from the level of ca. 5%. Thus, it can be claimed that, as a result of the introduction of sanctions, the Russian economy experienced a kind of a price shock and inflation growth but it soon absorbed this shock and in 2017 inflation became stabilized at the level of 2–3% yearly. This is beneficial for the Russian economy.

### *An increase in interest rates on bank loans*

Another consequence of the economic sanctions against Russia is a decline in granting credit to the economy and population and an increase in interest rate on loans. Restrictions on granting credit to Russian enterprises and banks on the international market (the EU, USA, Canada and Switzerland) caused a drop in money supply on the Russian money market and forced the Russian central bank (Bank of Russia) to raise interest rates. Bank of Russia raised the basic interest rate from 5.5% to 17% already in 2014. This intensified tensions on the Russian money market and led to a decline in credit granting and to a slowdown in GDP growth rate.

The increase in interest rates on bank loans has adversely affected the consumers in three ways (*Nuriejev & Pietrakov*, 2015):

a) many enterprises became insolvent due to higher costs of credit, which resulted in unemployment growth,
b) consumer loans and mortgage loans became more expensive,
c) weakening of the rouble led to a rise in prices of imported goods and reduction in their consumption, also due to lower import of many foreign goods.

The increase in interest rates caused insolvency of many borrowers and delays in repayment of loans. Overdue loans in banks rose almost twofold in 2014–2015 (from 861.3 bn roubles at the beginning of 2014 to 1,634.2 bn roubles in December 2015). This has a negative impact on stabilization of the Russian banking system (*Nuriejev & Pietrakov*, 2016).

***Changes in level and quality of consumption***

The introduction of economic sanctions and the increase in exchange rate caused in 2014 a significant decline in import of meat and fish (by 30% on average), pork only by as much as 50%, cheese by 20%, flour, cereals and cereal products by as much as 40%. This downward trend in import became even stronger in 2015 (in comparison to 2014). Import of dairy products, poultry and meat dropped the most significantly. As a result, consumption of highly processed food from abroad has decreased, whereas demand and consumption of food produced in Russia have risen (Temrokova, 2017). According to Russian experts, consumption of more ecological products has grown (*Nuriejev & Pietrakov*, 2016).

## Conclusions

To sum up, the Russian economy after 2014 experienced a major shock which adversely affected its development. This shock was caused by three factors:

a) economic sanctions imposed on Russia,
b) a drop in oil price,
c) inefficient economic policy of the Russian government during that period.

In summary, as a result of the economic sanctions applied by the Western states against Russia and the cumulated influence of adverse external and internal conditions of economic growth in 2014–2016, the Russian economy experienced many losses (*Bugatova & Abelguzin*, 2015).

In economy, a slowdown of economic growth rate and GDP decrease in absolute values were observed. Reduced income from oil and gas sale complicated the situation of the state budget. Inflation and prices (especially of food) rose. As a consequence of price increase, global demand fell which led to formation of market balance on a new level, with lower GDP and higher prices. Moreover, interest rates and interest on loans went up, and the amount of overdue loans and insolvency of many borrowers increased. Russian entities experienced difficulties or lack of access to foreign credit. Furthermore, trade with foreign countries decreased considerably, the level of foreign exchange reserves went down, and the national currency became strongly depreciated. The decrease in national currency value and uncertainty in economy led to increased withdrawals of bank deposits and problems of banks with liquidity. Financial stability deteriorated seriously, we can even talk about a banking crisis caused by withdrawals of deposits by people as a result of the rouble devaluation. Foreign entities began to withdraw from the Russian economy and foreign assets were taken away: it is estimated that foreign capital outflow amounted to ca. 130 bn USD during that period. Other consequences of the economic sanctions are: a drop in prices on the real estate market, a decline in foreign tourism and a decrease in spending of Russian citizens in such countries as: USA, Great Britain, Italy, Finland and France, but on the other hand a growth in tourist trips to former CIS states and development of domestic tourism. As a result of lower optimism among investors, a crisis in small business has been observed, a lower number of newly opened companies and a higher number of closed businesses.

It should also be noted that in response to the sanctions imposed, Russia introduced administrative restrictions on export and import, and free movement of goods, capital and people was limited. The sanctions imposed by Russia have influenced the economies of the Western states which have also experienced worse conditions of economic growth after 2014.

## References

„*Biulettien Bankowskoj Statistiki*" (2014). No. 12 (271).

„*Biulettien Bankowskoj Statistiki*" (2016). No. 10 (293).

Barkowskij A.N., Ałabjan S.S. (2015). *Posledstvija zapadnych sankcji i otvietnych sankcji RF*, „Rossijskij Wniesznieekonomiczeskij Wiestnik". No. 9, pp. 3–7.

Bugatova A.I., & Abelguzin N. R. (2015). *Vlijanije sankcji na ekonomiku Rossii*, „Aktualnyje Problemy Ekonomiki i Prawa", 3, 26–37.

*Chronologia unijnych sankcji stosowanych w odpowiedzi na kryzys na Ukrainie*. (2017). Retrieved July 8, 2017 from: http://www.consilium.europa.eu/pl/policies/sanctions/ukraine-crisis/.

*Dobre praktyki w zakresie skutecznego wprowadzania w życie środków ograniczających.* (2016).

*Godovoj Otcziot Banka Rossii za god 2016*. (2017). Moskwa.

*Kiedy i jak UE przyjmuje sankcje*. (2017). Retrieved July 8, 2017 from: http://www.consilium.europa.eu/pl/policies/sanctions/ukraine-crisis/.

Kublik A. (2016, September 1). *USA rozszerzają sankcje na Rosję. Na czarnej liście spółki Gazpromu*. Retrieved February 18, 2018 from: http://wyborcza.biz/biznes/1,100896,20632865,usa-rozszerzaja-sankcje-na-rosje-na-czarnej-liscie-spolki-gazpromu.html?disableRedirects=true.

*List of persons and entities under EU restrictive measures over the territorial integrity of Ukraine*. (2017). Retrieved December 13, 2017 from: http://www.consilium.europa.eu/media/21891/20170914-list-of-designated-persons-and-entities.pdf.

Łoginova I.V., & Titarienko B. A. (2015). *Ekonomiczeskije sankcji protiv Rossii*. „Aktualnyje Voprosy Ekonomiczeskich Nauk". No. 47, 41–42.

Nowicki M. (2017). *Sankcje niszczą Rosję. UE traci 17,6 mld euro*. Retrieved January 5, 2017 from: http://niezalezna.pl/91764-sankcje-niszcza-rosje-ue-traci-176-mld-euro.

Nuriejev R. M., & Pietrakov P.K. (2015). *Riadovoj potriebitiel: vriemija ekonomiczeskich sankcji protiv Rossii*. „Journal of Economic Regulation, Voprosy regulirovanija ekonomiki”, volume 6, 3, 39–60.

Nuriejev R. M., & Pietrakov P.K. (2016). *Ekonomiczeskije sankcji protiv Rossii: ożidanija i realnost*. „Mir Novoj Ekonomiki”. No. 3, 14-31.

Oomes N., & Kalcheva K. (2007, April). *Diagnosing Dutch Disease: Does Russia Have The Symptoms*. „IMF Working Paper” WP 07/102, 1–34.

*Portal Trading Economics* (2017). Retrieved December 4–15, 2017 from: https://pl.tradingeconomics.com/.

*Rodzaje sankcji*. (2017). Retrieved December 4, 2017 from: http://www.consilium.europa.eu/pl/policies/sanctions/different-types/.

*Rosja potępiła sankcje Kanady na 30 jej obywateli*. (2017). Retrieved November 5, 2017 from: http://wiadomosci.onet.pl/swiat/rosja-potepila-sankcje-kanady-na-30-jej-obywateli/fvkp03b.

*Sankcii Kanady w otnoszenii k Rossii, Informacionnoje Agientsvo TASS*. (2017). Retrieved November 5, 2017 from: http://tass.ru/info/4702366.

Temrokova A. H., (2017). *Importozamieszczenije v sovriemiennych usłovijach prieodolenija ekonomiczeskich sankcji*, Naucznyje Izwestia, no. 7, 42–46.

*Unijne sankcje w odpowiedzi na kryzys na Ukrainie*. (2017). Retrieved December 4, 2017 from: http://www.consilium.europa.eu/pl/policies/sanctions/ukraine-crisis/.

*Wsie sankcji zapada protiw Rosii*. (2017). Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/2.

*Wsie sankcji zapada protiw Rosii*. (2017). Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/4.

*Wsie sankcji zapada protiw Rosii*. (2017). Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/5.

*Wsie sankcji zapada protiw Rosii*. (2017). Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/7.

*Wsie sankcji zapada protiw Rosii*. (2017). Retrieved October 8, 2017 from: http://tass.ru/mezdunarodnaja-panorama/1055587/8.

*Wytyczne UE w sprawie stosowania i oceniania środków ograniczających*. (2012).

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# THE ECONOMIC CRISIS OF 2008 AND THE FINANCIAL SYSTEM SUPERVISION: TOWARDS AN EUROPEAN BANKING UNION

*The significant repercussions of the recent crisis in the financial sector and the real economy have led to the development of policies aimed at strengthening the stability of the international banking system. Banking regulatory reforms (Basel III) improve micro-prudential supervision and involve macro-prudential supervision to avoid systemic risk. Capital requirements are tightening up and the quality of core capital is upgraded in order to provide greater coverage of losses and better risk management. In addition, a new framework for liquidity risk is introduced, as well as a complementary tool for limiting leverage. Recently, an agreement was reached in the EU to establish a Banking Union in the Eurozone, based on uniform regulation, supervision, bank clearing and deposit protection mechanisms. This framework includes a common banking capital for bank consolidation, which aims to reduce the impact on savers.*

*This study aims to analyse the banking sector's activities and the constituent elements of the existing regulatory framework, particularly those involved in the causes of the financial crisis. It also aims to present the dimensions of the new regulatory framework for joint supervision leading to the European Banking Union and to analyse the pillars that form it, even though they are still in progress. The analysis will also build on the experiences from the recent crisis, in order to reach clear conclusions about the necessity and role of the Banking Union.*

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## Introduction

In the last decades, rapid technological, political, social and economic developments have taken place worldwide. The financial sector is at the heart of economic developments. Ensuring the stability and effectiveness of the financial system is of paramount importance for the development of social and economic prosperity. The financial system is constantly evolving and creating new instruments, new complex products and new markets.

However, this growth and development has led to increased risks and the emergence of new risks, with adverse effects on market participants, as demonstrated by the recent financial and credit crisis (Angelopoulos, 2010).

History has shown that financial crises are the trigger for major changes in the regulatory framework of the banking sector. The Basel Committee has played a leading role in the reforms and in the setting up of supervisory functions, which, on the occasion of the various phases of the economic crisis, has adopted regulatory and supervisory frameworks in the form of Basel I, Basel II, Basel III in chronological evolution.

In particular, in response to the recent economic crisis, a major effort has been made with the Basel III pact, where new provisions have been introduced in the field of banking supervision, with amendments to the current regulatory and supervisory framework and the investigation of its limits. These provisions are aimed at strengthening banks' resilience in the international financial sector and eliminating any likelihood that such a strong crisis will emerge in the future.

With the spread of the 2007–2008 financial crisis in the European area and uncoordinated national responses to bank failures, the relevant European institutions have decided to move forward with the European Banking Union in the hope of the Eurozone reverting to economic growth, on a more solid basis.

## Banking risks and the banking supervision system

The banking system altogether, which is the whole of the financial markets, with individuals and institutions that trade in these markets as well as the regulatory and supervisory authorities of the system, is exposed to risks that can be classified into four main categories: market risks, operational risks, and systemic risk (Gikas, Hyz, 2016, pp. 145–146). Such risks may become severe and lead a bank to bankruptcy (Kyritsis, Reklitis, 2015).

The banking system, operating in an uncertain environment, is continuously changing and constantly revising its institutional framework so as to address the emerging risks in order to provide the resources and services required to transfer funds from surplus to deficit units (Gikas, Hyz, 2016, p. 123; Hyz, Gikas, 1993).

In order to ensure the stability of the banking system, it was necessary to adopt a financial safety net, in other words to create a framework of rules, controls and procedures for the financial stability and protection of the banking sector. The financial safety net includes various preventive measures, as well as intervention and protective policies (Bukowski, 2011).

Prudential measures are adopted to achieve the objective through similar supervisory systems. There are two types of prudential supervision of banks, micro-preventive supervision, focusing on the microeconomic characteristics of banks and linked institutions, ensuring their solvency, adequate liquidity and orderly functioning in full transparency, and macro-prudential supervision, which focuses on the effects of macroeconomic variables on banks' financial data.

The most basic rules used by the appropriate supervisory authorities to limit the accumulation of systemic risks throughout the banking and relevant financial system, concern the supervisory equities and the liquidity risk of a bank. Macro-prudential supervision focuses on addressing the two manifestations that limit systemic risk and these are: „time dimension" and „cross-sectoral". The time dimension is related to the development of systemic risk over the horizon. The cross-sectoral dimension concerns the way in which the risk is spread over the banking and financial system at a given point in time.

