

## WOMEN'S CONTRIBUTION TO ROMANIA'S GDP CREATION

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### Abstract

*Through this approach, we aimed to show which are the **role** and the **place** that women **obtained**, over the time, in the process of states economic development. Thus, the structure of this paper can be reduced to two fundamental objectives. As a first step, we have shown the correlations between diminishing the gender disparities (especially the occupational inequalities) and the economic growth of the states, and in the second part of the paper we showed, pragmatically, considering the so-called conventions and estimation prerequisites, the actual contribution of Romanian women to GDP. Among other things, we highlighted the dynamics of the employment rate at European and national level and we gave the example of some of the most successful women-leaders, who, through their pattern of thinking and conduct, draw the profile of the most powerful women in the world.*

**Keywords:** gender disparities; women; successful leadership; labour force; GDP; economic welfare; Romania.

**JEL classification:** D63, E23, E24, F43, F66

## I. INTRODUCTION TO THE TOPIC OF SCIENTIFIC RESEARCH

The present paper has emerged in a context in which the economic and political life of the whole society is still governed by the impossibility of balancing the gender scale in a social dispute that seems to last for centuries. Unfortunately, the issue of gender inequality leads, inherently, to discrimination against women, aspect which, in the opinion of social science specialists, has a negative impact on the **economic welfare** of the states. As a result, one of the major concerns and, at the same time, one of the social commitments of political decision-makers around the world, has also been the equality of opportunity regulation, especially the equality of opportunity between women and men. This, in the conjuncture in which the **balanced participation of men and women** (in terms of: employment, wage benefits for the same work or continuous training) is still a desideratum of the labour market, being directly linked to how the political and economic power are shared within the society.

On the other hand, the economic practice shows us that the driving forces in obtaining the competitive advantage in the global economic dispute are of **intellectual nature**, and not, as traditionally, of **physical nature**. By developing this evidence and extrapolating from a microeconomic level to a macroeconomic level, the exploitation of intellectual property contributes to the competitiveness of companies operating in different sectors/industries and, as a consequence, contributes to the prosperity and competitiveness of economies (by intellectual property in organizations we mean: knowledge, ideas, goodwill, etc., meaning goods that do not have a physical substance but whose *exploitation leads to obtaining goods and services socially required, hence goods and services with market value*). Thus, the economic growth of countries is mainly influenced by the ability to make productive the **minds** (intellectual knowledge and skills) and not the **hands** (force/physical resistance and manual dexterity) of the **employed population**, an assertion that is not conditioned by any of the valences given by **religious beliefs, ethnicity, race** or **sex**.

In the sense of the above mentioned, the **main objective** of the present paper is reduced to our desire of showing the extent to which the Romanian women contribute to the economic development, meaning to the GDP creation, depending on both, the sectors of activity where they appears as employed persons and on their education degree. This, because we are tributary to the idea that the difference between two individuals, X and Y, which have relatively similar social characteristics, is not reflected in the biological traits given by their sex but derives from the particularities of the knowledge stock they hold at one point, knowledge acquired through formal education, continuous learning or social interaction. In other words, we will resort to both, the structure of GDP and the segmentation of the female employed population, on the main activities of the national economy.

We will offer, in a logical succession of ideas, an EU-wide view on the profile of the countries that are part of its structure, portraits that are reduced to statistical data regarding the GDP, the employed population, as

well as the participation of women and men on the labour market, in order to show, distinctively, the stage that Romania is facing, compared to some EU countries, in the process of closing the gender gap.

Among other things, we want to show, in a few examples that, globally, **women** can be **successful leaders** or **policy makers**, although leadership is considered to be a "naturally masculine" activity, and that through their pattern of thinking and norms of behavior write pages of the political, economic and social history of the world.

Looking at **gross domestic product** as a benchmark in quantifying the economic development of a state and at the **global gender gap index** as an indicator in quantifying the gender disparities, we will also show which are the links, inherently, created between reducing the *gender inequalities* (especially the one of the labour market) and the *economic growth of the states*.

## II. WOMEN IN SUCCESSFUL LEADERSHIP – A GLOBAL OVERVIEW

*Historically*, the gender inequality has caused social disparities, producing a gender gap that has manifested within various forms in the social, economic or political life of individuals, diminishing, most often, the decision-making authority, the financial compensation, the chance to promote or, even worse, the right to opinion of women. Even though these disparities have diminished significantly over the time, the 21st century did not bring full equality between women and men.

*Today*, gender equality has become a real concern at the collective level, whereas it is, first of all, a basic feature of the democratic systems and, on the other hand, encourages social well-being and contributes to the economic development of the states. These two subjects were, directly or tangentially, the object of other scientific works that we have devised and for which we have manifested interest over the time, due to the fact that among the social sciences many of the problems faced by the theorists and practitioners are often reduced to the issue of *social and economic welfare*.

Guided by the wrong idea that the *woman* is less appropriate to perform some jobs, as to be a **political decision-maker** or a **leader in a business organization**, the reality, globally reflected, shows us today an impressive number of women in leadership positions, whether in the public or private environment. Of course, some of them do not constitute, according to the public opinion, models worthy to follow.

The concept of **leader** has its origins in military confrontations and classical warfare and the political, the military or the religions world history reveals an impressive number of male leaders, whose patterns of thought and behavior have been reflected in what meant the decline or prosperity of some nations engaged, directly or indirectly, in certain conflicts. Therefore, the political, social, religious or economic history of the world has *men* as protagonists to the detriment of *women*. This numerical gap is, in fact, the result of **gender inequalities** that have governed the world since ancient times.

