

INTEGRATED BUSINESS FACULTY - SKOPJE

JOURNAL
OF SUSTAINABLE DEVELOPMENT





Journal of Sustainable Development

Journal of Sustainable Development

Volume 5, Issue 11

Pages: 1 - 103

Skopje, Macedonia

December, 2014

Publisher: Integrated Business Faculty, Skopje, Republic of Macedonia

Official member of the EBSCO Academic Database Service



Editorial Board

Coordinator

Vesna Stojanova, Integrated Business Faculty – Macedonia

Board Members

Harley Johansen, University of Idaho † – USA

Michel O'Neill, University of Idaho – USA

Stefano Bianchini – Universta di Bologna – Italy

Uwe Hartman – Solar School – Germany

Tsharalambos Chardanidis – Institute of Economics – Greece

Georgi Trajanovski – GIZ – Germany

Antonija Josifovska – Integrated Business Faculty – Macedonia

Blagoja Nanevski – Integrated Business Faculty – Macedonia

Strahinja Trpevski – Integrated Business Faculty – Macedonia

Secretary

Martin Kiselicki

Call for Papers

Journal for Sustainable Development (JSD) is a quarterly journal published by the Integrated Business Faculty – Skopje. JSD area includes three pillars of economic, social and environmental development issues. All these aspects will be considered relevant for publishing in the JSD Journal. The Journal is included in the international and renowned "EBSCO Discovery service", as well as the "Business Source Complete" and "Sustainability Reference Center" databases.

The JSD Editorial Board will consider reviewing only the following types of papers according to the COBISS classification: Original Scientific Papers (publishing of novel and original research results, according to the IMRAD scheme); Reviews (summarizing, analyzing, evaluating and synthesizing already published information); Short Scientific Paper (publishing of novel and original research results in a more concise version); Professional Papers (placing the accent on the applicability of the already achieved results); Reviews. Conference papers are not included in any of these sections. All other types of papers, according to the COBISS classification will not be taken into account for reviewing.

The authors should submit their papers according to the following rules:

1. The papers submitted to the JSD Editorial Board mustn't be published before, nor republished after the JSD issue. The papers should consist up to 15 pages (approximately 38.000 characters with spaces). Margins: Top - 2,54, Bottom - 2,54, Left -3, Right - 2,5, Gutter 0 cm, Header - 1,25, Footer - 1,25. The text should be typed with 1,5 spacing in Tahoma and the font size should be "12", **exclusively in English**. The Title of the paper should be written as a header of the text on each page. The footnotes should be written with font size "10".

2. The first page of the article should contain:

- the name and academic title of the author with notes in the part of Notes (at the bottom of the page), explaining the author's academic degree, title, occupation/vocation, the title of the institution where the author is employed, and the e-mail address of the author(s).
- the title of the paper and
- abstract in 6-8 lines (approximately 200-300 words), in English

- 5-7 key words that describe the topics of the paper below the abstract.
 - appropriate JEL classification
3. Quotations and notes should be placed on the bottom of the page and are marked successively with Arabic numbers.
 4. Figures and Tables should be titled and marked successively with Arabic numbers. The data source should be provided below the, while additional comments and explanations should be written in a new line under the data source.
 5. Quotations of the bibliography should be provided at the end of the paper in alphabetical order.
 6. Each author should enclose payment proof for the participation quote of 1,500 den. for IBF and IBI employees, and 2,000 den. for all other authors.
 7. Papers sent for publishing are not returnable to the authors (in both cases, whether approved for publishing or not).
 8. If the critique review of the paper by two reviewers is positive, the paper will be published in the next edition of the JSD Journal.
- Papers can be submitted in electronic form to: martin.kiselicki@fbe.edu.mk

All authors are encouraged to follow and work in the official template provided by JSD on the website of IBF under the menu item Projects. The authors can also receive the template document by addressing to the aforementioned e-mail address.

Integrated Business Faculty,

Str. 3-ta Makedonska Brigada No. 66A, 1000 Skopje, Republic of Macedonia

Phone: +389 (02) 24 02 160

Fax: +389 (02) 24 66 043

Table of Contents

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES Elena MAKREVSKA DISOSKA, Tome NENOVSKI	5
SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION Zanina KIROVSKA, Nedzmije QOKU	25
THE IMPACT OF FOREIGN TRADE ON ECONOMIC GROWTH Iskra STANCHEVA-GIGOV	52
REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES Martin KISELICKI.....	71
PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS Aleksandar PETKOVSKI.....	91

UDC: 339.5.012.42(4-19):339.92(497-15)"2013"
339.92(497-15)"2013"

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

Elena MAKREVSKA DISOSKA, PhD¹

Tome NENOVSKI, PhD²

ABSTRACT

The paper analyzes the trade and regional potential of CEFTA-2006. According to the official data, EU trade accounts for more than half of the total foreign trade of each country from CEFTA-2006. Also each of the member states depends on trade exchange of goods only on one or two major trading partners from the region, while the cooperation with the rest of the countries is insignificant. Consequently, since the Croatia exited from CEFTA-2006 in July 2013 and become member of EU, it will cause negative consequences for its most important trade partners in the free trade zone, especially for Bosnia and Herzegovina. Therefore, it is quite understandable why the Western Balkans countries have already lost interest for further trade integration in CEFTA-2006. The conclusion suggests that CEFTA-2006 never really exploit the real economic potential of the region which leaves no choice to the Western Balkans countries. They must persue further integration with the Union, as the only rational decision to avoid pessimistic scenarios for the region.