Financial safety net intervention policies include designing an effective crisis management framework to minimize as far as possible the effects of a domestic or international crisis on the real economy. This can be achieved through the implementation of a three-step framework: (a) a prevention stage to increase the probability of early detection of problems and to enhance banks' readiness to deal with major difficulties; (b) early intervention, where the monetary authorities can intervene for the exceptional financing of creditworthy banks through the lender of last resort, while supervisors can intervene preventively to mitigate the consequences; (c) a healthy consolidation stage where the healthy consolidation principle, due to the public interest, may trigger some of the conventional healthy consolidation techniques when a bank is bankrupt or is on the verge of bankruptcy, and there is no possibility of recovery with private funds or supervisory interventions.

The protective policies of the finacial safety net concern the creation of Deposit Guarantee Schemes. Deposit Guarantee Schemes are in place in most countries around the world. They were established for the first time since the great crisis of 1929–1933 with the aim of minimizing or eliminating the risk of losing deposits in the event of bank failures. A sense of security is important, as deposits for households and small businesses represent savings or significant funds for the execution of transactions.

## Banking Supervision and Basel I, II, III

The dominant leverage for the progressive development and activation of the supervisory systems of the international financial system in a common line of navigation was the dynamic presence of the Basel Committee on Banking Supervision.

The Basel Committee is not an international governmental organization but a de facto organization without legal personality, operating under the administration of the Bank of International Regulations – BIS (Πετράκης, 1999). The decisions taken do not have a legal commitment to their third recipients and are usually formulated as general principles or minimum suggested standard behaviour (Walker, 2001). Among the most noteworthy writings are the Basel Accords, which are widely known as Basel I, Basel II, Basel III, and are the first internationally organized effort to create a common system for calculating the capital adequacy of credit institutions.

The capital adequacy to deal with risk, is considered to be the availability and maintenance of a credit institution's own capital at a level sufficient to deal with possible losses from the risks posed by the activities of the credit institution (Psychomanis, 2009: Gikas, Hyz, 2016, p. 158 ).

In order to identify regulatory capital items, with which banks may meet their capital requirements against these risks, a solvency ratio or capital adequacy ratio (CR) has been proposed, which must be larger or equal to 8% .

In Basel I, the weighting of assets was made against credit risk and market risk. The Equity of credit institutions, in the context of supervision, differs significantly from the corresponding accounting equities, which is why Basel I focused on Supervisory Equity, which is divided into two categories: Core Capital Tier I and Supplementary Capital or Tier II, and the first is required to be at least 50% of the total, ie at least 4% of the risk-weighted assets.

Weighted assets include the sum of credit-risk-adjusted assets (RAAs) plus the off-balance sheet items, together with the credit-risk measurement of off-balance sheet items market (Tzavalis, 2010). This method is described as a standardized method of credit risk calculation.

Basel I's supervisory framework created significant distortions and inefficiencies in the capital requirement assessment (Sapountzoglou and Pendos, 2009), as the near-arbitrary classification of assets into risk categories was envisaged, while balancing these categories with factors that did not account for the actual exposure level to the credit risk. The preferential treatment of government securities, rank them in the lower risk zone. However, the breaches of several public state obligations, particularly in Latin America, have shown that sovereign debt could not be considered a zero risk investment. The result of a possible diversification that could reduce the actual overall portfolio risk was not recognized, as the supervisory framework regarded the total risk of a portfolio as the sum of the risk of its individual assets. It did not take into account other risks, apart from credit and market risk. Banks have gradually begun securitization to obtain liquidity and be able to make new advances.

The contribution of the Basel I Accord was recognized in the effective recovery of a long-downturn in the capital adequacy ratios of internationally-active banks and in the strengthening of the implementation of joint supervisory techniques, clearly diminishing diversity in global supervisory approaches.

Although Basel I imposed strict rules, recommending that they should be followed by all members, in the 1990s new causes emerged that led several banks to bankruptcy.

These reasons were linked to the corporate governance of the banks, that is to say their decision-making processes. Thus, the new Basel II regulatory framework had to cover this risk, which was called operational risk.

The Basel II pact or accord, consists of three thematic units or, according to the Committe's phraseology, three pillars.

Pillar I: Capital requirements to cover credit risk, market risk and, for the first time, operational risk.

Pillar II: Firstly, it is determined what is the purpose of the planned process followed by the supervisory authorities with regard to the assessment of the capital adequacy of banks and then the general guidelines governing the envisaged procedure.

Pillar III: Enhances market discipline by disclosing specific qualitative and quantitative data related to capital adequacy.

In the first pillar, the committee sets out the capital requirements for the coverage of credit risk, market risk and for the first time operational risk.

The second pillar review process is one of the main innovations of the new pact. It reflects the shift of supervisory interest from the level of macro-prudential supervision to that of micro-prudential, providing the possibility of personalized supervision of institutions whose activities involve a greater systemic risk.

The new Basel II treaty proved to be insufficient to prevent the crisis that started in 2007. The new treaty was launched in January 2008, with the crisis already beginning to widen. Also, the incorrect supervision of credit institutions for the implementation of the Basel II treaty was a determining factor in the failure of the framework.

Banks were also in a position to conceal and present their risk and capital data in a way that does not show their problems to the general public and the supervisory authorities in particular. This possibility was given to them by the privileges given to them by Basel II in their way of calculating and measuring their risks (Karamouzis, Harduvelis, 2011).

Excessive leverage in the banking system must be considered at least in part as a result of the current regulatory capital adequacy framework because credit institutions, with the aim of reducing the cost of its application, have recourse to excessive securitization and techniques of „regulatory arbitrage" (Gortsos, 2011). We may compare the capital structure leverage of the banks, which is higher than 10, with the average similar leverage of other organizations in the private sector, which is about 3. This high leverage is kept since old times and was initially relevant to the lack of sufficient gold when the rule of gold was used. But now that the central banks can issue freely base currency and all of the banks can create scriptural money (M1, M2, M3), such a high leverage is mainly relevant for the desire of large profits while it creates the highest instability for the banks among the private sector. It is obvious that a drastic reduction of the high leverage from much higher than 10 to lower by some integer units, would solve more easily many of the problems that the Basel packs are trying to solve at the cost of course of the high profitability of the banks.

As the Basel Committee says, while the capital adequacy of most banks was adequate, their quality was low, and with the onset of the crisis, they faced liquidity problems, and the sharp reversal of market conditions highlighted the speed at which the liquidity reserves of credit institutions (Hyz, Gikas, 2015) can be exhausted.

Also, Basel II's current regulatory framework did not contain macro-prudential policies for the prevention, timing and cross-sectoral systemic risk and, as demonstrated by the recent crisis, the systemic risk has been very high.

According to Gortsos (2011), the current regulatory framework for capital adequacy was judged to be one of the factors that prolonged pro-cyclicality, as it urges banks during the course of economic growth to contribute to further enhancement of credit expansion, by means of lower rating criteria in the context of lending, while during the recession to restrict lending by imposing stricter criteria.

It should be noted that in the first two Basel pacts, members of the G-10 participated, while the largest developing economies that are now playing a key role in the financial system were absent. So, the recent financial crisis and the above failures not predicted with Basel II have prompted the commitee to start new debates and end on 16-12-2010 in a new pact known as Basel III.

The new prudential framework is an improvement and complement to the existing rather than a new agreement and is intended to strengthen the stability of the global banking system, moving on two levels: micro-prudential and macro-prudential. Basic Basel III innovation is the leverage ratio, which aims to reduce the leverage of banking institutions and the introduction of capital buffer held by banks during good periods for the purpose of using it as an additional cover in times of crisis (Gikas, Hyz, 2016, p. 162).

In the absence of macro-prudential regulation rules, Basel III established this innovative element, the so-called capital conservation buffer, which requires that banks should hold and reserve during times of economic expansion, capital in excess of the standard, in order to cover capital adequacy. The use of this reserved capital is appropriate in times of adverse economic developments so as to absorb losses by increasing the capital requirement ratio and strengthening banks' resilience in crisis situations. The reserved capital is derived from the main core equities items, while its amount is set at 2.5% of the total weighted assets of credit institutions. In the context of limiting the pro-cyclicality phenomenon, as observed during the recent crisis, Basel III introduced a macroeconomic measure, the countercyclical capital buffer, as an extension of the reserved capital for maintenance purposes. On this basis, banks will need to form an additional reserve in periods of excessive credit expansion, taking into account the economic environment in the long term, to ensure their future protection.

The countercyclical stock size ranges from 0% to 2.5% of banks' total risk-adjusted assets so as to address systemic risk. Two new indicators are also introduced for the monitoring of liquidity risk. The short-term liquidity coverage ratio must be at least 100% and is defined as the ratio of the stock of high quality liquid assets to total net cash flows over the next 30 calendar days. The ratio of net fixed funding over the long term is defined as the ratio of the amount available to the required amount of fixed funding, and the amount should be more than 100%.

Basel III's changes in banking supervision are pro-active on two levels: microeconomic and macroeconomic. They aim at strengthening each bank separately so that they can overcome the problems caused by periods of negative developments and on the other hand to address systemic risk. Basel III is Basel II with a macro-preventive wrapper (Christopoulos and Dokas, 2012).

On the other hand, Caruana (2011) argues that the full and timely implementation of Basel III is insufficient to „protect" the global financial system and is not by itself adequate, but actions and reforms are required in all areas of public policy, including fiscal and monetary policy.

Fitch Rating estimates in a report that with the new supervisory framework, 29 global systemic financial institutions (G-SIFI) will need additional capital of $ 566 billion Dollars to meet the new capital rules. The same house estimates that Basel III will bring a decline in the ROE of banks by more than 20%. The decline in return on equity will occur as credit institutions will face the lack of capital.

Gortsos (2011) points out that credit institutions may be, through the application of the new measures, led to a reduction in the supply of borrowed funds with a direct negative impact on the real sector of the economy and its growth, as they will not distribute profits to their shareholders the following years.

The urgent need to lower banks' costs (Gikas, 1999) is likely to lead them to shifting their activities towards countries with loosely regulated supervisory frameworks or parts of the financial system that are under mild regulatory and supervisory intervention.

At the same time, Byres (2012) reports on the new supervisory framework that securitisations continue to play an important role in providing bank financing. One of the causes of the recent financial crisis was that the supervisors had not identified the risks of securitization. In spite of the lesson we have received in the recent crisis, the new supervisory framework does not hinder the rationalization of securitisations. It should be noted here that securitization is indeed a very significant tool for credit institutions to raise capital and finance their activities. But the abuse of excessive securitization was the one that led credit institutions to liquidity problems.

## The recent financial crisis

In the current crisis, we can distinguish three phases, which are in fact the waves of „transmission" from their point of creation to the environment through globalization (Christopoulos, Dokas, 2012).

In the first phase a residential bubble was created. The financial crisis originally appeared in the US after the interest rate cut by the Central Bank. This gave cheap housing loans, which resulted in a rise in real estate prices. To respond to inflation, the central bank raised interest rates, making it impossible to pay home loans so serious problems emerged, and we had a banking and financial crisis.

In the second phase there was a bond crisis. Banks in the US issued bonds based on housing loans in order to increase their liquidity. With the onset of the crisis, bonds lost most of their value. However, these bonds (toxic) had been transferred to banks around the world, resulting in their infecting and spreading the banking crisis (systemic risk).

In the third phase we have the emergence of the public debt crisis. To finance their troubled banks, states issued government bonds, thereby increasing public debt. Of course, the increase in public debt was due to other factors, which differ from country to country. The excessive increase in public debt led to a rise in borrowing rates from international financial markets and so some states could not borrow anymore and so they plunged into a financial crisis (Gikas et al., 2012; Gikas et al. 2013). So the EU has given financial assistance to these countries, while imposing austerity policies and reforms (memoranda).

The Eurozone member-states in which the economic crisis has grown severely can be divided into two categories: firstly, Ireland, Spain and Cyprus, where the crisis began as a banking crisis and led to a fiscal crisis and a debt crisis. The second category comprises Portugal and Greece, where, although the banking system was experiencing problems, the financial problems and the problem of public debt played seemingly a major role in the emergence and development of the crisis. Of course, other Eurozone countries have high public debt, such as Italy and France, and in many countries there are banks with major problems, such as Monte die Paschi di Siena in Italy and Deutsche Bank in Germany.

## European Banking Union

The evolution of the debt crisis in the euro area, the fragmentation of markets and the emergence of imbalances in the transmission of a single monetary policy (Gikas, 2004) in the Eurozone opened a new round of discussions on the transfer of security grid elements to a pan-European supervisory authority. The positions have been extended to a wider scope and the priority policies have been focused on forming a „European Banking Union” in which they develop on a consolidated level:

A central banking authority that is exclusively reserved for the banking system and is under the supervision of the ECB under a single ESM - (first pillar).

A transnational instrument for the settlement of unhealthy banking institutions, in the context of a Single Supervisory Mechanism (SSM) and a supranational rescue fund to absorb the exposures that are being driven (second pillar).

A common bank deposit guarantee system under the auspices of a Single Deposit Guarantee Scheme (DGS) (third pillar).

The banking association is a banking and consolidation system operating under EU-wide rules. On the one hand, it guarantees the security and reliability of the banking sector in the euro area and the EU as a whole, and, on the other, ensures that the consolidation of non-viable banks is done without spending taxpayers' money and having a minimal impact on the real economy.