At the political level, for example, the well-being of a nation is influenced by the governing and leadership style of the ruler of that state, which should become an emblem figure for the ruled people. If we refer to certain states, such as the US, China, Korea, Russia or the UK, their recent political history shows us that the ruler's leadership style has changed the course and destiny of many lives (Scurtu, 2017).

Therefore, traditionally, leadership has had more political, military or religious connotations in the competition between groups or states, and the successful leaders have always been more *men* than *women*. Today, however, the leadership concept is frequently used in the economic competition of organizations/states and is often associated with *successful women*, whereas the *prosperity of the world's largest economic powers* is built in the spirit of *equality of rights and chances*.

In a **microeconomic context** - for example at the company level, women in leadership positions focus on cooperation and teamwork. On the other hand, men are looking for competition and profit. In fact, companies that focus on gender equality among employees are 56% more profitable, according to what studies show (Adevăru, 2011).

A study by Pepperdine University shows that 25 companies of Fortune 500, which had the record for best policies to promote women in leadership positions, were 18% to 69% more profitable than the average of companies in the same field included in Fortune 500 (Anuarul de Consultanță, 2012). In fact, the number of women in CEO positions from Top Fortune 500 has doubled within the period 2002-2012.

Although there is still a clear imbalance between women and men, there has been a significant increase in the proportion of women in the board members of the listed companies in the recent years. In 2003, only 9% of the members of the governing boards within the listed companies of the EU Member States were women, with the percentage rising to 23% by 2016 (EIGE, 2016). Norway, for example, is one of the countries which in 2006 issued a decree according to which at least 40% of the top managers in listed companies should be women (Adevăru, 2011).

At the **macroeconomic level** - if we report chronologically, for example, to the structure of the IMF management, we notice that in the sequence of time, during a period starting immediately after World War II, until 2011, a woman - Christine Lagarde becomes, for the first time, the general manager of the IMF. Under its

leadership, the IMF promotes gender equality as a driver of economic performance. However, despite the efforts and support of IMF, the global labour market remains gender-divided and the process of achieving equality is long-lasting. Moreover, the Governing Council - the highest decision-making body in the IMF - is overwhelmingly dominated by men. Since governors frequently hold the post of finance minister, the absence of women in senior management positions within IMF reflects the situation at national level (EIGE, 2016).

In 2011, a woman - Jill Abramson - becomes, for the first time in the history of 160 years of existence, the executive director of the world's most powerful newspaper - NEW YORK TIMES. In 2012, for the first time in the world, all the countries participating in the Olympic Games edition of that year had women in their delegations.

German Chancellor Angela Merkel keeps the head of the list of the most powerful women in the world for a certain length of time, being 12 times the world's number one. She has been widely described as the *de facto leader of the EU* or the *leader of the free world*. Its mandate is a solid one, thanks to low unemployment along with the economic growth registered by Germany.

Theresa May, the UK Prime Minister since 2016 (the second woman to be the prime-minister in the country's history), is the second most powerful woman in the world, whereas she leads her country through BREXIT, a process that marks a historic, unprecedented, complex and transforming period through which both, the country and the EU are facing.

At national level, almost all the central banks of the EU member states are led by men. In 2015, for example, only in Cyprus the governor of the central bank was a woman. A more positive outlook could be found at the level of the vice-governors of the national central banks, where almost one in five vice-governors was a woman (10 women, 41 men). The share of women on the boards of national central banks is also slightly higher, with 21% of boards members being women (EIGE, 2016). In 2018, Cyprus remains the only country where the governor of the national bank is a woman.

In Romania, at the level of 2011, women occupied the most of the executive positions in government institutions (the Ministry of Work, Family and Social Protection, the Ministry of Public Finance or the Ministry of Justice are good examples in this regard, where over 70% of women held decision positions). According to GGGR data, at the level of 2017, 20.7% of those working in parliament were women (WEF/GGGR, 2017). Moreover, in 2018, for the first time in the country history, the status of Prime Minister of Romania is obtained by a woman, year in which about 30% of the ministries are led by women.

Regarding what has been said so far, according to our research, we have succeeded in centralizing some data to show how women's situation evolved socially and politically, in EU countries on issues regarding the equality of rights and opportunities.

Thus, from **Table 1** it can be noticed that the first in the EU countries where the woman is entitled to vote is Finland and the later, chronologically speaking, the right to vote is acquired by women in Cyprus.

In the case of Romania, although the data in the World Economic Forum reports show that women have been granted the right to vote in 1929, this year marks, it seems, only a first step towards the female political exercise, therefore obtaining the right to vote within the local elections. The right of women to exercise their political opinion by voting is officially stipulated in the Constitution of the country in 1938.

**Table 1. The profile of EU countries: right to vote and number of female heads of the state**

BEL	BGR	CZE	DNK	DEU	EST	IRL	GRC	ESP	FRA	HRV	ITA	CYP	LVA	LTU	LUX	HUN	MLT	NLD	AUT	POL	PRT	ROU	SVN	SVK	FIN	SWE	GBR
Year women received right to vote																											
1919	1937	1920	1915	1918	1918	1918	1952	1931	1944	1945	1945	1960	1918	1918	1919	1918	1947	1919	1918	1918	1931	1929	1946	1920	1906	1919	1918
Number of female heads of state to date																											
0	1	0	1	2	1	2	1	0	1	2	0	0	2	3	0	0	2	0	2	3	1	0	1	1	3	0	2

Source: Personal elaboration based on the data available on the Gender Gap Report (2017).