KEYWORDS: *CEFTA - 2006, Western Balkans, free trade zone, trade, integration*

JEL CLASSIFICATION: *F15, F62*

¹ Ss. Cyril and Methodius University in Skopje, Faculty of Economics, e-mail: elenam@eccf.ukim.edu.mk

² University American College Skopje, e-mail: nenovski@uacs.edu.mk

INTRODUCTION

The region of Western Balkans occupies an area of 196.047 km², with population of about 22 million citizens, which represents a market with large absorption capacity (1, 2008). It consists of the following countries: Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro and Serbia. Apart from that, most of the countries that are EU-oriented were previously part of the larger federation, Yugoslavia, which testifies for the fact that these countries are still closely interdependent. The supply chains have already been established, the transportation and administrative costs are small, and the language barriers are also insignificant. The economies are small, and could benefit from the enhanced regional integration. The region is well-suited for regional integration (2, 2013).

The first initial intention of the EU to integrate the Western Balkans countries was to create a "Balkan Zone of Free Trade" or South East European Free Trade Agreement – SEEFTA (3, 2008). The motive behind this idea was to intensify the relations between countries, which would bring prospects to the whole region. A free trade zone would enable access of the companies from the transition countries to the competitive market and influence the increase of the regional trade volume growth. That way, the countries could easily withstand the sudden and strong pressure of the competition on the European market. But, the realization of this idea was opposed by the Croatian authorities because they found similarities with the type of integration in the former Yugoslavia and their beliefs were that the remaining Balkan countries would only negatively influence the future prospects of Croatia in the EU. The problem is that the counties in the region did not see the need of joint cooperation in economic terms.

As an alternative, the CEFTA agreement was proposed to be enlarged. CEFTA-2006 is a multilateral free trade agreement which replaced the 32 bilateral free trade agreements within the following countries: Serbia, Macedonia, Montenegro, Bosnia and Herzegovina, Kosovo, Albania and Moldova. The aim of the agreement was to establish a free trade zone among these countries by 31 December 2010. The agreement aims

to provide trade liberalization of agricultural and non-agricultural goods and services, and full protection of intellectual property rights. It should help the achievement of fair competition practices and gradual liberalization of public procurement of the member states.

Moldova is part of this regional integration, even though it geographically does not belong to the Western Balkans region. Even though trade relations with Western Balkan states are not spectacular, one can negotiate it more efficiently from inside the CEFTA-2006. It is certain that CEFTA-2006, which recommended itself as a “waiting room” for accession to European Union, enables Moldova to accelerate the European integration and to prevent externalities that regularly accompany it (4, 2011).

But, since July 1st 2013 when Croatia joined the EU, the country will be leaving the CEFTA -2006. Hence, many Croatian exports will face new or higher import tariffs and quotas in the CEFTA-2006 countries. On the other hand, countries from CEFTA-2006 see this as an opportunity to gain competitive strength against Croatian products and to increase their market share on CEFTA -2006 market.

This paper has the aim to analyze the trade relations between countries of CEFTA-2006 (especially in the Western Balkans, because as we mentioned trade relations with Moldova are mostly insignificant). The methodology of this research is based on quantitative analysis. It will be presented in a form of time series for the case of CEFTA -2006, concerning the period 2005-2011 in order to point out the dependence among observations at different points in time and to calculate trade indicators. Core supplier of the data is the official statistics of CEFTA-2006, but since there is lack of data it is compensated by official statistical office database from each country. The final aim of this paper is to give personal overview of the success of the creation of CEFTA-2006 and its future potentials, especially since Croatia joined the EU.

1. ECONOMIC POTENTIAL OF THE WESTERN BALKANS COUNTRIES

Western Balkans is considered as “black hole” (5, 2009) or “black sheep” (6, 2012) of Europe in economic and political context. Economically, the whole region lags

behind the economic growth and development of the Western European countries. Politically, the reform process towards modernization and democratization of their society is moving slowly. In addition, this region is characterized by ethnic conflicts, lack of the rule of law, violation of territorial integrity and economic systems that constitute poor bases for further economic development.

Additionally, the global financial crisis was experienced as a huge external shock for the Western Balkans countries. As their banking systems were not directly exposed to “toxic assets”, the crisis was transmitted to the region through a number of indirect channels. These included a contraction of international trade, a sudden stop of credit growth, a rapid fall in inflows of foreign direct investments (FDI), and a rapid fall in remittances from migrant workers, each reflecting the impact of the global crisis in financial markets, goods markets, capital markets and labour markets. It is notable that these mechanisms mattered to different degrees in different countries in the region (7, 2010).

The economic indicators before and after the crisis will be further elaborated. Table 1 provides the data for the GDP per purchasing power by countries. According to this indicator, until 2013, Croatia was the biggest country in the region, but the predictions for the following years, since Croatia is not any more a member of CEFTA-2006, are that Serbia will be leading country in the Western Balkans region. The rest of the observed countries have double or even triple lower values for this indicator than Serbia and Croatia.