Members of the banking union are all Eurozone members and EU Member States that choose to join. All the states that will adopt the euro in the future will automatically become members of the banking union. Non-euro area countries can participate through a close co-operation agreement.

The backbone of the banking union and, more generally, the regulatory framework for the EU financial sector is the Single Rule Book, which consists of a set of legislative texts which apply to all financial institutions and all financial products in the EU. Its action is supportive in order to establish a common belief in the realization of the European vision, but also preventive, in order to mitigate the possible ups and downs of a banking crisis.

Critics of the project argue that the imposition of excessive regulatory intervention by European authorities is responsible for the emergence of possible distortions in the real economy and limited lending to households and businesses, and is the likely cause of a financial downturn.

Compulsory compliance by banks with the rigorous measures of the new framework may cause both the inability to meet the high capital requirements as well as the increase in operating costs and thus lead to a further contraction in the banking sector, and the creation of a shadow banking system.

The activation of the pan-European surveillance mechanism is believed by many to have a direct impact on the autonomy of banking institutions, and reduction of the nature of national democracies, as at least for the banks there will be also a decrease of the degree of intervention in the financial markets and capital markets, and in particular in the weaker economies, may lead to an informal concession of their national sovereignty.

The EU's insistence on stopping the bail-out, which has cost taxpayers a total of 5.38 trillion euros since 2008, and starting the bail-in (which means that the burden should be borne by private investors), has led to the formation of a framework of rules where even if a national government wants and can save a state-owned bank, it is forbidden to do so before the individuals pay a large sum, which should correspond to 8% of the bank's liabilities.

The Banking Union at European level can also be a reason for intensifying the conflicts between the North-South countries, creating serious social turmoil on European territory.

Although the estimates were that the final decisions on the creation of the banking union would be made by the end of 2013, we are in 2017 and the union is still unfinished. Progress has been made in clearing troubled banks, although the problems that have recently occurred in Portugal and Italy have shown difficulties both in their operation and in their financing.

Finally, there is a delay in a basic pillar of the banking union: securing deposits. There are objections to both the time and the quality of the implementation of the common sanitation fund, which is expected to be fully funded in 8 years with 55 billion, which is low (the Commission's response is that the new supervisory rules will significantly reduce extreme cases requiring the actuation of the device). It is also noted that state support to a troubled bank is forbidden, but this is not the case for a bank that has not yet been identified as problematic.

## Conclusions

The implementation of the Banking Union is one of the most important steps for the integration of the states in the context of the European Monetary and Financial Framework and aspires to serve as a springboard for the launch of the Financial Union. Its formulation requires a radical amendment of the European Treaties, not a mere harmonization of the regulatory rules of European banking legislation.

The banking union can be a security mechanism to deal with future crises for the entire Eurozone. A crucial element for the smooth move towards the banking union is the swift conclusion of the consultations on the framework for the single consolidation mechanism as a major tool for managing future banking crises.

The Banking Union is seen as a necessary and key priority for risk-sharing, the depositor protection (and through the „clearance procedure"), and for restoring confidence in the system, and re-granting credit to businesses in all Member States. Consolidation of the Banking Union expects to bring significant benefits and the dimensions are to be multifaceted. From a legal point of view, a rich legislative content with new regulations will enrich the elements of European and banking law. From a financial point of view, the new operating rules reform the way in which credit institutions operate, and their strategies also, and create a new model for the functioning of the European banking system. From a political point of view, the Banking Union brings the EU closer to the goal of the political integration of its member countries.

## References

Bukowski S. (2011), *Economic and Monetary Union – Current Fiscal Disturbances and the Future*, „International Advances in Economic Research", Vol. 17, No. 3.

Byres, W. (2012), *Basel III: „Necessary, but not sufficient"*, http://www.bis.org/speeches/sp121106.pdf

Caruana J., (2011), *„Basel III: New strains and old debates – challenges for supervisors, risk managers and auditors"*, http://www.bis.org/speeches/sp111014.pdf http://eur-lex.europa.eu/legal-content/EL/TXT/?uri=CELEX%3A32014L0049

Gikas, G. (1999), *Korzyści skali w sektorze bankowym*, „Bank i Kredyt", nr 11

Gikas, G. (2004), *Competitiveness problems of less developed Member Countries of the European Union by joining the Euro Zone*, 2nd International Scientific Conference „Enlarged Europe and Regional Disparities", Preveza, June 3–4.

Gikas, G., Hyz, A., Tagkas, P. (2012), *Global Financial Crisis and Greek Debt Crisis*, Acta Universitatis Lodziensis. Folia Oeconomican, nr 273.

Gikas, G., Hyz, A., Tagkas, P. (2013), *The Experience of Greece from its participation in the Eurozone*, Management Insight, The Journal of Incisive Analysers, Vol. IX, No. 1; June 2013.

Hyz A., Gikas G. (1993), *Kształtowanie poziomu oszczędności gospodarstw domowych*, „Bank i Kredyt", nr 7.

Hyz A., Gikas G. (1016), *Business funding sources during the financial crisis: supply-side and demand-side factors. Case study of Greece*. „Central European Review of Economics and Finance" vol. 11, No. 1.

Hyz, A., Gikas, G. (2015), *CAMELS and Greek banking sector performance during the crisis an analysis and review of the evidence*, Folia Oeconomica, Vol 5, No 316 (2015)

Walker, (2001), *„International Banking Regulation: Low, Policy and practice"*, Finance and Economic Law Seriew, The Hangue: Kluwer Law International London – New York.

Αγγελόπουλος Π. (2010), *Τράπεζες και Χρηματοπιστωτικό Σύστημα*, Γ' Edition, Editions Σταμούλη, Αθήνα

Gikas, G., Hyz, A., 2016, *Money and Financial System*, Editions Gefira (Γκίκας, Γ., Χυζ, Α., 2016, Χρήμα και Χρηματοπιστωτικό Σύστημα, Εκδόσεις Γέφυρα).

Γκόρτσος, Χ. (2011), «Βασιλεία ΙΙΙ»: Η αναθεώρηση του ισχύοντος κανονιστικού πλαισίου της Επιτροπής της Βασιλείας για την τραπεζική εποπτεία με στόχο την ενδυνάμωση της σταθερότητας του διεθνούς τραπεζικού συστήματος, Χρηματοπιστωτικό δίκαιο, Τεύχος 1, Νομική Βιβλιοθήκη, Αθήνα.

Γκόρτσος, Χ. (2011), *Εισαγωγή στο Διεθνές Χρηματοπιστωτικό Δίκαιο*, Editions Νομική Βιβλιοθήκη, Αθήνα

Γκόρτσος, Χ. (2014), *Η πορεία προς την «Ευρωπαϊκή Τραπεζική Ένωση*: οι θεσμικές και κανονιστικές διαστάσεις και οι επιπτώσεις στην ανταγωνιστικότητα του ελληνικού τραπεζικού συστήματος, Τιμητικός Τόμος Φατούρου Α.

European Commission Information Note, (2014), Banking Union: Reinforcement of financial stability in the euro area. European Council of the European Union – Banking Union, http://www.consilium.europa.eu/en/home

Κανονισμός (ΕΕ) 806/2014 για τον ενιαίο μηχανισμό εξυγίανσης και το ενιαίο ταμείο εξυγίανσης, Επίσημη Εφημερίδα της ΕΕ , 30-7-2014, Αναρτήθηκε από http://eurlex.europa.eu/legalcontent/el/TXT/PDF/?uri=CELEX:32014R0806&from=EN

Κανονισμός(ΕΕ) 575/2013 σχετικά με τις απαιτήσεις προληπτικής εποπτείας για πιστωτικά ιδρύματα και επιχειρήσεις επενδύσεων, Επίσημη Εφημερίδα της ΕΕ, 27-6-2013 Αναρτήθηκε από http://eur-lex.europa.eu/legal-content/el/TXT/PDF/?uri=CELEX:32013R0575&from=EN

Καραμούζης, Ν., Χαρδούβελης, Γκ. (2011), Α*πό τη διεθνή κρίση στην κρίση της ευρωζώνης: Τι μας επιφυλάσσει το μέλλον*, Editions Οργανισμός Λιβάνη.

Kyritsis K., Reklitis P. 2015 „Simulation for the Stability and DEA Risk Analysis of Greek Banks within a Prolonged Duration of the Debt Crisis". Procedia Economics and Finance, Volume 33(2015):Pages 376–387, December 2015.

Οδηγία 2014/49/ΕΕ, Περί των συστημάτων εγγύησης ων καταθέσεων, Επίσημη Εφημερίδα ΕΕ 16-4-2014 , αναρτήθηκε από Οδηγία 2014/59/ΕΕ για την ανάκαμψη και την εξυγίανση πιστωτικών ιδρυμάτων και επιχειρήσεων επενδύσεων, Επίσημη Εφημερίδα ΕΕ,12-6-2016,αναρτήθηκε από http://eur-lex.europa.eu/legalcontent/el/TXT/PDF/?uri=CELEX:32014L0059&from=EN

Οδηγία2013/36/ΕΕ σχετικά με την πρόσβαση στη δραστηριότητα πιστωτικών ιδρυμάτων και την προληπτική εποπτεία πιστωτικών ιδρυμάτων και επιχειρήσεων επενδύσεων («οδηγία περί κεφαλαιακών απαιτήσεων» – CRD), Επίσημη Εφημερίδα της ΕΕ, 27-6-2013. Αναρτήθηκε από http://eur-lex.europa.eu/legal-content/el/TXT/PDF/?uri=CELEX:32013L0036&from=EN

Πετράκης, Π. (1999). *Αξιολόγηση και Χρηματοοικονομική Διοίκηση*, Τόμος Γ', Ζητήματα Τραπεζικής Οικονομικής, Editions «Το Οικονομικό»

Πρόταση κανονισμού 270/2015 για την τροποποίηση του κανονισμού (ΕΕ) 806/2014 σχετικά με τη θέσπιση ευρωπαϊκού συστήματος εγγύησης των καταθέσεων Ευρωπαϊκή Επιτροπή, Στρασβούργο, 24-11-2015, αναρτήθηκε από http://eurlex.europa.eu/legalcontent/el/TXT/PDF/?uri=CELEX:52015PC0586&from=EN

Σαπουτζόγλου, Γ., Πεντοτής, Χ. (2009). *Τραπεζική Οικονομική*, Τόμος Α'-Β', Editions Μπένου

Τζαβαλής Η., (2010). *Μελέτες για το Ελληνικό Χρηματοοικονομικό Σύστημα*, Επιμέλεια Έκδοσης, Οικονομικό Πανεπιστήμιο Αθηνών.

Χριστόπουλος Α., Ντόκας Ι. (2012). *Θέματα Τραπεζικής και Χρηματοοικονομικής Θεωρίας*, Editions Κριτική.

Ψυχομάνης, Σπύρος Δ., (2009). *Δίκαιο του Τραπεζικού Συστήματος: Οι τράπεζες και η εποπτεία τους*, Editions Σάκκουλας, Αθήνα.

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# TRENDS IN RESEARCH AND DEVELOPMENT INVESTMENT OF TRANSNATIONAL CORPORATIONS BROKEN DOWN BY SECTOR[2]

*The article aims to identify trends in R&D activities of transnational corporations in 25 sectors. The analysis covered the top 1000 TNCs in terms of R&D investment in 2003–2015. The investigation confirmed the existence of varying trends between sectors, despite the overall marked increase in R&D investment. The study also determined the characteristics of geographical locations of the top five sectors, strongly dominated by US TNCs. In addition, four groups of sectors were identified depending on the R&D trends observed in the period under analysis.*

**Keywords:** multinationals, TNCs, R&D, industries, sectors, trends, research and development activities.

**JEL Classification Codes:** F23, M21, O30.

## Introduction

Transnational corporations (TNCs) are key players in global research and development (R&D), exerting enormous influence on the state of play and changes in the world's R&D (UNCTAD, 2005). For a long time, R&D activities of TNCs have been strongly concentrated in sectoral terms, owing to the existence of knowledge-intensive industries with traditions of very intensive R&D investment (Odrobina, 2016). It seems, however, that every corporation operating in the global environment should increase its

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research and development investment. On the other hand, it must be considered that specific characteristics of business activities in particular sectors affect the R&D investment of corporations operating the sector concerned.

This study aims to determine trends in the R&D investment of corporations operating in particular sectors and to identify changes in the locations of TNCs from five sectors characterised by the most intensive R&D investment. An additional objective is to classify the other sectors according to the level and trends of R&D investment.

Thus far, investigations have focussed on examining sectoral R&D in aggregate classifications based on several sectors (Karlsson, 2006; OECD, 2008; UNCTAD, 2011; European Commission, 2012a; De Prato, Nepelski, 2013; Booz&co., 2014; Poznańska, Kraj, 2015), on high-technology sectors only (Jaruzelski, Staack, Goehle, 2014; European Commission 2014a) or on case studies (Uppenberg, 2009; Hiratuka, 2011; Lu, Chen, 2012; Zimmermann, 2015).