In fact, in the case of Finland, Poland and Lithuania, during their political history, women enjoyed the chance to be heads of state, as each of the three countries had over the time three women as head of state/prime minister. In countries such as Romania, Belgium, the Czech Republic, Spain, Italy, Cyprus, Luxembourg, Hungary, the Netherlands or Sweden, so within 35% of EU countries, statistics show that at the time of 2017, women still did not enjoy this privilege, being never represented in the highest position in the state.

**III. DEMOGRAPHIC AND OCCUPATIONAL TRENDS IN THE CONTEXT OF GENDER GAP IN EU**

Regarding what has been mentioned in the structure of the paper and referring to the objectives in its introduction, it is important to mention that women's discrimination in different forms has led, over the course of history, to imbalances that have had an adverse impact on the future economic periods (Alexandru-Caragea, 2016). Thus, a step forward to close this gender gap would be the occupational gender gap diminishing. Recent research shows that at global level, men are underrepresented in domains as Education and Health, and women are underrepresented in areas such as Engineering, Production and Construction, and ICT (Information, Communication and Technology).

More than a decade ago, the World Economic Forum has introduced an indicator to measure the magnitude of gender-based disparities and to track their progress over the time at global level (**currently at the level of 144 countries in the world**). Its subcomponents allow highlighting the gender gaps **in economics, in education, in health and based on political criteria**, and provide country rankings in the idea to create global awareness regarding the opportunities created by reducing gender-based disparities. In sum, the subcomponents within this index examines: **Economic Participation and Opportunity; Educational Attainment; Health and Survival; Political Empowerment**.

The methodology, as well as the quantitative analysis behind the ranking, is intended to serve as a basis for the effective design of measures for reducing gender gaps. The index is designed to classify countries depending on their gender gaps, not to compare their levels of development (a detailed structure of the index, by components, can be seen in Annex 2). Generally, richer/prosperous countries are able to provide education and health opportunities to all its members. Although this thing is possible independent of gender gaps, they can still exist.

According to the **2017** report, Romania ranks 58 out of 144 with a score of **0.708** (where 0 means disparity and 1 parity) compared to the 46th place it held in 2006 (the year when this index was introduced), and its profile shows that Romania is making notable progress in closing *the gender gap in political empowerment*.

As a synthesis of the obtained scores, in the case of Romania, we can make the following entries:

- ▶ **Economic Participation and Opportunity** – women are very poorly represented in positions like: *legislators, senior officials or managers*;
- ▶ **Educational Attainment** – women are better represented than the men in: *enrolment in tertiary education*;
- ▶ **Health and Survival** – life expectancy of women is higher than that of men;
- ▶ **Political Empowerment** – women are not represented at all in the case of *years with female head of the state (the last 50)* and are best represented, but still weaker than men, in the case of *women in ministerial position* (score: 0.316).

The purpose of the tabular structure - **Table 2**, as set out below, is to show, in 2017, the situation of the countries which are part of the EU in terms of population and its dynamics as well as the participation on the labour market, between women and men, in terms of employment, and, on the other hand, to support by numerical data some of the assertions we have advanced during this approach. Thus, regarding the above shown, some mentions can be made as follows:

- ▶ There are countries as Luxembourg or Malta, whose population indicates according to the gender criterion, that women are better represented than men. In other words, women represent more than half of the total population of the two states. In Cyprus and Sweden, the gender structure of the population shows a situation of parity. Contrary to the two examples, there are states such as Latvia (0.85), Lithuania (0.85) or Estonia (0.88) which record the lowest values of the *female/male ratio indicator*. Of all the countries that are part of the EU structure, Romania's situation, for example, indicates a value of 0.94 of this indicator, which means that the distance to parity between male/female is not extreme and that almost half of the country's population is represented by women.

**Table 2. The profile of UE countries in 2017 (demographic, labour market participation)**

Countries	Total Population	Population growth rate (%)	Population sex ratio (female/male)	Labour force participation (female/male)
1 Belgium	11,358.38	0.62	0.97	<b>0.87</b>
2 Bulgaria	7,131.49	-0.65	0.95	<b>0.89</b>
3 Czech Republic	10,610.95	0.07	0.97	<b>0.82</b>
4 Denmark	5,711.87	0.39	0.99	<b>0.93</b>
5 Germany	81,914.67	0.25	0.97	<b>0.89</b>