Table 1: GDP per purchasing power in billions dollars

Country/Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Albania	18,0	20,0	21,9	22,9	23,9	24,9	25,4	26,2	27,2	28,4
BIH	25,8	28,2	30,5	29,9	30,5	31,7	32,0	32,9	34,2	35,9
Croatia	73,4	79,3	82,9	78,7	78,7	80,3	81,0	83,0	85,4	88,6
Kosovo	9,2	10,0	11,0	11,4	12,0	12,9	13,5	14,3	15,0	16,0
Macedonia	16,8	18,3	19,7	19,7	20,3	21,3	22,1	23,1	24,4	25,8

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

Montenegro	5,6	6,3	6,9	6,6	6,8	7,2	7,3	7,5	7,8	8,0
Serbia	66,2	71,8	76,1	74,3	75,9	78,9	80,2	83,9	88,6	93,6

Source: International Monetary Fund, World Economic Outlook Database, April 2012

According to the IMF projections for 2013-2015 all of the Western Balkans countries will have positive rates of economic growth (table 2). The highest growth rates will be achieved by Kosovo, Macedonia and Serbia. It is important to mention that Albania and Kosovo did not experience negative economic growth during 2009 (albeit reduced compared with the previous years), when the rest of the countries in the region (and in the EU) had severe fall in the economic activity. The major driver of growth in Kosovo and Albania, which has helped to mitigate the impact of the crisis, has been the high level of public investments, absorbing over 20 percent of the government budget and the low level of economic integration (8, 2010).

Table 2: Estimated growth rates of GDP, percentage change

Country/Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Albania	5,4	5,9	7,5	3,3	3,5	2,0	0,5	1,7	2,5	2,5
BIH	6,0	6,2	5,7	-3,0	-0,7	1,7	0,0	1,0	2,5	3,5
Croatia	4,9	5,1	2,2	-6,0	-1,2	-0,4	-0,5	0,9	1,5	2,0
Kosovo	3,4	6,3	6,9	2,9	3,9	5,0	3,8	4,1	3,2	5,0
Macedonia	5,0	6,2	5,0	-0,9	1,8	3,0	2,0	3,2	4,2	4,0
Montenegro	8,6	10,7	6,9	-5,7	2,5	2,5	0,2	1,5	2,0	2,0
Serbia	3,6	5,4	3,8	-3,5	1,0	1,8	0,5	3,0	4,0	4,0

Source: International Monetary Fund, World Economic Outlook Database, April 2012

Regarding the trade account balance, all countries have negative trade balance (table 3). Until 2009 Montenegro and Serbia had the largest trade deficit (almost 50% for Montenegro and 21 % of GDP for Serbia). With the beginning of the world economic crisis, the trade deficit decreased especially for Serbia, but still Montenegro and Kosovo have record level of trade deficit. That is a result of the very large capital inflows in

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

these two countries compared with the value of their national GDP and also of the undeveloped export sector as well.

Table 3: Current account balance (% of GDP)

Country/Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Albania	-5,6	-10,4	-15,1	-13,5	-	-	-	-	-	-
					11,6	13,3	13,2	12,5	11,3	10,0
BIH	-8,0	-10,7	-14,1	-6,3	-6,1	-8,3	-7,8	-7,1	-5,8	-5,4
Croatia	-6,7	-7,3	-8,9	-5,0	-1,0	0,9	0,4	-0,2	-0,5	-1,5
Kosovo	-6,7	-8,4	-15,3	-15,4	-	-	-	-	-	-
					17,4	20,3	18,3	18,3	16,1	15,2
Macedonia	-0,4	-7,1	-12,8	-6,8	-2,2	-2,8	-5,0	-6,2	-5,9	-5,4
Montenegro	-3,1	-39,5	-50,6	-29,6	-	-	-	-	-	-
					24,6	19,4	19,7	20,0	19,9	19,3
Serbia	-10,2	-16,1	-21,6	-7,1	-7,2	-9,1	-8,6	-7,9	-7,3	-6,7

Source: International Monetary Fund, World Economic Outlook Database, April 2012

Lower trade deficit for Serbia might be a result of the managed floating exchange rate. The Serbian dinar depreciated for about 30% against the Euro from April 2008 to April 2013, thus improving the price competitiveness. Therefore, except Serbia, Croatia and Albania, all the countries from the Western Balkans have some form of fixed exchange rate regime (Kosovo and Montenegro have unilateral euro, Bosnia has currency board and Macedonia has hard pegs).

According to the analyzed indicators, economic leader in the region of Western Balkans is Croatia. Also, the data show that Croatia and Serbia have the largest improvement during the analyzed period. Further analysis will show if that is a result of the creation and membership in CEFTA-2006.

2. EFFECTS OF THE CREATION OF CEFTA – 2006

Table 4 and table 5 have the aim to show the trade effects of the creation of this regional integration from 2005 until 2011. The biggest exporter by the total volume of trade of all CEFTA- 2006 member countries is Croatia. But only 19,24% of the total trade of Croatia is oriented towards CEFTA-2006. The second largest exporter is Serbia with share of 35,1% towards CEFTA -2006 trade partners. The lowest volume of trade is achieved by Kosovo and Montenegro, but Kosovo marks a dynamic growth thanks to partial transfer of foreign trade from the grey zone to the official statistics as well. Nevertheless, it is probable that the growth of merchandise export of Kosovo shall be higher in the years to come, considering their low basis, in comparison with the number of citizens in the province (9., 2011). In the total export of the countries, Montenegro's export is around 40% in CEFTA – 2006 which is the highest share of all countries. Serbia and BIH export more than 1/3 of their total export towards CEFTA-2006.