In this article, the analysis by sector covers corporations included in the top 1000 TNCs with the highest R&D investment (hereinafter referred to as the Top 1000) in 2003–2015. On the basis of rankings published by the European Commission, 25 sectors were selected for examination, which allowed to capture more detail of and insights into trends and changes in the research and development investment of TNCs in individual sectors. The study is composed of three parts. The first part describes general trends in the R&D investment of TNCs. The second section focusses on dynamic analysis of the top five sectors in terms of R&D investment. Finally, the third part presents the results of the classification of the other sectors according to trends in R&D investment.

## Dynamics of the R&D investment of corporations by sector

It must be emphasised that in 2003–2015 R&D investment in the Top 1000 increased 2.1 times and a similar trend characterised the ten TNCs with the highest R&D investment (Top 10). The growth was slightly faster – by a factor of 2.3 – for the ranking champion (i.e., subsequently: Ford, Daimler, Ford, Pfizer, Microsoft, Toyota, Toyota, Roche, Toyota and, four times, Volkswagen). The least robust (1.9-fold) increase was noted in the Top 50 TNCs. At the same time, a significant rise by a factor of 2.5 was observed for the median and the third quartile, whereas the strongest growth characterised the first quartile (3.8 times). Therefore, it can be concluded that the 13 years covered saw the most intensive R&D investment in corporations ranked 750th to 1,000th. Nevertheless, very strong dominance of the top performers, i.e. the most powerful TNCs, is still clear (Table 1).

**Table 1. Description of R&D in the Top 1000 (EUR million)**

| Attribute | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Champion | 5 946 | 5 658 | 6 782 | 5 763 | 5 584 | 7 610 | 6 768 | 7 181 | 7 755 | 9 515 | 11 743 | 13 120 | 13 612 |
| 3rd quartile | 202 | 207 | 242 | 249 | 253 | 304 | 292 | 326 | 363 | 382 | 381 | 423 | 494 |
| median | 83 | 88 | 103 | 105 | 105 | 123 | 119 | 137 | 145 | 156 | 153 | 173 | 208 |
| 1st quartile | 32 | 50 | 60 | 60 | 61 | 72 | 70 | 80 | 88 | 94 | 95 | 104 | 122 |
| Overall Top 10 | 48 559 | 49 323 | 55 108 | 52 251 | 52 595 | 58 591 | 54 539 | 62 763 | 68 809 | 71 789 | 75 412 | 89 168 | 101 700 |
| Overall Top 50 | 147 838 | 150 926 | 160 711 | 165 798 | 166 978 | 183 988 | 172 640 | 193 708 | 214 884 | 218 272 | 214 658 | 242 513 | 278 937 |
| Overall Top 1000 | 296 427 | 310 359 | 353 527 | 353 657 | 360 063 | 408 862 | 387 191 | 439 277 | 488 015 | 501 124 | 490 958 | 552 762 | 632 901 |

Source: own calculations based on European Commission (2004a; 2004b; 2005a; 2005b; 2006a; 2006b; 2007a; 2007b; 2008a; 2008b; 2009a; 2009b; 2010a; 2010b; 2011a; 2011b; 2012b; 2013; 2014b; 2015; 2016).

Undoubtedly, the analysis of sectors characterised by the highest R&D investment shows continuing strong dominance of five of them, namely: (1) pharmaceuticals and biotechnology, (2) automobiles and parts, (3) IT hardware, (4) IT software and (5) electronic and electrical equipment (Figure 1). In 2003–2004, TNCs from the five sectors accounted for ca. three-fourths of the R&D investment of the Top 1000 TNCs. Subsequently, in 2005–2010 the share of the five sectors declined from approx. 65% to ca. 62%, which meant increasing research and development activities of corporations operating in the other 20 sectors. However, starting from 2011, the proportion of the other sectors showed a steady decrease to a mere 29% in 2015, which indicates growing R&D concentration in the aforementioned five sectors.

Overall, in 2003–2015, the R&D investment of the Top 1000 corporations totalled EUR 5,575.1 billion, of which pharmaceuticals & biotechnology represented EUR 1,047.5 billion, automobiles and parts – EUR 977.2 billion, IT hardware – EUR 794.9 billion, IT software – EUR 454.0 billion, electronic and electrical equipment – EUR 447.2 billion and the other 20 sectors – EUR 1,854.3 billion (Figure 1).

As already mentioned, the R&D investment of the Top 1000 TNCs under analysis more than doubled in 2003–2015; nevertheless, it is worth taking a closer look at the growth rate of R&D investment in specific years and between sectors (Figure 2). For the Top 1000, the most buoyant increases (by over 10%) on the previous year were noted in 2005, 2008, 2010, 2011, 2014 and 2015. The robust growth observed in 2010 and 2014 resulted from decreased investment in the previous years, as a consequence of the global financial crisis and the second wave thereof, which reflected considerable susceptibility of the research and development investment of TNCs to crisis developments.

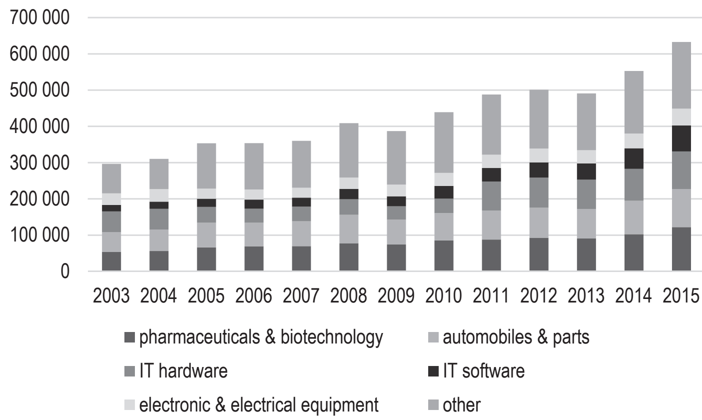


**Figure 1. The Top 1000 by sector (EUR million)**

Source: as in Table 1.

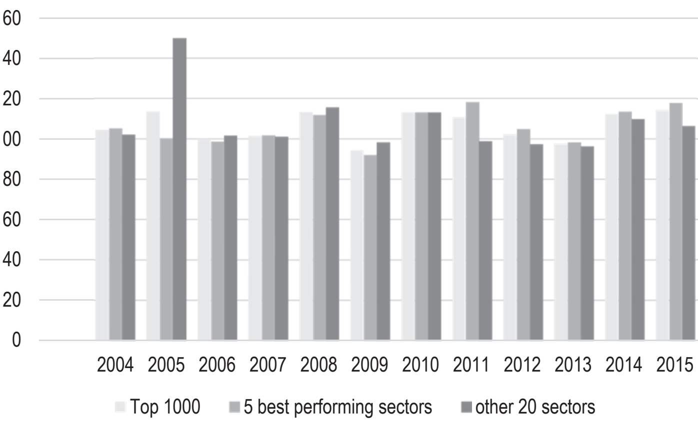


**Figure 2. Growth rate of the R&D investment of the Top 1000 by sector (previous year=100)**

Source: as in Table 1.

As regards the situation in 2005, it was caused by soaring R&D investment (up by 50.2%) in the other sectors accompanied by stagnation observed in the 5 best performing industries. As a matter of fact, the year 2005 witnessed spectacular and intensive R&D investment in five new sectors in comparison with 2004. Those were financial services (from EUR 175 million in 2004 to EUR 1,857 million in 2005), media and entertainment (from EUR 3,650 million to EUR 17,295 million), telecommunications (from EUR 6,363 million to EUR 29,741 million), travel and leisure (from EUR 368 million to EUR 607 million), transportation (from EUR 157 million to EUR 453 million). The high dynamics of 2011 and 2015 were directly attributable to greater intensity of R&D investment in the top five sectors; in 2011, the main driver was more than twofold growth in investment in IT hardware (from EUR 40 billion in 2010 to EUR 80.6 billion in 2011), whereas 2015 saw increased (against 2014) R&D investment in all the top five industries: IT software (by 27%), pharmaceuticals and biotechnology (by 19%), IT hardware (by 18%), automobiles and parts (by 14%), electronic and electrical equipment (by 14%).

## Analysis of the sectors characterised by the most intensive R&D investment

Further analysis focusses on identifying developments and trends in the five top performing sectors in geographical terms, in order to capture changes in the locations of TNCs involved in R&D.

The transnational corporations with the highest R&D investment in pharmaceuticals and biotechnology are based in the Triad countries, with a very strong dominance of US TNCs, accounting for nearly half of R&D in the whole sector (Figure 3). In addition, Swiss and German TNCs also had significant and strengthening positions, whereas from 2010 Japanese corporations gradually diminished in importance but still ranking fourth after UK TNCs. Over the years, increasing investment was observed in the case of German TNCs and TNCs from other countries, in particular TNCs headquartered in Ireland, Israel and India.

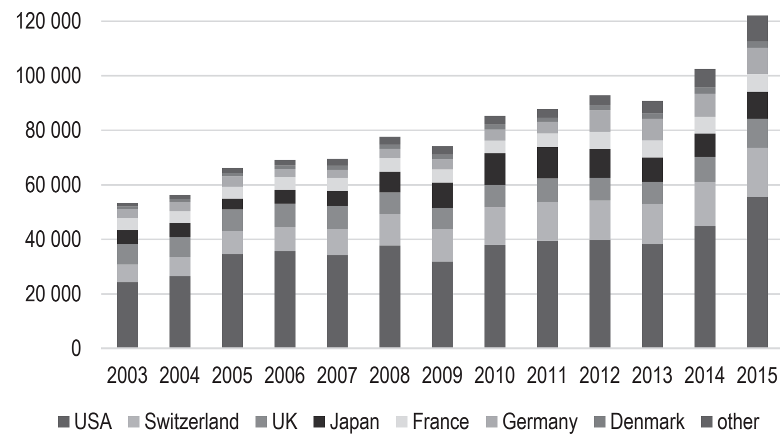


**Figure 3. R&D of the Top 1000 in pharmaceuticals and biotechnology (EUR million)**

Source: as in Table 1.

At the same time, R&D in automobiles and parts (Figure 4) is clearly dominated by German, Japanese and US TNCs, accounting for a combined share exceeding 81% of the R&D of the sector as a whole (against 85% in 2003), only from 2014 the proportion dropped to 78%. A stable position was maintained by French TNCs, whereas Korean automotive TNCs steadily gained in significance. Evidently, TNCs from other countries were relatively weak in the industry concerned, although it must be pointed out that whereas in 2003 they represented a mere 1.3% of R&D investment in the sector, in 2015 the share jumped to 8.2% (and in 2014 to as much as 12%) and from the early 2010s the group also included Chinese, UK and Indian TNCs.

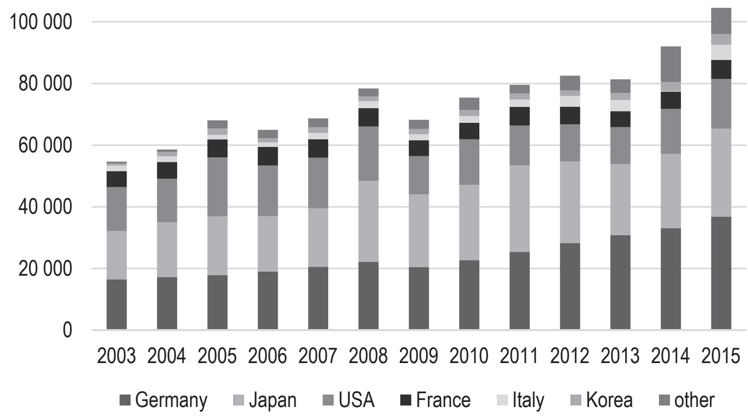


**Figure 4. R&D of the Top 1000 in automobiles and parts (EUR million)**

Source: as in Table 1.

As regards transnational corporations active in IT hardware, after several years of decline and stagnation in R&D, from 2011 they evidently intensified their R&D investment, to exceed EUR 104 billion in 2015 (Figure 5). The sector in question is very strongly dominated by TNCs based in the USA, strengthening their share in the industry from 52% (2003) to 58% (2015). Japanese TNCs steadily lost ground to Taiwanese corporations and, from 2011, to TNCs from China which moved up to the second position in 2015. European TNCs are relatively weak in the sector under examination.

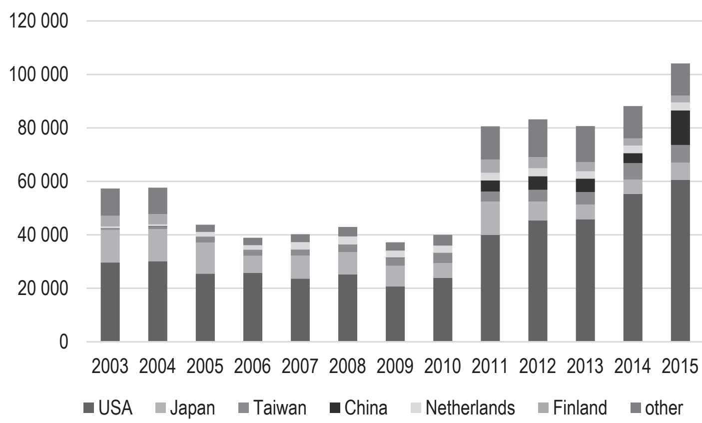


**Figure 5. R&D of the Top 1000 in IT hardware (EUR million)**

Source: as in Table 1.