6	Estonia	1,312.44	-0.22	0.88	<b>0.90</b>
7	Ireland	4,726.08	0.65	0.98	<b>0.81</b>
8	Greece	11,183.72	-0.26	0.97	<b>0.78</b>
9	Spain	46,347.58	-0.05	0.96	<b>0.86</b>
10	France	64,720.69	0.40	0.97	<b>0.90</b>
11	Croatia	4,213.27	-0.55	0.93	<b>0.87</b>
12	Italy	59,429.94	-0.12	0.95	<b>0.74</b>
13	Cyprus	1,170.13	0.79	1.00	<b>0.86</b>
14	Latvia	1,970.53	-1.09	0.85	<b>0.92</b>
15	Lithuania	2,908.25	-0.72	0.85	<b>0.94</b>
16	Luxembourg	575.75	1.45	1.01	<b>0.84</b>
17	Hungary	9,753.28	-0.32	0.91	<b>0.83</b>
28	Malta	429.36	0.38	1.01	<b>0.64</b>
19	Netherlands	16,987.33	0.29	0.99	<b>0.88</b>
20	Austria	8,712.14	0.33	0.96	<b>0.89</b>
21	Poland	38,224.41	-0.12	0.93	<b>0.82</b>
22	Portugal	10,371.63	-0.43	0.90	<b>0.91</b>
23	Romania	<b>19,778.08</b>	<b>-0.50</b>	<b>0.94</b>	<b>0.77</b>
24	Slovenia	2,077.86	0.13	0.99	<b>0.91</b>
25	Slovakia	5,444.22	0.08	0.95	<b>0.82</b>
26	Finland	5,503.13	0.38	0.97	<b>0.96</b>
27	Sweden	9,837.53	0.75	1.00	<b>0.95</b>
28	United Kingdom	65,788.57	0.60	0.97	<b>0.87</b>

Source: Personal elaboration based on the data available on the Gender Gap Report (2017).

► Regarding the *labour force participation* indicator, there are countries where women and men do not participate equally/balanced at the economic activity in terms of employment. Thus, Malta (0.64) has the highest distance to parity, followed by Italy (0.74) and Romania (0.77), the countries closest to *close the labour gender gap* are Finland (0.96), Sweden (0.95), Lithuania (0.94), Denmark (0.93) and Latvia (0.92). In the graphical structure above, we can see the distances to parity, in terms of *labour force participation* for the year 2017, of the countries within the EU structure.

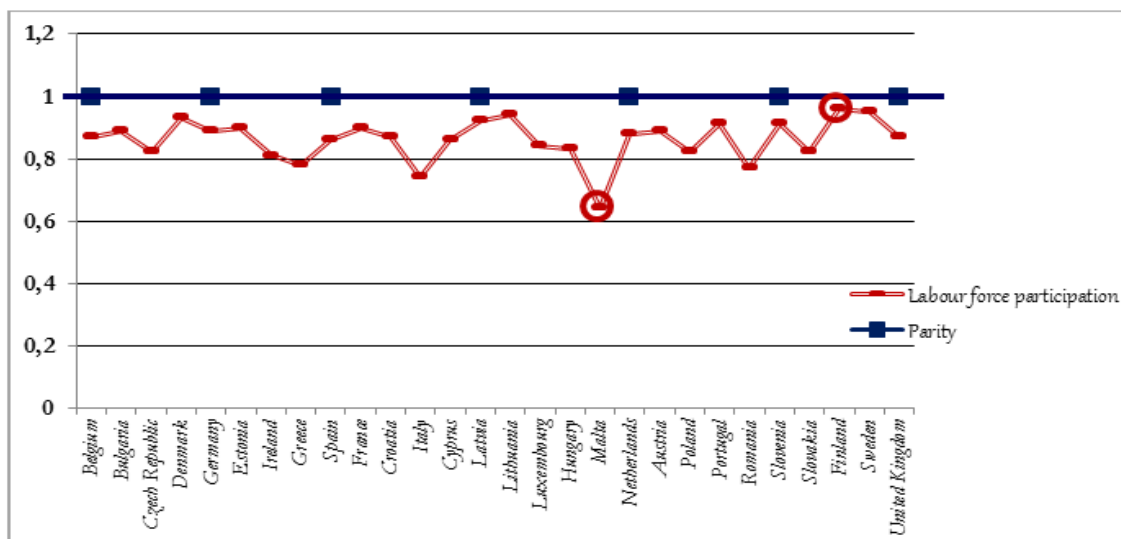


Figure 1 - Labour force participation in the structure of EU countries in 2017

Source: Personal elaboration based on the data available on the Gender Gap Report (2017).

#### IV. GDP AND THE WELFARE OF NATIONS: THE ECONOMIC PROFILE OF EU COUNTRIES

Welfare is a complex concept, especially today, even in the context of advanced technologies, when innovations have an unprecedented speed and when physical distances are no longer an impediment to the

pursuit of profit-making activities. Thus, if in the past the attention was clearly transposed to identifying the most appropriate methods/indicators to measure the degree of development/welfare of the economies as much accuracy as possible, today the concern and attention of specialists is directed towards the negative factors and their impact on the economic growth and on how their influence could be diminished. This is because the wave of current progress, the so-called globalization, has rearranged society in values, restructuring socially and economically the world, imposing, inherently, new challenges for the economic theory and practice (Scurtu & Moroşan, 2017).

Researching social indicators, as a distinct field of social science, emerged in the 1960s of the last century in the US, spreading rapidly across European countries and other countries of the world. GDP and GNP are, by far, considered to be key indicators in quantifying economic growth. In fact, GDP is considered one of the major inventions of the 20th century (Frunze, 2017).

Gross Domestic Product (GDP) is a macroeconomic indicator reflecting the sum of the market value of all goods and services destined for final consumption, produced in all branches of the economy within a state during one year. GDP express the gross value of the final production/output produced during one year by economic agents operating within the country. When we talk about final production, we talk about goods and services produced over the course of one year and which are no longer used to produce other goods.