Table 4: Export from each member country of CEFTA -2006, in million Euros

	2005	2006	2007	2008	2009	2010	2011
Total export from Albania	528,536	630,963	786,208	920,878	780,074	1166,000	1294,000
EU	78,9%	78,6%	80,5%	74,5%	83,6%	76,7%	72,8%
CEFTA	10,1%	11,2%	14,5%	20,1%	14,0%	15,0%	13,5%
Total export from Montenegro	369,321	441,133	454,739	416,165	277,011	330,367	454,381
EU	53,2%	66,5%	69,2%	62,2%	48,3%	55,9%	50,1%
CEFTA	42,92%	31,99%	28,94%	35,43%	46,19%	38,29%	40,40%
Total export from Croatia	7.044,027	8.260,448	9.017,165	9.599,212	7.510,067	8.686,000	9.600,000
EU	57,9%	59,2%	55,2%	53,8%	58,0%	61,7%	59,8%
CEFTA	20,2%	19,2%	22,5%	23,7%	21,6%	19,19%	19,24%
Total export of Serbia	3.750,958	5.307,893	6.660,427	7.637,751	6.172,201	6.269,000	7.415,000
EU		53,3%	54,9%	52,5%	52,0%	65,2%	65,0%

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

CEFTA	30,9%	33,4%	34,9%	35,9%	34,6%	38,6%	35,1%
Total export from Macedonia	1.639,058	1.911,058	2.448,487	2.714,435	1.929,923	2.494,000	3.047,000
EU	62,1%	68,2%	75,9%	65,0%	61,9%	69,6%	70,7%
CEFTA	31,0%	33,7%	29,6%	35,5%	37,3%	30,3%	28,9%
Total export from BIH	1.891,599	2.582,148	2.968,292	3.355,845	2.765,599	3.547,751	4.111,082
EU	53,3%	57,6%	57,3%	55,2%	54,3%	54,5%	55,8%
CEFTA	38,7%	35,2%	35,9%	37,1%	38,0%	35,9%	35,0%
Total export from Moldova	839,168	807,970	1,030,808	1,223,933	986,908	1,185,758	1,705,242
EU	40,6%	51,1%	50,7%	51,5%	52,0%	47,3%	48,9%
CEFTA	0,2%	0,4%	0,7%	0,9%	0,6%	0,4%	0,3%
Total export from Kosovo	56,283	110,774	165,112	198,463	165,328	295,957	319,165
EU	38,4%	38,0%	42,0%	47,4%	43,1%	44,5%	42,8%
CEFTA	52,1%	46,7%	40,4%	31,0%	32,3%	22,7%	25,8%

Source: Official National Statistics, www.trademap.org

By the volume of total trade, the biggest importers of this regional integration are Croatia and Serbia. But, Croatia imports only 5,9% from CEFTA- 2006 countries (in 2011). The situation is similar in Serbia i.e. only 8,7% of the total import in Serbia is from the rest of the CEFTA- 2006 countries. Montenegro and Kosovo on the other hand, import around 40% from the rest of the CEFTA countries.

According to the official data presented in table 4 and table 5, the countries from the region are trading more with the countries from the EU, rather than between themselves. The EU trade accounts for more than half of the total foreign trade of each country from CEFTA - 2006.

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

Table 5: Import from each member country of CEFTA -2006, in million Euros

	2005	2006	2007	2008	2009	2010	2011
Total import in Albania	2099,221	2433,81	3064,661	3568,517	3261,286	3.471	3.692
EU	65,8%	63,2%	58,8%	56,1%	60,4%	59,4%	62,0%
CEFTA	4,0%	5,4%	7,8%	9,1%	7,0%	7,8%	9,1%
Total import in Montenegro	1.042.828	1.457.361	2.073.093	2.529.741	1.654.170	1657330	1.823.337
EU	45,2%	47,3%	45,4%	42,7%	37,5%	37,7%	39,2%
CEFTA	35,3%	34,5%	33,6%	34,9%	39,2%	40,5%	44,9%
Total import in Croatia	14903,270	17116,782	18843,392	20883,720	15203,053	14986,000	16214,000
EU	72,0%	72,2%	70,3%	68,5%	70,6%	68,8%	71,1%
CEFTA	4,2%	4,8%	5,0%	5,0%	5,1%	5,5%	5,9%
Total import in Serbia	8400,014	10485,662	13535,431	16478,100	11504,700	12621,900	14074,000
EU	50,1%	47,8%	59,2%	54,9%	57,2%	58,8%	61,3%
CEFTA	7,0%	8,3%	8,6%	8,0%	8,3%	8,7%	8,7%
Total import in Macedonia	2591,960	2995,261	3813,679	4681,581	3616,095	4333,000	4353,000
EU	55,5%	53,9%	50,4%	49,1%	50,9%	50,5%	54,0%
CEFTA	11,6%	11,1%	12,3%	11,7%	12,5%	10,5%	13,2%
Total import in BIH	5590,399	5694,393	6949,121	8146,258	6177,590	6808,119	7763,066
EU	50,7%	47,8%	47,8%	48,0%	49,1%	45,9%	45,4%
CEFTA	34,6%	36,8%	30,6%	28,9%	26,8%	27,1%	25,0%
Total import in Moldova	2292,292	2693,184	3689,524	4898,762	3278,270	3855,289	5191,271
EU	45,3%	45,2%	45,6%	43,0%	43,4%	44,2%	43,5%
CEFTA	0,2%	0,2%	0,1%	0,2%	0,2%	0,2%	0,3%
Total import in Kosovo	1157,492	1305,879	1576,186	1928,236	1935,541	2157,725	2492,348
EU	37,3%	34,4%	36,3%	36,4%	39,0%	38,3%	38,0%
CEFTA	38,0%	41,1%	36,8%	37,2%	35,8%	37,2%	35,0%

Source: Official National Statistics, www.trademap.org

The reason is that right after signing of the Stabilization and Association Agreement with the EU, the trade exchange of goods from the Western Balkans

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

countries experienced a strong trade diversion effect towards the EU trade partners. The trade diversion effect, as well as the weak economic capacity of the countries, caused a sharp fall in the trade exchange of each individual country with the countries from the Western Balkan region (10, 2009).