At the same time, the continuing upward trend of R&D investment in IT software was unquestionably led by US TNCs, accounting for ca. 80% throughout the period in question (Figure 6). Increasing R&D investment also characterised German TNCs, whereas Japanese TNCs diminished in importance. From 2014, new entrants in the sector were TNCs based in China, immediately ranking second behind the USA in terms of R&D investment.

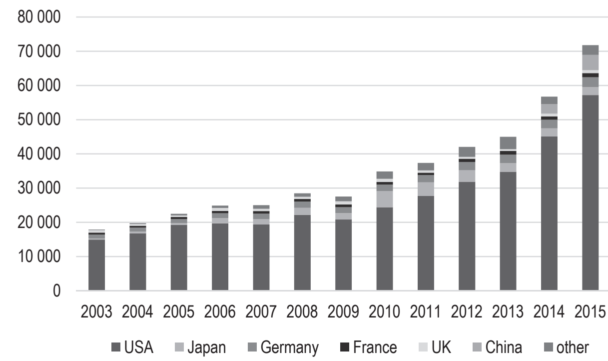


**Figure 6. R&D of the Top 1000 in IT software (EUR million)**

Source: as in Table 1.

The sector of electronic and electrical equipment was led by Asian TNCs, accounting for ca. 65% of R&D investment (Figure 7). It must be noted that until 2010 the largest R&D investment characterised Japanese TNCs but starting from 2011 the position of Korean corporations gradually strengthened. Furthermore, TNCs from Taiwan steadily gained in importance, increasing their R&D investment more than 23 times in the period covered. Basically, stable R&D activities were carried out by German TNCs, whereas continuing growth was noted by US transnational corporations, from 2014 ranking third in terms of R&D investment (outperformed by Korean and Japanese TNCs), although the level was ca. 2.5 times lower that in the case of TNCs based in Korea.

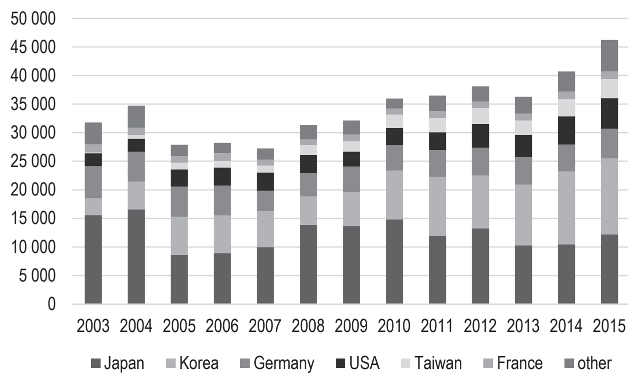


**Figure 7. R&D of the Top 1000 in electronic and electrical equipment (EUR million)**

Source: as in Table 1.

## Trends in the R&D investment of transnational corporations in the other sectors

Apart from the five sectors performing best in R&D, the study also covered twenty other sectors in which the Top 1000 transnational corporations operate. Based on the analysis of R&D investment by sector in 2003–2015, those were broken down into the following four groups: (1) sectors with fast-growing R&D, (2) sectors characterised by stable growth in R&D, (3) stagnant sectors, (4) sectors relatively poorly engaged in R&D.

As already indicated, the research and development investment of TNCs more than doubled in the period under examination. However, it must be stressed that certain sectors showed spectacular growth, which mostly concerned industries previously not very significantly involved in R&D activities (Table 2). A record-high growth rate of R&D investment was noted in mining (90.1 times in the period covered), with a rapid rise in 2015. The second highest growth rate characterised financial services (70.9 times) but the breakthrough investment in that sector was recorded in 2005. The third best performer in this respect was travel and leisure (investment increasing 8.6 times) but in this case greater involvement in R&D was observed in 2005–2008. Growth by a factor of 4.9 characterised media and entertainment, which a breakthrough in 2005. At the same time, in construction a steady rise in R&D investment resulted in the overall R&D increasing 4.6 times. Other sectors with above-average growth were general retailers and support services (their R&D investment increasing 3.8 and 3.5 times respectively) but the former experienced a fall in R&D in 2015.

**Table 2. Sectors with the fastest-growing R&D investment in the Top 1000 (EUR million)**

| sector | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| media & entertainment | 3 198 | 3 650 | 17 295 | 16 317 | 15 240 | 18 496 | 15 462 | 17 132 | 18 707 | 15 888 | 13 171 | 13 978 | 15 613 |
| financial services | 176 | 174 | 1 858 | 2 789 | 3 082 | 3 691 | 5 660 | 7 396 | 8 172 | 8 207 | 9 332 | 15 343 | 12 499 |
| mining | 106 | 224 | 235 | 422 | 664 | 1 351 | 1 057 | 964 | 1 304 | 1 218 | 823 | 827 | 9 530 |
| construction & materials | 2 011 | 1 664 | 1 610 | 1 603 | 1 898 | 2 680 | 3 274 | 4 605 | 5 273 | 5 047 | 5 661 | 7 060 | 9 274 |
| support services | 1 296 | 1 418 | 1 235 | 1 212 | 1 031 | 1 086 | 1 255 | 1 412 | 2 397 | 2 418 | 2 330 | 2 272 | 4 548 |
| general retailers | 707 | 879 | 1 659 | 2 004 | 2 115 | 2 512 | 2 584 | 3 525 | 5 253 | 2 941 | 3 073 | 3 985 | 2 716 |
| travel & leisure | 241 | 368 | 607 | 912 | 798 | 1 251 | 1 258 | 1 435 | 1 585 | 1 623 | 1 667 | 2 008 | 2 075 |

Source: as in Table 1.

Table 3 presents eight sectors classified as industries characterised by stable growth in R&D. All the sectors in question were characterised by relatively significant R&D investment as early as 2003, with chemicals, aerospace and defence at the forefront. Furthermore, throughout the period covered the sectors concerned noted steady increases in R&D investment; the only exception was industrial engineering, experiencing a collapse in R&D in 2005–2010, but due to a marked recovery noted from 2011 the industry was classified in that group (investment having increased 2.3 times in 2015 against 2003).

**Table 3. Sectors characterised by stable growth in R&D investment in the Top 1000 (EUR million)**

| sector | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| industrial engineering | 9 477 | 9 168 | 3 879 | 4 001 | 4 342 | 5 045 | 5 206 | 6 509 | 17 209 | 20 640 | 19 071 | 19 638 | 22 127 |
| chemicals | 15 396 | 15 710 | 16 148 | 16 496 | 15 838 | 18 435 | 17 083 | 19 361 | 20 538 | 18 624 | 17 295 | 18 401 | 20 481 |
| aerospace & defence | 11 005 | 11 718 | 14 599 | 15 780 | 14 935 | 15 136 | 14 539 | 15 686 | 17 512 | 17 426 | 18 098 | 19 458 | 20 097 |
| general industrials | 5 776 | 5 925 | 8 833 | 8 539 | 7 861 | 11 606 | 11 262 | 13 340 | 13 839 | 15 658 | 14 934 | 15 430 | 17 400 |
| health care | 6 096 | 6 396 | 6 019 | 5 869 | 5 836 | 7 075 | 7 677 | 8 711 | 9 509 | 10 234 | 10 021 | 11 029 | 12 491 |
| food & tobacco | 4 439 | 4 626 | 4 729 | 5 013 | 5 132 | 6 219 | 7 000 | 8 073 | 8 704 | 7 555 | 7 534 | 8 031 | 8 610 |
| household goods | 5 571 | 5 653 | 5 568 | 5 495 | 5 563 | 6 042 | 5 878 | 6 011 | 7 233 | 6 816 | 6 713 | 7 009 | 8 293 |
| metals | 1 361 | 1 652 | 2 098 | 2 089 | 2 191 | 2 779 | 2 646 | 2 931 | 2 814 | 3 203 | 2 870 | 2 723 | 3 182 |

Source: as in Table 1.

Three industries were classified as stagnant sectors (Figure 8). Interestingly, telecommunications made fast-growing R&D investment until 2010 but then experienced a collapse in 2011, followed by a steady downward trend. That development is attributable, at least in part, to a fall in the number of TNCs in the sector concerned as a result of their expanding operations and, consequently, re-classification of certain corporations to industrial engineering. In turn, after many years of rising R&D, in oil and gas distribution investment dropped more than four times in 2015 against 2014, below the 2003 level of R&D investment. At the same time, in the energy sector the involvement of TNCs in R&D remained almost unchanged.

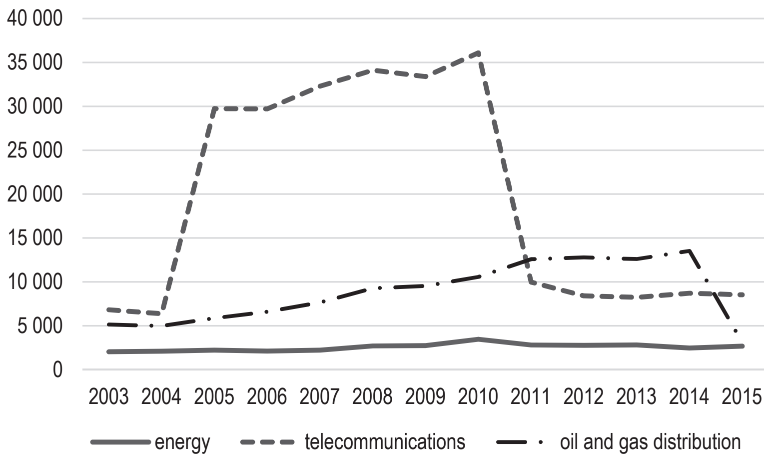


**Figure 8. Sectors with stagnant R&D investment in the Top 1000 (EUR million)**

Source: as in Table 1.

TNCs operating in transportation as well as in the forestry and paper sector, even though included in the Top 1000, must be regarded as relatively poor R&D performers (Figure 9). Moreover, both sectors typically show significant fluctuations in R&D investment in the period under analysis, with an additional downward trend in the forestry and paper industry.

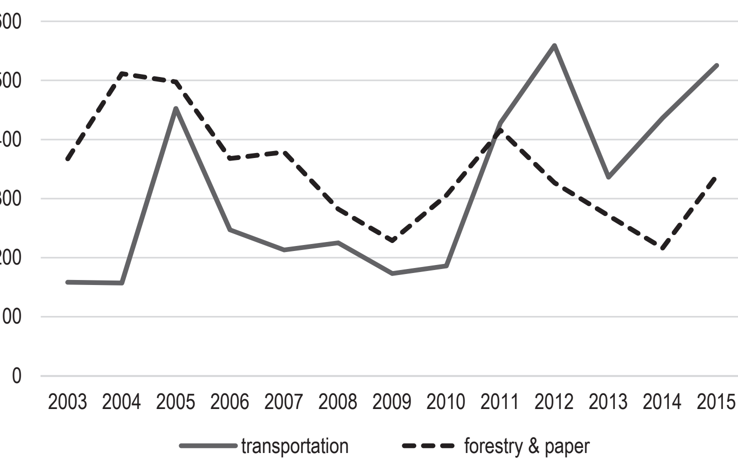


**Figure 9. Sectors relatively poorly engaged in R&D in the Top 1000 (EUR million)**

Source: as in Table 1.

## Conclusions

Despite the overall upward trend of the R&D investment of transnational corporations in 2003–2015, varying trends were observed in the R&D investment of corporations operating in particular sectors. It was demonstrated that R&D remained strongly dominated by TNCs from five sectors: pharmaceuticals and biotechnology, automobiles and parts, IT hardware, IT software (the fastest growers) as well as electronic and electrical equipment. It seems likely that in the coming years R&D growth in the five sectors concerned will continue to be more dynamic than in the other twenty industries.

The analysis of geographical locations in the top five sectors in terms of R&D investment indicated the strongest position of US transnational corporations, mostly operating in IT software and IT hardware. Asian TNCs (based in Korea, Japan and Taiwan) lead the way in electronic and electrical equipment. At the same time, the sector of automobiles and parts is dominated by corporations from Europe (Germany, France and Italy) and from Japan. With regard to pharmaceuticals and biotechnology, the top performers in R&D are primarily US and European TNCs, with those headquartered in Switzerland and the United Kingdom at the forefront. It is also worth pointing out that strong new entrants from China appeared in two sectors (IT software, IT hardware), although the five top performing industries tend to be dominated by TNCs from the Triad.

In addition, four groups of sectors were identified depending on the trends of R&D investment observed in 2003–2015. Eight sectors were classified as industries characterised by stable growth, with traditions of relatively strong involvement in R&D, i.e. industrial engineering, chemicals, aerospace and defence, general industrials, health care, food and tobacco producers, household goods and metals. Seven sectors were included in the group of the fastest growers (media and entertainment, financial services, mining, construction and materials, support services, travel and leisure, retailers), with a common characteristic of inclusion in more intensive R&D investment only during the period under examination. Three sectors were regarded as stagnant industries: telecommunications, the energy industry as well as oil and gas distribution, experiencing a downward trend. Finally, two sectors (transportation, the forestry and paper industry) were considered to be poorly engaged in R&D, on account of low R&D investment and significant fluctuations in the years covered.