In the opinion of specialists, consecrated names in the world economy, GDP growth is not equal to economic welfare, and as the main limits of GDP the following can be mentioned (Frunze, 2017):

- ▶ *it does not show the utility of goods and services consumed;*
- ▶ *it does not distinguish between the expenses made for welfare and the so-called "defensive expenses";*
- ▶ *it does not reflect the sustainability of economic growth;*
- ▶ *it does not highlight the distribution of welfare, incomes, and opportunities within the society.*

In this context, of the main weaknesses/vulnerabilities that appear while calculating GDP is reiterated the question, which is individualized as a limit for GDP measurement: ***"How can be made the difference, in the GDP determination, between the production of goods and services that are socially demanded and the production of goods and services whose need is induced"?***

**Table 3. The economic profile of EU countries in 2017**

						GDP (US\$ billions)
<b>BEL</b>	<b>BGR</b>	<b>CZE</b>	<b>DNK</b>	<b>DEU</b>	<b>EST</b>	<b>IRL</b>
466.37	52.40	192.92	306.14	3,466.76	23.14	294.05
<b>GRC</b>	<b>ESP</b>	<b>FRA</b>	<b>HRV</b>	<b>ITA</b>	<b>CYP</b>	<b>LVA</b>
194.56	1,232.09	2,465.45	50.43	1,849.97	19.80	27.68
<b>LTU</b>	<b>LUX</b>	<b>HUN</b>	<b>MLT</b>	<b>NLD</b>	<b>AUT</b>	<b>POL</b>
42.74	59.95	124.34	10.95	770.85	386.43	469.51
<b>PRT</b>	<b>ROU</b>	<b>SVN</b>	<b>SVK</b>	<b>FIN</b>	<b>SWE</b>	<b>GBR</b>
204.56	186.69	43.99	89.55	236.79	511.00	2,618.89

*Source:* Personal elaboration based on the data available on the Gender Gap Report (2017).

In the structure of **Table 3**, we gathered data regarding the values registered by GDP in the EU countries in 2017. Thus, we can see that the highest value is Germany's GDP (3,466.76 US \$ billions), followed by UK (2,618.89 US \$ billions) and France (2,465.45 US \$ billions). On the opposite side are Malta (10.95 US \$ billion), Estonia (23.14 US \$ billions) and Latvia (27.68 US \$ billions). Romania, registered in 2017 a GDP value of 186.69 US \$ billions.

## V. DEMARCHES TO QUANTIFY THE CONTRIBUTION OF ROMANIAN WOMEN TO GDP

### V.1. Diminishing occupational gaps and the GDP growth - a global vision

The economic activity of the states cannot be distinguished separately on criteria as: gender, education, shareholding, etc., because the economic results (production, GDP, imports, exports) are the output of the combined action of capital and labour, in different proportions and productivity, which cannot be statistically recorded (CNP, 2016).

Women account, today, more than 50% of the world's population, and even in low-living countries, gender gaps in health and education have disappeared. Once with the rise of women's education, the phenomenon of gender employment is decreasing and the percentage of women on the labour market is rising. The economic logic, reinforced by obvious scientific evidence, shows that the increase in the **rate of employed women** compared with the rate of men on the labour market leads to **GDP growth** (România Liberă, 2013).

A variety of models and empirical studies have suggested that improving gender parity can bring significant economic dividends that vary according to the situation of different economies and the specific

challenges they face. Recent estimates suggest that **parity between women and men** could add an **additional \$ 250 billion to UK GDP, \$ 1,750 billion to US GDP, \$ 550 billion to Japan's GDP, \$ 320 billion to the GDP of France and USD 310 billion to the German GDP**. Other recent estimates suggest that **China could see a GDP growth of \$ 2.5 trillion as a result of gender parity**, and that **global GDP could increase by US \$ 5.3 trillion by 2025 by reducing the gender gap in economic participation with 25% over the same period** (WEF/GGGR, 2017).

Efforts to improve gender equality in the **European Union** could lead to an **increase in GDP** at EU level from **6.1% to 9.6%** (WEF/GGGR, 2017). Recent OECD official reports of 2018 also show that **increasing female employment** could lead to an **increase in OECD countries' GDP up to 12%**, meaning that it could bring significant economic benefits to these countries (Teow et al, 2018).

A World Bank report shows that in **East Asia** and in the **Pacific** region, in particular, it is estimated an **annual loss between USD 16 billion and USD 30 billion** as a result of **gender differences** in education, meaning that girls cannot improve their education at the same rate as boys (WEF/GGGR, 2017).

**Table 4. Labour force participation in Romania during the time: score and rank**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Rank	28	49	49	61	63	64	62	68	75	78	81	83
Score	0.80	0.81	0.81	0.81	0.79	0.79	0.79	0.78	0.78	0.78	0.77	0.77
No. of countries	115	128	130	134	134	135	135	136	142	145	144	144
<b>SCORE: 0.00 = imparity 1.00 = parity</b>												

Source: Personal elaboration based on the data available on the Gender Gap Reports (2006-2017).

In **Romania**, labour market participation in terms of employment is far from being in an ideal balance between women and men. Thus, the years in which the labour force participation indicator is the highest are: 2007, 2008 and 2009. Nowadays, the indicator shows the highest disparity regarding the participation in economic activity, along the analyzed period (0.77). Among the statistically achieved ranks, Romania ranks 83 out of 144 countries included in the so-called sample, as can be seen in **Table 4**. More than a decade ago, the country's profile indicated a more decent place (28) in the ranking of 115 nations.