Furthermore, analysis of the openness of the CEFTA -2006 countries is given in table 6. Most of the coefficients of openness are higher for import rather than export which indicated weaknesses in the level of openness. The highest difference is in the case of Kosovo, which might indicate case of tax suppression (11, 2012).

Table 6: Trade openness of the CEFTA-2006 countries

Export (% of GDP)							
	2005	2006	2007	2008	2009	2010	2011
Albania	8,42%	9,11%	9,55%	9,21%	8,33%	12,75%	13,09%
Montenegro	21,23%	21,26%	16,09%	11,91%	8,67%	10,43%	13,02%
Croatia	20,44%	21,53%	19,75%	17,86%	15,39%	18,56%	19,55%
Serbia	19,32%	23,52%	22,23%	20,83%	19,99%	21,43%	21,39%
Macedonia	35,54%	37,83%	38,93%	35,68%	26,87%	35,39%	38,36%
BIH	22,54%	27,16%	25,32%	23,57%	21,09%	27,82%	29,75%
Moldova	36,51%	30,82%	30,45%	26,28%	23,59%	26,52%	31,66%
Kosovo	19,56%	3,68%	4,62%	4,55%	3,94%	6,88%	6,43%
Import (% of GDP)							
Albania	33,45%	35,15%	37,24%	35,68%	34,84%	37,94%	37,36%
Montenegro	59,96%	70,22%	73,35%	72,42%	51,79%	52,32%	52,26%
Croatia	43,24%	44,61%	41,26%	38,85%	31,15%	32,02%	33,02%
Serbia	43,28%	46,47%	45,17%	44,94%	37,26%	43,15%	40,60%
Macedonia	56,20%	59,29%	60,64%	61,54%	50,35%	61,48%	54,80%
BIH	66,62%	59,89%	59,28%	57,21%	47,10%	53,38%	56,18%
Moldova	99,73%	102,73%	108,98%	105,18%	78,37%	86,22%	96,37%
Kosovo	40,22%	43,33%	44,06%	44,23%	46,18%	50,14%	50,22%
Trade (% of GDP)							
Albania	41,87%	44,26%	46,80%	44,88%	43,18%	50,69%	50,45%
Montenegro	81,19%	91,48%	89,44%	84,34%	60,47%	62,75%	65,28%
Croatia	63,68%	66,14%	61,01%	56,70%	46,54%	50,59%	52,56%

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

Serbia	62,60%	70,00%	67,40%	65,77%	57,25%	64,58%	61,99%
Macedonia	91,73%	97,11%	99,57%	97,22%	77,23%	96,87%	93,15%
BIH	89,16%	87,04%	84,60%	80,77%	68,19%	81,19%	85,92%
Moldova	136,24%	133,55%	139,43%	131,45%	101,96%	112,74%	128,02%
Kosovo	59,78%	47,00%	48,67%	48,78%	50,12%	57,02%	56,65%

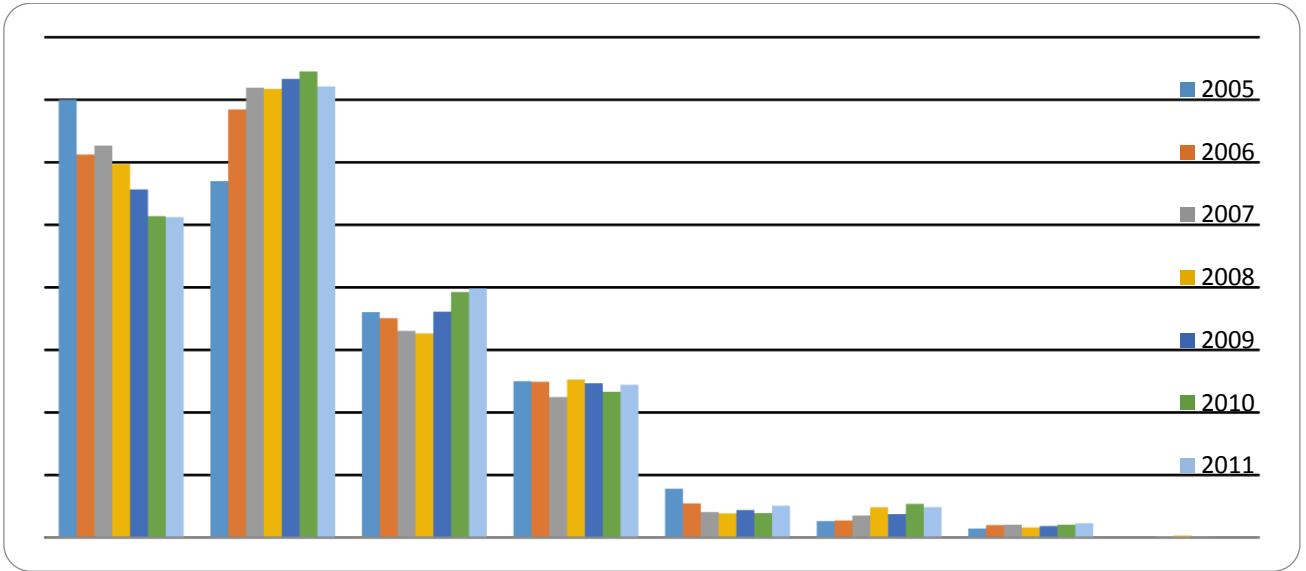
Source: Created from the author, data available at the Official National Statistics, www.trademap.org,

Moldova and Macedonia have a high level of trade openness, before and after the signing of CEFTA-2006, and the most closed economies are Albania, Kosovo and Croatia. The general conclusion is that there are no significant changes in the level of openness before and after the signing of CEFTA-2006 agreement. On the contrary, the level of openness for some countries even decreased after 2006 (Montenegro, Croatia and Serbia). Higher level of trade openness for Albania and Kosovo, which means higher absorption capacity of these countries, represents a possibility for further regional trade integration.