By no means does this investigation exhaust the issues addressed but it will be the basis for more in-depth analyses of the R&D of transnational corporations operating in particular sectors, taking account of geographical and microeconomic aspects. It also seems justified to study the internationalisation of R&D by TNCs in order to determine the specific characteristics of the R&D of TNCs by sector.

## References

Booz&co. (2014). The 2013 Global Innovation 1000 Study. Navigating the Digital Future. Retrieved 21 January 2016 from http://www.booz.com/innovation1000.

De Prato G., Nepelski D. (2013). The Global R&D Network: A Network Analysis of International R&D Centres, Luxembourg: Joint Research Centre of the European Commission.

European Commission (2004a). The 2004 EU industrial R&D investment scoreboard. Ranking of the Top 500 EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard04.html.

European Commission (2004b). The 2004 EU industrial R&D investment scoreboard. Ranking of the Top 500 non-EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard04.html.

European Commission (2005a). Ranking of the Top 700 EU companies by R&D investment in the 2004 financial year. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard05.html.

European Commission (2005b). Ranking of the Top 700 non-EU companies by R&D investment in the 2004 financial year. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard05.html.

European Commission (2006a). R&D ranking of the top 1000 EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard06.html.

European Commission (2006b). R&D ranking of the top 1000 non-EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard06.html.

European Commission (2007a). R&D ranking of the top 1000 EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard07.html.

European Commission (2007b). R&D ranking of the top 1000 non-EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard07.html.

European Commission (2008a). The 2008 EU industrial R&D investment scoreboard. R&D ranking of the Top 1000 EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard08.html.

European Commission (2008b). The 2008 EU industrial R&D investment scoreboard. R&D ranking of the Top 1000 non-EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard08.html.

European Commission (2009a). R&D ranking of the top 1000 EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard09.html.

European Commission (2009b). R&D ranking of the top 1000 non-EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard09.html.

European Commission (2010a). R&D ranking of the top 1000 EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard10.html.

European Commission (2010b). R&D ranking of the top 1000 non-EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard10.html.

European Commission (2011a). R&D ranking of the top 1000 EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard11.html.

European Commission (2011b). R&D ranking of the top 1000 non-EU companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard11.html.

European Commission (2012b). R&D ranking of the top 1500 World companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard12.html.

European Commission (2013). R&D ranking of the world top 2000 companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard13.html.

European Commission (2014a). EU R&D Scoreboard. The 2014 EU Industrial R&D Investment Scoreboard. Brussels: European Union.

European Commission (2014b). R&D ranking of the world top 2500 companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard14.html.

European Commission (2015). R&D ranking of the world top 2500 companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard14.html.

European Commission (2016). R&D ranking of the world top 2500 companies. Retrieved 20 September 2017 from http://iri.jrc.ec.europa.eu/scoreboard15.html.

European Commission (2012a). Internationalisation of business investments in R&D and analysis of their economic impact. Luxembourg: European Union.

Hiratuka, C. (2011). Transnational Corporations and Internationalization of the Research and Development Activities in Developing Countries: The Relative Importance of Affiliates in Asia and Latin America. In A. Deshpande (ed.). Capital without Borders: Challenges to Development (pp. 147–164). India: Anthem Press.

Jaruzelski, B., Staack, V., & Goehle, B. (2014). Proven Path to Innovation Success. Global Innovation 1000, 77/Winter.

Karlsson, M. (ed.) (2006). The Internationalization of Corporate R&D Leveraging the Changing Geography of Innovation. Stockholm: Elanders.

Lu, L. Y. Y., & Chen T. M. (2012). Technology Strategy of R&D Internationalization: An Empirical Study from a Developing Country. In F. Betz (ed.), Creating and Managing a Technology Economy (pp. 81–108). Singapore: World Scientific Publishing.

Odrobina, A. (2016). *Kierunki i tendencje procesu koncentracji działalności badawczo-rozwojowej korporacji transnarodowych*. International Business and Global Economy, 35/2, 379–391.

OECD (2008). The Internationalisation of Business R&D. Evidence, Impacts and Implications. Paris: OECD.

Poznańska, K., & Kraj, M. K. (2015). *Badania i rozwój w korporacjach transnarodowych. Organizacja. Umiędzynarodowienie*. Warszawa: PWN.

UNCTAD. (2005). Globalization of R&D and developing countries. New York and Geneva: United Nations.

UNCTAD (2011). Foreign direct investment, the transfer and diffusion of technology, and sustainable development. Geneva: UNCTAD.

Uppenberg, K. (2009). R&D in Europe. Expenditures across Sectors, Regions and Firm Sizes. Brussels: Centre For European Policy Studies.

Zimmermann, V. (2015). An international comparison of R&D: Germany benefits from industrial research strength. KFW Research, 105, 25 August, 1–5.

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# BREXIT: BENEFITS AND COSTS FOR THE UNITED KINGDOM – REFLECTIONS FOR OBSERVERS IN EUROPE

*The withdrawal of the United Kingdom from the EU structures creates a new chapter in the history of the European integration. For the first time, after several decades of steady and secure functioning of the EU, a split occurs. Lofty ideas about creation of strong, coherent, wealthier and safer Europe lose in the competition with economic indicators and the national interest of the United Kingdom.*

*Brexit is an expression of the negative evaluation of the EU functioning by the British society. This opinion is grounded in difficulties of the EU with solving current economic, social and political problems of contemporary Europe, as well as in decreased cooperation among member states. The following most important reasons for Brexit should be mentioned: the uncontrolled inflow of immigrants, increased terror threat, loss of economic independence and national identity. It is also worth noticing the successful actions of right-wing politicians who used the situation to build their own vision of the state.*

*Consequences of Brexit shall affect both the United Kingdom and the EU member states but also non-EU countries. They shall have political, economic and social dimensions. However, at the current stage of the negotiations, it is difficult to predict all effects of the decisions taken. According to analysts, the UK shall incur financial losses, competitiveness of economy will decline, GDP will go down, political relations with neighbour states will deteriorate.*

*Brexit shall affect particularly these states which are close trade partners of the United Kingdom. Loss of the UK as one of the economic pillars of the EU shall influence the economic situation of the entire European Union. Brexit is also a crack in the EU image as an organization cherishing the values of solidarity and humanism. Individual interests of particular member states can be a contagious example.*

**Keywords:** Brexit, European Union, political situation of Europe at the beginning of the 21st.

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## Introduction

The British voted for leaving the EU structures. The referendum on 23 June 2016 had 17 410 742 participants, that is 72.2% of eligible voters, among whom 51.9% voted for the UK's exit from the European Union (UlHaq, 2016). It should be noticed that the decision about leaving the EU was important for the British, which is confirmed by very high participation of citizens in the referendum. The decision about leaving the EU divided the society into two almost equal parts – only slightly more people voted for withdrawal from the EU than against. It seems that the result of the referendum was accurately commented by A. Glencross (2016): this was a defeat of Prime Minister David Cameron who wrongly evaluated people's moods, especially as regards the issues of immigration and trust in the ruling elite.

On 29 March 2017 the Government of the United Kingdom notified the European Council of the decision to leave the European Union. In the letter informing about this decision, Theresa May, Prime Minister of the UK, presented the key principles of the negotiation process on the national level and in the relations between the EU and the UK (Letter of the Prime Minister of the United Kingdom to the President of the European Council notifying the UK's decision to leave the EU, 2017). In connection with this decision, the European Council holds negotiations with the United Kingdom (Statement by the European Council (Art. 50) on the UK notification, 2017).

The commencement of Brexit has become a fact. Numerous questions arise to which we do not know answers yet. What shall be the conditions of the UK's withdrawal from the EU structures? What does Brexit mean for immigrants residing in the UK? What will be the future of the Union in view of the fact that one of its important members is leaving?

The following hypotheses can be put forward:

1. In the British literature there is an increasing number of studies juxtaposing the benefits and costs of Brexit. This does not pertain to government analyses, because there are no arrangements concerning formal rules of Brexit negotiated with the EU.
2. In the course of time, the number of ardent supporters of leaving the EU is declining in the UK, because the European Union has adopted the position of the absolute protection of its internal market.

The aim of this article is to analyse the anticipated benefits which the UK intends to obtain, as well as a possibility to secure the EU interests after Brexit. Presentation of the point of view of British scientists makes it possible to look at the problem from the perspective of those directly concerned. This enables a thorough and more objective evaluation of Brexit effects for the EU citizens.

The scientific method adopted by the authors at writing this article is the analysis of works published mostly in the UK. The authors' intention is to present the opinions of British researchers to the readers. Thus, the article fills the gap on the Polish market where studies by Polish researchers are predominant. Presentation of the British studies makes it possible to examine the issue of Brexit taking into account the opinions of the directly concerned British people.

The research hypotheses proposed, the scientific methods applied and the goal formulated determine the structure of the study. The historically developed model of the EU is presented, the contemporary problems which gave rise to the decision about Brexit are described, the costs and benefits which the British can derive from leaving the EU are enumerated. Moreover, the conclusions which may be drawn for the European Union are presented as the outcome of the research.

## The European Union – principles, goals, tasks

Various attempts at political and economic integration in Europe were made already after the end of the World War II. We can mention, for instance: the Benelux Union, NATO, the Nordic Council, or the Council for Mutual Economic Assistance and the Warsaw Pact in Central and Eastern Europe. Several communities were also established: the European Coal and Steel Community (1951), the European Atomic Energy Community and the European Economic Community (1957) (Barcz, Kawecka-Wyrzykowska & Michałowska-Gorywoda, 2016). It was assumed that an agreement concluded would help avoid armed conflicts in the Old Continent and would create an organization able to compete with other political and economic blocs in the world (Łastawski, 2004).

A new phase in the European integration process took place by virtue of the Treaty on European Union (the Maastricht Treaty) which provided for "ending the division of the European continent and creating firm bases for the construction of the future Europe" (Treaty on European Union, 2016). In this manner the European Union was established in 1993. Its fundamental principle was cooperation understood as the intention of the united countries to develop economy and social relations together and to pursue various non-economic goals.

Originally, the EU comprised three European Communities (first pillar), that is the European Community (formerly: the European Economic Community), the European Atomic Energy Community (Euratom) and the European Coal and Steel Community (which ceased to exist in 2002). The European Community played a significant role mainly in creation of the internal market with four freedoms: free movement of goods and workers, freedom of establishment and freedom to provide services, and free movement of capital, as well as in pursuing common policies (including trade and agriculture). The second pillar pertained to the Common Foreign and Security Policy, and the third pillar to the Police and Judicial Cooperation in Criminal Matters (Barcz et al., 2016).

By virtue of the Treaty of Lisbon, in 2009 the European Union was transformed into a uniform international organization. This is stipulated in Art. 47 of the Treaty on

European Union (TEU) which provides that "the Union shall have legal personality" (Skolimowska, 2014). As a result of the adopted amendments, the institutional structure and the decision-making mechanism of the Union were made uniform and cohesion was reinforced. The pillar structure of the Union was abolished and the uniform Union regime was introduced (Barcz et al., 2016).

The aims of the European Union are specified in Art. 3 section 1 of TEU (Treaty on European Union, 2016). One of the most important goals is to create a single political body which would pursue common foreign policy on the international arena. This is supposed to increase security of member states, create an image of strong and coherent Europe and prevent wars and arguments between countries. The European Union supports economic, social and territorial cohesion and solidarity among its member states.

A goal of the European Union is to act for the sustainable development of Europe, based on balanced economic growth, stable prices, social market economy of high competitiveness aiming at full employment and social progress, as well as a high level of protection and improvement of quality of the environment. Furthermore, the Union establishes the internal market and the economic and monetary union whose currency is the euro.

The Union offers its citizens free movement of people. It combats social exclusion and discrimination and supports social justice and welfare, equality of men and women, solidarity between generations and protection of children's rights. The Union respects its rich cultural and linguistic diversity and takes care of safeguarding and development of the European cultural heritage (Treaty on European Union, 2016).

The European Union regularly increases the number of its members. Until 2004 the EU had 15 member states. In 2004 as many as 10 further states joined the Union, and in 2007 and 2013 – three more states. Currently, the European Union has 28 members.

## Contemporary problems as a reason for the UK's withdrawal from the European Union

The European Union faces numerous political, social and economic problems which became particularly intensified in the 2nd decade of the 21st c. One of the major difficulties is the refugee crisis from 2015-16 which caused enormous social and economic problems in the destination countries of the migration, such as Germany, France and the UK, but also in the countries where the greatest numbers of emigrants arrived first (Italy and Greece). This crisis erupted also in the countries through which emigrants travelled to the north and west of Europe (Hungary, Serbia, Croatia, Austria, France). It turned out that the scale of difficulties encountered by the states affected by this situation frequently exceeded their ability to cope with the circumstances on an ongoing basis. In the years 2015-2016 more than a million of refugees and immigrants arrived in the EU (European Commission, EU and the refugee crisis, 2016).