**V.2. Similar research available and their relevance**

At the level of the Romanian literature there is a study prepared under the aegis of the National Prognosis Commission (NPC/CNP), whose structure deals with the occupational characteristics and the way in which the employed female population contributes to the GDP creation in 2014. This research, which we have also used as a source of documentation, shows, at a comparative level, which is the GDP value produced by women using three methods and, therefore, how their contribution varies according to the estimation method used. However, in Romania, after a simple e-search, there is no specialized article in Romanian or English, to deal theoretically and empirically, regarding the implications studied by us, the participation of women to the labour market and to the economic activity in the context of the gender disparities issue.

**V.3. Methodological steps and justification of the estimation method**

Through our research, we aim to study and to understand how women in Romania contribute to the GDP creation over the time. Thus, the quantification of the Romanian women contribution to the GDP creation was made on the basis of the data gathered from the reports: Labour Force in Romania: Employment and Unemployment, respectively Romania in Figures, for the years of the study, as well as based on our own calculations, since the purpose of the demarche is, in fact, to obtain an estimative percentage value, meaning the **share of GDP generated by women in the total GDP of the country**.

In the sense of the above mentioned, GDP can be determined, as a rule, by the following methods: **the expenditure method; the value added method (or production method); the income method**. In the structure of this approach we used the **production method** as an **estimation method**. **To justify the results obtained, we went through the following steps:**

**STEP 1. we correlated the gross domestic product structures with the occupational structures as follows:**

**STEP 1.1.** we have recourse to the structure of GDP by the sectors of national economy, where GDP represents the sum of the gross added value in three sectors: Agriculture; Industry and Construction; Services, to which we add NTP;

**STEP 1.2.** we used a structure of employed female population on the three branches of activity, and by their degree of education;

**STEP 2. we have identified the value of GDP per branch, but also the percentage of women in the branches of the total employed population; we have recourse to the following calculations:**

**STEP 2.1.** the product between GDP in each of the three branches and the percentage of the employed female population in each of the three branches is the GDP generated by women at branch level;

**STEP 2.2.** summing up these numerical GDP values generated by women at the branch level and adding the value of NTP generated by women, resulted in GDP generated by women at the year level;

**STEP 3. we reported GDP generated by women to the total GDP, to actually show the percentage of GDP, from the total GDP, generated by women at the level of each year.**

*\*Note: we started from the premise: productivity is the same for women and men and GDP is generated exclusively by the employed population;*

*\*\*Note: the percentage values of female POPULATION for NTP in Annex 1 are estimated;*

*\*\*\*Note: the other data presented in Annex 1, which were the basis of the calculation, are definitive and not provisional;*

*\*\*\*\*Note: net taxes on product –NTP/INP- represents the difference between the product taxes owed to the state budget: VAT, excises, other taxes and the product subsidies paid from the state budget*

#### V.4. Quantifiable results

According to the **production method**, as a method of calculating GDP, women, as employed population, generate an estimated value that is decreasing over the analyzed period. Thus, if in 2012 about 42.78% of GDP is generated by women, in 2016 this value decreases by 4.73%, therefore to only 38.05%. This **decrease** is caused by the **increase in labour market disparity**, in the direction of **decreasing the employed female population** (the trend of labour market participation for more than a decade is shown in **Table 4**). Thus, if in 2012 the labour market was occupied in proportion of over 44.66% by women, in 2016 only 43.11% of the employed population is feminized. Simply put, a drop of 1.55% in the employed female population leads to a decrease of the contribution to GDP by 4.73%, in the context in which the total GDP is growing in 2016 comparing to 2012 from 596,681.5 million RON 761,473.6 million RON.

**Table 5. The contribution of Romanian women to GDP**

2016						
ECONOMY	EMPLOYED POPULATION			GDP		
	TOTAL (pers.)	WOMEN (pers.)	(%)	TOTAL mil. RON	generated by women mil. RON	(% of total GDP)
TOTAL	8.448.777	3.642.676	43.11	761.473,6	289.706,45	38.05% (289.706,45 / 761.473,6 *100)
2015						
ECONOMY	EMPLOYED POPULATION			GDP		
	TOTAL (pers.)	WOMEN (pers.)	(%)	TOTAL mil. RON	generated by women mil. RON	(% of total GDP)
TOTAL	8.535.386	3.687.038	43.20	711.102,7	306.072,93	43.04% (306.072,93 / 711.102,7 *100)
2013						
ECONOMY	EMPLOYED POPULATION			GDP		
	TOTAL (pers.)	WOMEN (pers.)	(%)	TOTAL mil. RON	generated by women mil. RON	(% of total GDP)
TOTAL	9.247.397	4.119.701	44.55	637.456,0	274.553,87	43.07% (274.553,87 / 637.456,0 *100)
2012						
ECONOMY	EMPLOYED POPULATION			GDP		
	TOTAL (pers.)	WOMEN (pers.)	(%)	TOTAL mil. RON	generated by women mil. RON	(% of total GDP)
TOTAL	9.262.807	4.136.625	44.66	596.681,5	255.230,74	42.78% (255.230,74 / 596.681,5 *100)

*Source:* Personal elaboration.

The final results for calculations are presented in **Table 5**. Moreover, the numerical and percentage values of the indicators, as well as the succession of the steps taken for determining the final results, can be observed, in extenso, in **Annex 1**.