3. INTRA TRADE IN CEFTA - 2006

The largest exporter in the intra-trade is Serbia followed by Croatia and BIH, according to the data of the intra - trade of CEFTA - 2006 countries presented in graph 1 and graph 2. Serbia outran Croatia in 2006 and until 2011, it is the biggest exporter in the region. Before 2006, Croatia was leader in the intra-trade export. But, regarding the EU orientation, Croatia diverse its trade towards EU trade partners. Therefore, concerning the trade of each country from CEFTA with the European Union, as we can see from table 4 and 5 Croatia has the largest volume of trade. BIH holds the third position and it is followed by Macedonia. Montenegro, Albania, Kosovo and Moldova have quite low share in the intra- export.

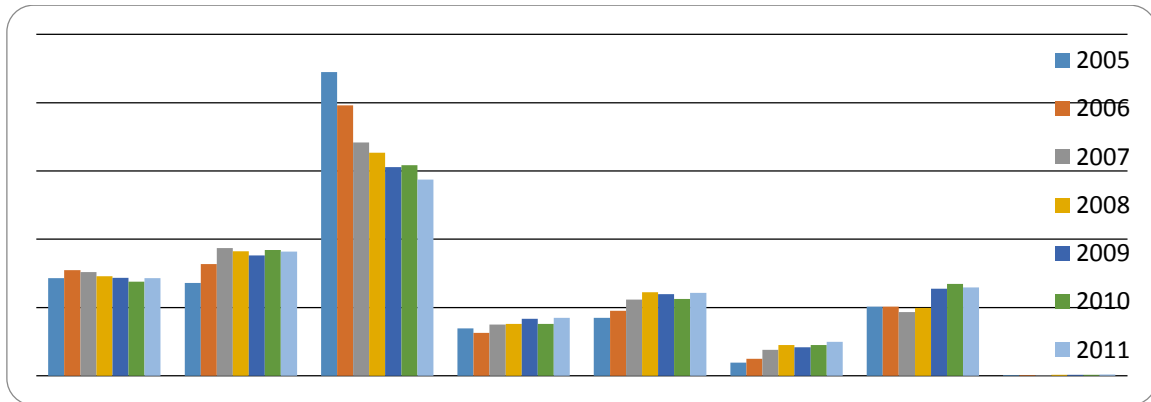
Figure 1: Percentage share of intra - export in CEFTA-2006



Source: Created from the author, data available at the Official National Statistics, www.trademap.org,

Regarding the intra-import, the largest importer is BIH, although through the years its relative share is decreasing (in 2005 the share was 44,51% and in 2011 it decreased to 28,76%). The second largest importer is Serbia with 1/5 of the total intra import in CEFTA-2006.

Figure 2: Percentage share of intra - import in CEFTA-2006



Source: Created from the author, data available at the Official National Statistics, www.trademap.org

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

Regarding the trade balance (table 7), Serbia has the highest trade surplus in the intra trade in CEFTA-2006, followed by Croatia. Only in the trade relations with Croatia, Serbia has a trade deficit (coverage of import by export increased from somewhat more than two fifths in 2007 up to two thirds in 2010), while it has high surpluses with other observed countries. Macedonia has also positive trade balance in the intra trade due to its high surplus with Kosovo. Consequently, Kosovo, Montenegro, BIH, Albania and Moldova have negative trade balance in the intra trade.

Table 7: Trade balance in the intra trade in CEFTA - 2006

	2005	2006	2007	2008	2009	2010	2011
Croatia	800,532	766,932	1079,146	1228,289	841,929	843,68	882,312
Serbia	566,943	907,031	1158,244	1423,978	1178,771	1317,712	1370,274
BIH	-1201,24	-1185,69	-1060,59	-1110,28	-605,778	-568,384	-504,095
Macedonia	207,499	312,754	257	416,095	267,449	302,625	305,925
Montenegro	-209,796	-361,308	-564,701	-735,646	-520,752	-545,4	-635,358
Albania	-29,713	-60,137	-124,353	-139,26	-118,433	-95,091	-159,788
Kosovo	-411,026	-484,514	-512,792	-656,113	-639,032	-735,385	-791,096
Moldova	-3,004	-1,615	1,469	1,814	-2,009	-3,558	-9,072

Source: Official National Statistics, www.trademap.org

Bosnia and Herzegovina is the most important importer of products from other countries of the trade agreement CEFTA-2006. BIH has a high deficit in trade with Croatia and Serbia, although for the most part, these deficits are related to cantons with Croatian majority, and with Republic of Srpska and Brcko district, referred to in scientific literature as "ethnic trade". In its trade with CEFTA-2006, Bosnia and Herzegovina have the same sum value of export and import as in the trade with Germany, Italy or Slovenia (9, 2011, p.5). Economic crisis affected Bosnia and Herzegovina and had an influence on almost 50% decrease of the trade deficit in 2009 compared with 2008. But, lower trade deficit is also a result of much faster growth of export rather than the growth of imports.