Furthermore, based on the principle of free movement of workers in the EU, a huge number of people came to the UK, especially after the enlargement of the Union in 2004 and 2007. This produced various effects, including considerably increased reluctance to newcomers in certain social groups (Garapich, 2016). The total number of immigrants in the UK grew from 1 345 000 in 1990 to almost three million in 2015 (Barbone, Green, Speckesser, & Broughton, 2017). The numbers presented by the Office for National Statistics in May 2016, that is a month before the referendum, showed that the net migration grew to 333 000 people in 2015 – this was the second highest result in history (UlHaq, 2016).

These migration-related circumstances triggered two significant political phenomena. Firstly, right-wing, nationalist and Eurosceptic parties used a growing anxiety among large social groups in the EU countries for their own purposes of fighting for power. In the UK, the United Kingdom Independence Party (UKIP), voicing the intention to break the relationships with the EU, gained much in popularity. The party activists fuelled the concerns that migrants would enter the local labour market and worsen the accessibility of public services (mostly social benefits, especially in education and in health care) (UlHaq, 2016). The referendum with the proposal of the UK's withdrawal from the EU should be regarded as this party's success (Garapich, 2016). As it turned out later, the arguments used against immigrants were not always true – but the intended results were achieved.

Secondly, difficulties connected with ongoing and efficient management of problems brought by the migration wave led to various attitudes of particular states, not always consistent with the principle of solidarity and cohesion within the Union (Fehler, Cebul, & Podgórzańska, 2017; Janik, & Jaremczuk, 2017). A group of wealthier states could be distinguished which directly experienced the migration problem and which tried to absorb the incoming masses of migrants. This policy was justified with humanitarian or socioeconomic reasons. On the other hand, many less affluent countries, mainly from Central and Eastern Europe, tried to protect their citizens against possible effects of the influx of immigrants, taking into account the aspects of security and living standards of inhabitants. Between these two groups of states there have been political tensions and mutual criticism of their respective policies towards the migration movement.

In the context of these processes, the relationship between the UK and the EU was described as "a married couple who do not cooperate". The UK curbed the idea of the EU's solidarity, which was inconsistent with the guiding principles of the Union (UlHaq, 2016). At the time when the UK co-created the European Union, it had 9 member states. Currently, there are as many as 28 members, and 5 more states (Albania, Macedonia, Montenegro, Serbia and Turkey) apply to join the EU structures. Altogether these are already almost 90 million of new citizens (Gietel-Basten, 2016).

A problem arousing the resistance to absorption of immigrants is a lower rate of economic growth than in the previous decades (and sometimes recession) in the EU countries and a related higher unemployment rate which is currently running over 8% (Eurostat. Unemployment rate-total, 2017). This is largely due to the economic crisis which started in 2008 in the USA but quickly reached Europe and hampered the development of economy in many countries of the continent. The crisis aggravated the discrepancies in the socioeconomic growth rate between particular states. This context is important despite the fact that GDP has been growing and unemployment rate has been decreasing in the EU states in the last two years.

As demonstrated by the research conducted in Great Britain, customs and habits which form the national identity of this country's citizens have been increasingly regarded as more important than expectations connected with a need for European integration in the recent years. Moreover, as right-wing politicians claim, the EU interests pursued have not always contributed to the efficient functioning of the British economy or sovereignty of the islands (Parlett, 2016).

According to British researchers, the main factors in favour of the UK's withdrawal from the Union were: negative attitudes of citizens towards the uncontrolled immigration wave, increased terror threat, deteriorated economic situation and losing of the national identity (Clarke, Goodwin, & Whiteley, 2017).

## The EU leaving procedure

Pursuant to Article 50 TEU, any member state can decide to leave the Union (Treaty on European Union, 2016). The basis for "voluntary withdrawal from the Union" is an international agreement which specifies the conditions of withdrawal and the form of future relations between the leaving state and the Union. The procedure of voluntary withdrawal from the EU means that other opportunities based on the general international law have been excluded, thus unilateral exit from the EU is not possible. The aforementioned article describes also the mechanism "enforcing" negotiations of the agreement. In the event the agreement does not enter into force within two years since the notification of the withdrawal decision (this deadline can be extended), the decision becomes effective. A state which left the Union and wants to join the EU again needs to follow the normal accession procedure (Barcz et al., 2016).

In the case of Brexit the procedure specified in Art. 50 TEU was applied. Pursuant to this Article, a member state which takes a decision about leaving the EU notifies the European Council of this intention. The agreement is negotiated in accordance with the guidelines of the European Council (Art. 218 section 3 of the Treaty on the Functioning of the EU) and then signed by the Council on behalf of the Union, based on the qualified majority of votes (72% of the voting states, except for the UK), after obtaining prior consent of the European Parliament (Brexit – procedural aspects as at 20.06.2017, 2017; Miller, Lang, & Caird, 2017).

On 24 January 2017 the Supreme Court of the United Kingdom issued a decision that the process of the UK's withdrawal from the EU can be commenced after prior consent of the British Parliament (Brexit explained. Article 50 Bill, 2017). On 13 March 2017 both chambers of the British Parliament passed an act authorizing the Prime Minister Theresa May to begin negotiations over UK's withdrawal from the EU.

Pursuant to Art. 50 section 2 TEU, the formal procedure of leaving the EU was commenced on 29 March 2017 upon notification to the European Council of the UK's decision to leave the EU. On 29 April 2017 the European Council adopted negotiation guidelines concerning Brexit (Brexit – procedural aspects as at 20.06.2017, 2017) and on 19 June 2017 the negotiation procedure was opened. The parties agreed on the basic principles of conducting negotiations, including establishment of three negotiation groups: for citizens' rights, for financial settlements and for other issues connected with the exit. Moreover, a dialogue on the status of Ireland/Northern Ireland was begun (Terms of Reference for the Article 50 TEU negotiations, 2017). The negotiations have started and they constantly reveal new problems. Each party is looking for ways to advance its interests and to shun troubles brought up by the other party.

## Cost and benefits of leaving the EU for the British

According to Brexit advocates, the UK's withdrawal from the Union shall bring economic, social and political benefits. As regards economic issues, it will offer a better position in negotiations of mutual trade agreements. It should be emphasized that the UK is the largest trade partner of the EU. The British economy shall no longer be limited by the EU law and regulations (Baker, & Schnapper, 2016). The costs of implementation of the EU regulations amounted to ca 30 billion GBP per year. Some of this money could be allocated to health care reform, financing of education or development of transport. Moreover, the UK's independence from the Union means reduction in costs of crises in the euro area absorbed by the EU states not belonging to the monetary union (Garapich, 2016).

On the other hand, Brexit means considerable uncertainty and instability in trade relations with the EU. Economists predict that the UK's international trade will decline, which will lead to lower standard of living in the country. Exit from the Union will cause a drop in British national income. Some financial analysts claim that it will decrease by 1.3%-2.6% in comparison to the level before leaving the EU (that is by around 850 to 1700 GBP per household) (Garapich, 2016). According to the research carried out by Axa Investment Managers (Axa IM), costs of Brexit shall lead to a decline in GDP by 2-7% according to the optimistic prognosis or by ca 14% in the pessimistic version (see Table 1).

**Table 1. Estimated cost of the UK's exit from the EU - scenarios**

| | Optimistic version | Pessimistic version | Probable version |
|---|---|---|---|
| Trade relationship | 1.6 | -9.5 | -3 to -7 |
| Regulation | 5.0 | -1.7 | 1 to -1 |
| Budget | 5.6 | 2.2 | 3 to 4 |
| Migration | 0.0 | -5.0 | -1 to -3 |
| Total impact | 12.2 | -14.0 | -2 to -7 |

Source: Morrissey, H. (2016, February 11). Calculating the cost of Brexit. Professional Pensions (London), p. 18 (based on AXA IM Research).

Experts estimate that Brexit will cost the UK ca 60 bln EUR. This amount comprises mostly unpaid budget liabilities, described as "reste á liquider" ("outstanding commitments"), funds for investment expenses approved for 2014-2020 and pension commitments for EU officers (Barker, 2017; Tutty, 2017; Malacain, 2017).

Depending on the solutions adopted between the EU and the UK – Brexit can have a "soft" form, with remaining on the single market and a liberal attitude to immigrants, or a "hard" form, that is leaving the single market completely and a strict policy towards immigrants, also those coming from the European Union.

London is an international financial centre, rendering services to European and global clients. Hard Brexit would result in partial migration of financial companies from London to the EU27. According to estimates, about 35% of wholesale market activities and 30 000 people can move from London to other main cities of the EU (Batsaikhan, Kalcik, & Schoenmaker, 2017).

On the other hand, the share of British turnover in foreign currencies (of all countries and all products) accounted for ca 37% in 2016. As regards three main currencies (USD, EUR and JPY), the UK is the largest market, more than twice as big as the USA (Batsaikhan et al., 2017).

After leaving the EU, the UK should pay to the EU budget 14.5 bln GBP (ca 16.9 bln EUR) which corresponds to the net contribution which the UK ought to pay in 2019 and 2020 if it still were an EU member state. Moreover, the UK will not receive agricultural subsidies and will lose money for infrastructure transferred by the EIB (Barker, 2015).

An important issue raised by Brexit supporters which shall be regulated is the issue of immigrants and refugees. Migration is connected with economic, cultural, demographic and security issues in view of contemporary terror acts. The government will be able to control a flow of people from the European Economic Area more effectively than today (Owen, 2017).

It should be noted that the Eurosceptical British politicians tried to renegotiate the principle of free movement of people from the EU but they encountered strong opposition from the EU leaders. The issue of welfare benefits for immigrants was publicized in the media (despite doubtful methodology of presenting statistical data) and depicted as a serious burden on the British budget (Garapich, 2016).

Nevertheless, it turned out that only one-third of foreigners receiving welfare benefits in 2015 were EU citizens (Garapich, 2016). Despite an increase in expenses (on social welfare and health care) by more than 200% in the years 2005-2015 for EU citizens: from 3 194 million EUR to 9 888 million EUR, the Union's citizens contributed to the UK economy more than they received (Barbone et al., 2017).

Thus, macroeconomic data demonstrate that net migrations have no great effect on the economy (Garapich, 2016). However, a stricter migration policy towards EU citizens can affect these sectors of the British economy which have been dominated by cheap labour force from the EU countries. This can lead to a shortage of employees in some sectors of the economy. Nevertheless, the impact of European migrations as a result of Brexit is difficult to estimate owing to the correlations which are yet to be revealed (Garapich, 2016).

Brexit is also supposed to restore the national identity, so emotionally presented in the British press, as the EU interests not always served the sovereignty of the British nation. Theresa May emphasized that when immigration is too high and a rate of change too fast, it is impossible to build a coherent and stable society (Theresa May's speech, 2015). British Eurosceptics believe in the unique quality of the political institutions functioning in the UK which enabled creation of individualism, pluralism and freedom guaranteed by law (Piotrowski, 2015). These values are important and attractive enough not to be belittled.

The principle that solidarity of the EU states should prevail over autonomy of national parliaments has been criticised in recent debates (Parlett, 2016). However, the slogans about restoring UK's sovereignty can also awaken the dormant emotions. Politicians from the Scottish National Party (SNP) claim that the UK's exit from the EU shall alter the relations between England and Scotland and shall lead to another voting on Scotland's independence. Thus, it can result in disintegration of the state. Moreover, the Irish government warns that Brexit can hamper the Northern Ireland peace process (Garapich, 2016).

## Brexit – conclusions for other countries

Brexit has aroused many emotions and has posed numerous questions both to the UK and to the EU member states. However, today it is difficult to answer the most important of them: what shall be the impact of the UK's withdrawal from the Union. Certainly, Britain's absence in the EU will lead to major consequences in the economic, political and social aspects.

First of all, the EU's political and military force shall decrease because the UK was one of the most important EU member states and spent on the army significant sums of money: 57 bln USD in 2013 (Pawlas, 2016).

The economic situation looks a bit different. Brexit will cause a decline in the economic potential because, according to experts, the EU's GDP shall go down by 17.5%, export of goods shall decrease by 23% and a share of trade services shall drop by almost 38%. Brexit entails a drop in the EU's GDP by ca 2.5 trillion EUR (Pawlas, 2016) and a decrease in the number of consumers on the single market by about 66 million people (Eurostat. Population on 1 January 2017). The number of consumers shall not go down if the UK successfully negotiates its further participation in this market (Proceedings of the workshop on the consequences of Brexit, 2017). However, according to many economists, the EU will not have problems with effective functioning after Brexit (Pawlas, 2016). Nevertheless, the net EU budget shall decrease because the UK paid 18.2 bln EUR to the EU (in 2015) and received far less: 7.5 bln EUR (EU expenditure and revenue 2014-2020). The UK has a net share in the EU budget at a level of ca 7% (Eurostat. EU expenditure and revenue 2000-2015). Brexit shall result in a necessity for higher payments to the EU budget by other states and/or reduction in some planned expenses. It is estimated that the revenue of the EU member states shall decrease by 12 to 28 bln GBP (Garapich, 2016).

It is supposed that the four big cities: Frankfurt, Paris, Dublin and Amsterdam will become the centres of most new wholesale markets of the EU27. Thus, a partial migration of financial companies will have a considerable influence on these cities and their infrastructure. Financial transactions (Forex, securities and the derivatives market) shall be moved from London to the EU, which is supposed to result in a significant increase in the EU's trade potential (Batsaikhan et al., 2017).