## VI. CONCLUSIONS REGARDING THE IMPORTANCE OF WOMEN FOR THE ECONOMIC PERFORMANCE OF THE STATES

“Women's contribution to Romania's GDP creation” is the result of a theoretical and empirical approach developed in order to provide a scientific material that generally shows the connections between diminishing the labour market disparities and the economic development of the states, and, particularly, the way in which women participate to the economic activity in Romania. What is interesting to note is the extent to which can be established connections/conditions between the level of education (Annex 3 shows a classification of education levels) of women and the value of GDP generated by them over time, all in the context in which, as we have shown in other published papers, the productivity characteristics of the workforce are different today compared to several decades ago.



Of course, through its structure and its nature, the present effort required the outline of a vision at EU and global level regarding the secondary issues deriving from the theme of the paper, among which: *the issue of gender gap and social inequalities, the way in which women are represented in successful global leadership, the economic profile of the states, and the specific occupational trends at the level of the current period.*

According to the substance and the form upon which the work was designed and realized results, some general conclusions and specific ones, individualized at the level of the Romanian economy dynamics, as follows:

- a. Women have a demographic asset at the global level compared to men, accounting for over half of the planet's population. However, even in the context of numerical dominance, they are in a full competition in the struggle for equality of chances and rights.
- b. Derived from the first conclusion, it is imperative the idea that, in spite of the efforts made and supported by the governments of the states and by the international organizations, the world labour market remains gender-based in a long-lasting process of achieving equality.
- c. If some decades ago, many of the economic activities were considered to be *naturally masculine*, and men were definitely dominating the labour market, today they are, globally, poorly represented in some of the most important activities of national economies. Education and Health are good examples in this regard.
- d. At EU level, balanced participation in economic activity is a desideratum of the labour market, the European space being one that promotes gender equality as a driver of economic performance.
- e. In the case of Romania, the disparity in the labour market is increasing, in the sense of diminishing the number of women who are employed. As we have shown in the structure of the paper, 2017 indicates the highest disparity in participation to the economic activity for the last decade.
- f. Analyzing the structure of the employed female population by the national economy activity sectors, it appears that the branch with a pronounced percentage of feminization of the employed population, more than 50% at the level of each analyzed year, is represented by the Services. Moreover, as a branch structure of the national economy, by far the largest contribution has the Services sector, and the weakest has the Agriculture sector. In 2016, for example, out of the 761,473.6 million RON generated at economy level, the Services contribute with 432,531.3 million RON, and Agriculture contribute only with 29,654.2 million RON.
- g. GDP increased consecutively in the analyzed period, due to the positive dynamics of its structure, its component growth, meaning by sectors and implicitly at NTP level. However, at the level of 2016, the total NTP drops of significantly compared to 2015, issue which also leads to the large gap between the GDP generated by women in 2016 compared to 2015. This significant reduction in net taxes on products occurs on the background changes of the Romanian tax system. For example, from 1 January 2016 to 31 December 2016, the standard VAT rate has fallen from 24% to 20%, with reduced VAT rates that remain at 5% and 9% throughout the analysis period.
- h. Among other things, during the analyzed period there is an increase in the number of employed women with higher education while the number of women with a low level of education is decreasing. Thus, if in 2012 in the structure of the employed female population there were 845,779 women with higher education (20.45% out of a total of 4,136,625), in 2016 their number increased to 882,231 (meaning 24.22% of a total of 3,642,676). Women with low education were 1,041,696 in 2012 (25.18% out of a total of 4,136,625), reaching 730,900 in 2016 (20.06% out of a total of 3,642,676).
- i. If we relate to women's contribution to GDP according to their level of education, it can be seen that most of the GDP is generated by women with an average level of education. Moreover, in the years 2012 and 2013, women with higher education had the lowest contribution to GDP creation. Of the three sectors of activity of the national economy, women with a high level of education are most present in the Services sector and the lowest share in Agriculture - a sector governed by the low-educated female population.