The decrease of BIH trade deficit also lowered the value of Croatian surplus in 2009. The value of trade surplus for Croatia is for 30% lower in 2011 compared to the value in 2008. Croatia has surplus with all of the CEFTA-2006 countries, except with Macedonia. Croatia is second biggest exporter in CEFTA and third biggest importer.

Regarding Montenegro, its largest trading partner is Serbia and BIH and Croatia. Region of CEFTA countries (excluding Albania) is relatively most important for Montenegro, with 40% of total export and 45% of total import in 2011 (table 4 and 5).

Albania has the lowest participation in the CEFTA-2006 trade, after an insignificant participation of Moldova (on the export side 2,43% and on the import side 4,96%). But the trade is increasing with significant rate i.e. the export from Albania to the rest of the CEFTA-2006 countries has increased by 3,5 times in 2011 compared with 2005, and the import by almost four times in the same period. Out of all the countries in the region, Albania is trading the most with Serbia and Macedonia. Kosovo is becoming a more important trading partner for Albania in the last couple of years.

Macedonia, as previously said, has trade surplus in the trade in CEFTA-2006. Kosovo as the most important exporting partner crates over 90% of the value of total surplus in CEFTA - 2006 , i.e. trade surplus in 2011 - 305,93 million Euros can be fully explained by the surplus with Kosovo - 386, 84 million Euros (12, 2013).

Kosovo trade in CEFTA-2006 is 1/3 of its total trade (table 5). Macedonia is the biggest exporter to Kosovo. Although Serbia has a slight growth of export to this territory, percentages show that it has a decreasing importance in supplying of Kosovo.

Presented data and explanation point out that each of the member states depends on trade exchange of goods only on one or two major trading partners from the region, while the cooperation with the rest of the member states is insignificant. Thus, for Bosnia and Herzegovina and Monte Negro the most important CEFTA - 2006 trade partners are Serbia and Croatia; for Serbia - Bosnia and Herzegovina and Macedonia, for Croatia – Serbia and Bosnia and Herzegovina, and for Macedonia – Serbia, Croatia and Kosovo.

REGIONAL POTENTIAL OF CEFTA - 2006 AND ITS FUTURE CHALLENGES

Regarding the structure of the intra trade in CEFTA-2006 it is mostly consisted of agricultural products (mostly unprocessed) and non-agricultural products with lower level of finalization, such as iron and steel; products of iron and steel; mineral fuels, non-metal products, plastics and products made thereof, etc. The only two member-states that are exchanging to a greater extent finalized industrial products, such as electrical equipment and machinery, are Serbia and Croatia (10, 2011). The data in table 8 justify that agricultural products create around one third of the total intra trade between the countries.

Table 8: Structure of trade in CEFTA countries (thousand of Euros)

Agricultural products	2009	2010	2011
Intra trade	3231,098	3540,203	3807,670
External trade	6539,601	6903,745	7899,418
Total trade	9770,699	10443,948	11707,088
Intra trade/Total trade	33,07%	33,90%	32,52%
Non Agricultural products	2009	2010	2011
Intra trade	8043,175	9055,796	10227,636
External trade	48745,489	55269,543	63119,724
Total trade	56788,664	64325,339	73347,360
Intra trade/Total trade	14,16%	14,08%	13,94%

Source: www.cefta2006.com

Even though CEFTA-2006 has the aim of strengthening the regional integration between the countries which can boost competitiveness, attract investments and consequently increase the economic strength of the region, the countries still do not use this opportunity. Also, the reason for the low volume of trade is a result of the existence of non- custom barriers: complicated border-crossing procedures; extensive administrative work and mutual non-compliance of customs activities and inspection departments; insufficient number of internationally recognized accreditation and certification bodies, as well as authorized laboratories and institutions; non-recognition

of quality assurance certificates; complicated visa regime; corruption and smuggling. It is necessary to improve the infrastructure of quality up to a level at which certificates for products from WB countries, would be recognized in all countries of the EU and CEFTA. Even though certain progress has been achieved in 2009 and 2010 by passing certain laws which regulate it, there is still a lack of institutionalized accreditation bodies, which is the reason why consistent implementation of CEFTA agreement is not possible (9, 2011, p.4). The problem is not only in the low economic capacity of the countries in the region but also due to the fact the countries create additional trade barriers that prevent strengthening of the trade relations between the countries.

4. ECONOMIC IMPLICATIONS FOR THE CEFTA-2006 COUNTRIES, AFTER CROATIA`S EU ACCESSION

With the accession in the EU in July 2013, Croatia exited from CEFTA – 2006. The new trade regime from July 2013 imposes new tariffs and quotas for Croatian products. That would make Croatian products more expensive and less demanded on the CEFTA-2006 market. On the other hand, however, Croatia will surely benefit from the access to 500 million consumers within the EU market; even so, its products will not be immediately competitive with the already established brands.

According to the Holzner (13, 2013), the results of our simulation exercise of the Croatian EU accession and its effects on trade flows with the remaining CEFTA countries, using the Global Simulation Model (GSIM) for the analysis of trade policy changes, suggest that only little change can be expected in exports and imports. This is certainly due to the fact that Croatia's accession to the EU will hardly cause any changes in bilateral tariff rates between Croatia and most CEFTA countries. Still, some changes can be expected owing to trade diversion effects, as relative prices of regional goods might change, with slightly increasing tariff protection especially of Kosovo and Serbia vis-à-vis Croatian goods after EU accession. However, these effects will be rather tiny.