The conclusions which can be formulated as a result of Brexit are the following: The UK's withdrawal from the EU will especially affect these countries with which the UK has been strongly connected economically or politically. These countries include primarily Ireland, as well as Sweden, Poland and the Netherlands. On the other hand, Italy is concerned that Brexit shall be significantly reflected in worse balance of trade and unemployment growth in this country. Moreover, the EU will lose benefits connected with extensive relations of Great Britain with non-EU states, such as: Australia, New Zealand, Singapore, Japan and China (Möller & Oliver, 2014).

Great Britain was a destination country for a large numbers of educated and cheap labour force from the less developed EU states, especially from the Central and Eastern Europe: Poland, Lithuania, Romania or Bulgaria. On the other hand, the British currently residing in Spain and Malta are worried about the stability of their further functioning in these countries (Ceallaigh, 2017).

Brexit takes place at a difficult moment in history. The European Union goes through a serious internal crisis. A financial and economic slump, lasting for several years, and conflicts between the EU member states show that cooperation is functioning poorly in many areas: in the economic, social, political and cultural aspects. The principles and mechanisms of operation of the EU practices raise many objections and need to be changed (Fiszer, 2016).

Brexit has strengthened an intention of the leaders of "old" and affluent Union to build "two-speed Europe" (Sapieżko-Samordak, 2016), announced in March 2017 in the form of the so-called Versailles declaration. This idea consists in acceptance of various pace of integration of particular member states. This is supposed to lead to further integration of rich Western countries, such as France and Germany. Other member states can be made subordinate to the European leaders, otherwise they may find themselves outside the centre of taking strategic EU decisions. This undermines the European solidarity which became the basis for the Union's creation, diversifies the position of particular states, and generates a risk of marching at a different pace (Kołodziejski, 2017).

These tendencies have been strongly emphasized by British economists who claim that the EU is not flexible in the talks with other member states. A refusal to take into account the concerns of member states puts the EU's future at risk because aspirations to larger freedom and autonomy are growing in many European countries. Directives adopted by the EU have to take into consideration the needs of particular member states (UlHaq, 2016).

However, we can consider that the UK's withdrawal from the EU will strengthen the cohesion of the EU member states (Kokotovic & Kurecic, 2017). Brexit shall speed up integration, in accordance with the declaration: "Greater European Integration: The Way Forward", signed together by the presidents of the European countries. The process of reaching joint decisions will probably become easier and faster, because the UK frequently obtained opt-out clauses infringing the EU's uniformity (Cremades & Novak, 2017). On the other hand, lack of the UK acting as a brake in the EU can lead to problems with taking right decisions by the Union.

The strength of the European Union in the 21st c depends on many variables. Its future shall be built through creation of the joint European identity and efficient functioning of the European institutions. Hence, four scenarios of the EU development can already be constructed: stagnation, evolution towards a superstate with Germany and France as the leaders, evolution towards specialization, and stratification of the EU (Szumowski, 2015). Currently, we have learned that there is yet another, fifth possibility – leaving the EU structures by each state.

Thus, Brexit is a difficult challenge to the Union itself, which needs to be faced. If the major states of the EU draw accurate conclusions from that and give an impulse for modernization of the EU structures in terms of flexibility, increasing the power of member states and national parliaments, democratic accountability and justice, then the European Union can become consolidated and strong. Otherwise, another split and weakening may occur.

Nevertheless, Brexit is the most difficult challenge to the United Kingdom. The UK wants to make use of its political and economic autonomy in the long-term perspective. However, it will need to build its relations right from the beginning. Will the sum of benefits exceed the sum of losses? It will turn out already in a few years. We can wish the United Kingdom good luck.

## References


Baker, D., & Schnapper, P. (2015). Britain and the crisis of the European Union. Basingstoke: Palgrave Macmillan.

Barbone, L., Green, M., Speckesser, S. & Broughton, A. (2017, January). Brexit implications for employment and social affair. Facts and figures, Brussels. Directorate General for Internal Policies. Policy Department A: Economic and Scientific Policy. Retrieved July 25, 2017, from: http://www.europarl.europa.eu/RegData/etudes/STUD/2017/595333/IPOL_STU(2017)595333_EN.pdf

Barcz, J., Kawecka-Wyrzykowska, E., & Michałowska-Gorywoda, K. (2016). Integracja europejska w okresie przemian. Aspekty ekonomiczne. Warszawa: Polskie Wydawnictwo Ekonomiczne.

Barker, A. (2017, February). The €60 billion Brexit bill: How to disentangle Britain from the EU budget. Policy Brief, Centre for European Reform. Retrieved September 19, 2017, from: http://www.cer.eu/sites/default/files/pb_barker_brexit_bill_3feb17.pdf

Batsaikhan, U., Kalcik, R., & Schoenmaker, D. (2017). Brexit and the European financial system. Policy Contribution, 4, 1-13. Retrieved September 19, 2017, from: http://bruegel.org/wp-content/uploads/2017/02/PC-04-2017-finance-090217-final.pdf

Brexit –aspekty proceduralne wg stanu na 20.06.2017. (2017). Retrieved August 25, 2017, from: http://oide.sejm.gov.pl/oide/images/files/pigulki/brexit_2.pdf

Brexit explained. Article 50 Bill. (2017). London: Institute for Government. Retrieved July 25, 2017, from: https://www.instituteforgovernment.org.uk/sites/default/files/publications/article-50-bill.pdf

Ceallaigh D. Ó (ed.). (2017, May). Brexit. A Status Report. Second edition. Dublin: Institute of International and European Affairs. Retrieved September 18, 2017, from: http://www.iiea.com/ftp/Publications/2017/BrexitStatusReport_26May.pdf

Clarke, H. D., Goodwin, M., & Whiteley, P. (2017, February). Why Britain voted for Brexit: an individual-level analysis of the 2016 referendum vote. Parliamentary Affairs. Retrieved July 25, 2017, from: http://kar.kent.ac.uk/60902/

EU expenditure and revenue 2014-2020. (2017). Retrieved September 19, 2017, from: http://ec.europa.eu/budget/figures/interactive/index_en.cfm

European Commission (Directorate-General for Communication). (2016). UE a kryzys uchodźczy, Luxembourg: Publications Office. Retrieved August 23, 2017, from: http://publications.europa.eu/webpub/com/factsheets/refugee-crisis/pl/

Eurostat. EU expenditure and revenue 2000-2015 data download. (2015). Retrieved September 30, 2017, from: internet-tables-2000-2015.xls

Eurostat. Population on 1 January 2017. (2017). Retrieved September 30, 2017, from: http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tps00001&plugin=1http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tps00001&plugin=1

Eurostat. Unemployment rate-total. (2017). Retrieved September 25, 2017, from: http://ec.europa.eu/eurostat

Fehler, W., Cebul, K., & Podgórzańska, R. (2017). Migracje jako wyzwanie dla Unii Europejskiej i wybranych państw członkowskich. Warszawa: Difin.

Fiszer, J. M. (2016). Wady i zalety członkostwa w Unii Europejskiej oraz nowe wyzwania dla polityki integracyjnej Polski. Politeja 4(43), 181-215.

Garapich, M. P. (2016). Brexit - fakty, mity, liczby. Możliwe konsekwencje wystąpienia Wielkiej Brytanii z Unii Europejskiej. Analiza głównych osi debat publicznych. Warszawa: Fundacja - Instytut Spraw Publicznych. Retrieved July 25, 2017, from: http://www.feswar.org.pl/fes2009/e--books/Brexit.pdf

Gietel-Basten, S. (2016, December). Why Brexit? The toxic mix of immigration and austerity. Population and Development Review, 42, 4, 673-680.

Glencross, A. (2016). Why the UK voted for Brexit: David Cameron's great miscalculation. London: Palgrave Macmillan.

Janik, W. J., & Jaremczuk, E. J. (2017). Artykuł wprowadzający. Niekontrolowana migracja jako zagrożenie dla Europy – polski strach przed uchodźcami. W: E. J. Jaremczuk (red.), Migracje i kryzys uchodźczy w Europie. Rzeczywistość i wyzwania (s. 11-68). Poznań: FNCE.

Kokotovic, F., & Kurecic, P. (2017, Mart). The case of Brexit: an analysis of the political and economic factors. Journal of Economic and Social Development, 4(1), 28-39.

Kołodziejski, K. (2017, September). Europa na wirażu. Gazeta Bankowa, 10-14.

Łastawski, K. (2004). Od idei do integracji europejskiej, od najdawniejszych idei do Unii 25 państw. Warszawa: Wydawnictwo Wyższej Szkoły Pedagogicznej TWP.

List Premier Zjednoczonego Królestwa do przewodniczącego Rady Europejskiej notyfikujący decyzję o wystąpieniu z UE. (2017). Retrieved August 25, 2017, from: http://oide.sejm.gov.pl/oide/images/files/pigulki/brexit_dokumenty.pdf

Malacain, M., (2017, May 17). Brexit and the EU budget. Synthesis, Notre Europe - The Jacques Delors Institute. Retrieved September 19, 2017, from: http://www.institutdelors.eu/media/brexitandeubudget-synthesisseminar-may2017.pdf?pdf=ok

Miller, V., Lang, A., & Caird, J. S. (2017). Brexit: how does the Article 50 process work?, Briefing Paper, 7551. House of Commons Library. Retrieved August 25, 2017, from: http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7551#fullreport

Möller, A. & T. Oliver, T. (ed.). (2014). The United Kingdom and the European Union: What would a "Brexit" mean for the EU and other States around the World?. Berlin: Deutsche Gesellschaft für Auswärtige Politike.V.

Morrissey, H. (2016, February 11). Calculating the cost of Brexit. Professional Pensions (London), 18-19.

Oświadczenie Rady Europejskiej (art. 50) w sprawie brytyjskiej notyfikacji. (2017). Retrieved August 25, 2017, from: http://www.consilium.europa.eu/pl/press/press-releases/2017/03/29-euco-50-statement-uk-notification/

Owen, J. (2017). Implementing Brexit. Immigration. London: Institute for Government. Retrieved July 25, 2017, from: https://www.instituteforgovernment.org.uk/sites/default/files/publications/Brexit_immigration_WEB.pdf

Parlett, J. (2016). Brexit. London: Bluebird.

Pawlas, I. (2016). Brexit as a challenge for the European Union. Horyzonty Polityki, 7, 20, 57-76.

Piotrowski, P. (2015). Wielka Brytania a Europa. Torysi wobec integracji europejskiej. W: B. Gaziński (ed.), Szkice europejskie. Unia Europejska wobec wyzwań współczesności, (pp. 29-45). Olsztyn: Instytut Nauk Politycznych Uniwersytetu Warmińsko-Mazurskiego 2015.

Proceedings of the workshop on the consequences of Brexit, Brussels, 28 February 2017. (2017, June). Brussels: Directorate General for Internal Policies. Policy Department A: Economic and Scientific Policy. Retrieved September 9, 2017, from:http://www.europarl.europa.eu/RegData/etudes/STUD/2017/602052/IPOL_STU(2017)602052_EN.pdf

Sapieżko-Samordak, J. (2016). Wzmocniona współpraca w Unii Europejskiej. Koncepcja, doktryna, praktyka. Warszawa: Elipsa.

Skolimowska, A. (2014). Unia Europejska jako organizacja międzynarodowa. Warszawa: CeDeWu.

Szumowski, A. (2015). Siła Unii Europejskiej w XXI wieku – perspektywy. W: E. Lesiewicz (red.), Zmieniająca się Unia Europejska. Wybrane aspekty polityczne i społeczno-gospodarcze (s. 77-90). Poznań: Wydawnictwo Naukowe WNPiD UAM.

Tell, C. M., & Novak, P. (2017). Brexit and the European Union: general institutional and legal considerations. Brussels: Directorate General for Internal Policies of the Union. Policy Department for Citizens' Rights and Constitutional Affairs. Retrieved September 19, 2017, from: http://www.europarl.europa.eu/RegData/etudes/STUD/2017/571404/IPOL_STU(2017)571404_EN.pdf

Terms of Reference for the Article 50 TEU negotiations. (2017, June 19). Retrieved August 25, 2017, from: https://ec.europa.eu/commission/sites/beta-political/files/eu-uk-art-50-terms-reference_agreed_amends_en.pdf

Theresa May's speech to the Conservative Party Conference. (2015). Retrieved August 31, 2017, from: http://www.independent.co.uk/news/uk/politics/theresa-may-immigration-policies-speech-conference-2015-tory-conservative-party-views-a7209931.html

Traktat o Unii Europejskiej (wersja skonsolidowana), (2016). Retrieved September 23, 2017, from: http://oide.sejm.gov.pl/oide/index.php?option=com_content&view=article&id=1480

Tutty, M. G. (2017, June 8). The Potential €60 billion cost to the UK of exiting the EU, The Institute of International and European Affairs (IIEA). Retrieved September 19, 2017, from: http://www.iiea.com/ftp/Publications/IIEA%20-%20Brexit%20Bill%20paper%20-%20MGTutty.pdf

UlHaq A. (2016). A short guide to Brexit. Our divided future. [Bloomington]: Author House UK.