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**VIII. ANNEXES**

**Annex 1: Women's contribution to GDP creation (the production method)**

2016								
SECTORS OF NATIONAL ECONOMY	GDP structured by resource categories (mil. RON)	EMPLOYED POPULATION by SECTORS OF NATIONAL ECONOMY						GDP value generated by women (mil. RON)
		TOTAL (pers.)	WOMEN (pers.) (%)		WOMEN structured by their education level (pers.)			
					Higher	Average	Low	
Agriculture	29.654,2	1.951.929	823.598	42.19	13.430	315.237	494.930	12.511,11
Industry & Construction	221.289,3	2.524.562	765.019	30.30	115.375	560.429	89.217	67.050,66
Services	432.531,3	3.972.289	2.054.056	51.71	753.426	1.153.880	146.753	186.464,24
<b>Economy Total</b>	<b>683.474,8</b>	-	-	-	-	-	-	<b>266.026,01</b>
NTP	77.998,8	-	-	30.36	-	-	-	23.680,44
<b>TOTAL</b>	<b>761.473,6</b>	-	-	-	-	-	-	<b>289.706,45</b>
2015								
SECTORS OF NATIONAL ECONOMY	GDP structured by resource categories (mil. RON)	EMPLOYED POPULATION by SECTORS OF NATIONAL ECONOMY						GDP value generated by women (mil. RON)
		TOTAL (pers.)	WOMEN (pers.) (%)		WOMEN structured by their education level (pers.)			
					Higher	Average	Low	
Agriculture	29.567,7	2.183.834	943.262	43.19	15.621	331.732	595.909	12.770,29
Industry & Construction	210.460,1	2.429.111	736.767	30.33	122.599	521.421	92.746	63.832,55
Services	384.857,9	3.922.440	2.007.010	51.17	734.281	1.128.301	144.428	196.931,79
<b>Economy Total</b>	<b>624.885,7</b>	-	-	-	-	-	-	<b>273.534,63</b>
NTP	86.217,0	-	-	37.74	-	-	-	32.538,30
<b>TOTAL</b>	<b>711.102,7</b>	-	-	-	-	-	-	<b>306.072,93</b>
2013								
SECTORS OF NATIONAL ECONOMY	GDP structured by resource categories (mil. RON)	EMPLOYED POPULATION by SECTORS OF NATIONAL ECONOMY						GDP value generated by women (mil. RON)
		TOTAL (pers.)	WOMEN (pers.) (%)		WOMEN structured by their education level (pers.)			
					Higher	Average	Low	
Agriculture	34.402,8	2.634.044	1.208.576	45.88	13.607	412.942	782.024	15.784,00
Industry & Construction	205.500,1	2.648.238	840.191	31.73	139.383	611.656	89.154	65.205,18
Services	321.500,7	3.965.115	2.070.933	52.23	726.312	1.213.835	130.788	167.919,82
<b>Economy Total</b>	<b>561.403,6</b>	-	-	-	-	-	-	<b>248.909,00</b>
NTP	76.052,4	-	-	33.72	-	-	-	25.644,87
<b>TOTAL</b>	<b>637.456,0</b>	-	-	-	-	-	-	<b>274.553,87</b>
2012								
SECTORS OF NATIONAL ECONOMY	GDP structured by resource categories (mil. RON)	EMPLOYED POPULATION by SECTORS OF NATIONAL ECONOMY						GDP value generated by women (mil. RON)
		TOTAL (pers.)	WOMEN (pers.) (%)		WOMEN structured by their education level (pers.)			
					Higher	Average	Low	
Agriculture	27.885,8	2.682.341	1.243.503	46.36	15.218	416.610	811.675	12.927,86

Industry & Construction	195.983,7	2.652.405	845.123	31.86	139.997	615.477	896.48	<b>62.440,41</b>
Services	300.130,8	3.928.062	2.047.997	52.14	690.563	1.217.056	140.373	<b>156.488,20</b>
<b>Economy Total</b>	<b>524.000,3</b>	-	-	-	-	-	-	<b>231.856,47</b>
NTP	72.681,2	-	-	32.16	-	-	-	23.374,27
<b>TOTAL</b>	<b>596.681,5</b>	-	-	-	-	-	-	<b>255.230,74</b>

Source: Personal contribution based on: Forța de muncă în România: Ocupare și Șomaj & România în Cifre (2012, 2013, 2015 & 2016).

**Annex 2: Structure of the Global Gap Index**

SUBINDEX	VARIABLE	SOURCE
<b>Economic Participation and Opportunity</b>	Ratio: female labour force participation over male value	<i>International Labour Organization, ILOSTAT database, 2016 or latest available data</i>
	Wage equality between women and men for similar work (survey data, normalized on a 0-to-1 scale)	<i>World Economic Forum, Executive Opinion Survey (EOS), 2016-17</i>
	Ratio: female estimated earned income over male value	<i>World Economic Forum calculations based on the United Nations Development Programme methodology (refer to Human Development Report 2007/2008)</i>
	Ratio: female legislators, senior officials and managers over male value	<i>International Labour Organization, ILOSTAT database, 2016 or latest available data</i>
<b>Educational Attainment</b>	Ratio: female literacy rate over male value	<i>United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics, Education indicators, database, 2016 or latest available data</i>
	Ratio: female net primary enrolment rate over male value	<i>UNESCO Institute for Statistics, Education indicators database, 2016 or latest available data</i>
	Ratio: female net secondary enrolment rate over male value	<i>UNESCO Institute for Statistics, Education indicators database, 2016 or latest available data</i>
	Ratio: female gross tertiary enrolment ratio over male value	<i>UNESCO Institute for Statistics, Education indicators database, 2016 or latest available data</i>
<b>Health and Survival</b>	Sex ratio at birth (converted to female-over-male ratio)	<i>United Nations Population Division, World Population Prospects, 2016 or latest available data</i>
	Ratio: female healthy life expectancy over male value	<i>World Health Organization, Global Health Observatory database, 2015 or latest available data</i>
<b>Political Empowerment</b>	Ratio: females with seats in parliament over male value	<i>Inter-Parliamentary Union, Women in Politics: 2017, reflecting elections/appointments up to 1 June 2017</i>
	Ratio: females at ministerial level over male value	<i>Inter-Parliamentary Union, Women in Politics: 2017, reflecting appointments up to 1 January 2017</i>
	Ratio: number of years with a female head of state (last 50 years) over male value	<i>World Economic Forum calculations, reflecting situation as of 30 June 2017</i>

Source: The Global Gender Gap Report (2017).

**Annex 3: Structure of the educational levels**

SUPERIOR	AVERAGE	LOW
academic, short and long-term, including master, doctorate, post-doctoral and postgraduate studies	specialized post-secondary school, high school including first grade and professional, complementary or apprentices	gymnasium, primary and non-school

Source: Forța De Muncă în România Ocupare și Șomaj (2016).