Exit of the Croatia, will cause negative consequences for its most important trade partners in the free trade zone, especially for Bosnia and Herzegovina. Bosnia and Herzegovina will lose its main agricultural export market in Croatia. On the other hand, however, with the fading competitiveness of Croatian products on the Bosnian market, Bosnian producers have a chance to increase their market share at the domestic market, and increase agricultural exports to other CEFTA countries.

Also, Croatia losses significant market for placement of agricultural products. According to the Croatian Chamber of Commerce reports only about 21% of total Croatian exports are exported to the CEFTA market. The situation is quite different when it comes to agricultural and food exports: about 45% of Croatian exports in this sector are intended for the CEFTA market (14, 2013).

As an exit strategy, Croatian business is considering moving the part of their production facilities to the CEFTA countries. Therefore, there will be no import regulations and also they will evade the higher production costs that would come with Croatia`s EU membership.

Thus, Podravka (a food company) already has part of its production facilities in Macedonia, and Vindija (dairy products company) is investing in increasing its production facilities in Serbia. Krash (a confectionary factory) and Franck (a coffee and snacks factory) have both relocated some of their production facilities to Bosnia and Herzegovina, and TDR (cigarette manufacturer) is considering doing the same. Cigarettes, in particular, will face much higher import tariffs in CEFTA: in Bosnia and Herzegovina tariffs will rise from 0% to 15%; 15% to 57% in Serbia; 27% to 42% in Macedonia; and 0% to 10% in Kosovo.

The rest of the countries, especially Serbia and Macedonia are looking different strategies to expand their export to Bosnia and Herzegovina. Also, lower competitiveness of the Croatian products (caused by the import tariffs and quotas) is opportunity for the rest of the countries to expand their market share in CEFTA-2006.

For example, Macedonian wine exports will particularly benefit from Croatia`s EU accession: thus far, Macedonian wine export to Croatia has been regulated by a quota,

wherein only 6.75 liters could be exported to the country. From July 1st 2013 this quota has been annulled, and Macedonian wine exports is regulated by the quota the country is allowed to export to the EU. At present, Macedonia may export a total of 39.9 liters of wine to the EU market; yet, the Macedonian authorities are negotiating with the EU to increase this preexisting quota by the Croatian quota that had been valid thus far. With the bustling tourism on the Croatian coast, demand for expensive regional wines there is quite high, and still rising.

Also, expanding production capacities on the Croatian market is opportunity for rest of the CEFTA-2006 countries to introduce their products on the European market. For one, the managers of the food company "Vitaminska" reported that they are looking to move part of their production facilities to Croatia. Also, the CEO of one of Macedonia's most profitable confectionary companies, Evropa, Ms. Savka Dimitrova, has recently expressed similar sentiments.

CONCLUSION

The idea of creating such regional integration such is CEFTA -2006 has the aim to boost competitiveness, attract investments and consequently increase the economic strength of the region. Regional economic integration of the Western Balkans countries, such is CEFTA -2006 can gradually increase the competitiveness of small open economies in transition such as these countries, because full membership in the EU involves strong competitive pressure on new member countries.

However the presented data show that almost five years after the signing after CEFTA-2006 agreement, contrary to the predictions, the level of regional integration did not change significantly. Thus, the trade balance of the countries is still negative for most of the countries, and countries diverge its trade towards EU. Also, the coefficients of trade openness of the countries did not change significantly during the years. Most importantly, each of the member states depends on trade exchange of goods only on one or two major trading partners from the region, while the cooperation with the rest of the member states is insignificant.

Consequently, since Croatia exited from CEFTA - 2006 in July 2013 and became member of EU, it will cause negative consequences for its most important trade partners in the free trade zone, especially for Bosnia and Herzegovina. Therefore, it is quite understandable why the Western Balkans countries have already lost interest for further trade integration in CEFTA - 2006. The current situation in CEFTA -2006 suggests that the Western Balkan region could face serious challenges. Taking this fact into consideration, CEFTA - 2006 never really exploited the real economic potential of the region which leaves no choice to the Western Balkans countries. The Western Balkans countries must pursue further integration in the Union, as the only rational decision to avoid pessimistic scenarios for the region. Otherwise, if the European perspective is lost, it is more likely that the region will be under the pressure of ethnic nationalism, which can cause tensions and jeopardize the political and economic stability of the region.

REFERENCES

1. Kostadinov, A., FDI performance index of Western Balkan countries, The Western Balkans-part of the EU? Analytical electronic Journal, Vol 1, No.1, 2008.
(<http://www.analyticalmk.com/files/01-2008/journal01.pdf>),
2. Makrevska, E., Perspectives of integration of the Western Balkans as a region in the European Union, Ninth International conference of ASECU: Systemic Economic Crisis: Current Issues and perspectives, Faculty of Economics, University Ss. Cyril and Methodius, 2013.
3. Barlette, W., *Regional integration and free-trade agreements in the Balkans: opportunities, obstacles and policy issues*, Econ Change Restruct, Springer Science, 2008.
4. Tugui, E., Regionalization and European integration in the framework of CEFTA agreement, Issue 32, Institute for Development and Social Initiatives "Viitorul", Moldova, 2011.
5. Tiri, E., and Donila, P., The European Perspective of the Western Balkans, West University of Timisoara, Romania, pp. 1107-1108., 2009.
6. Marinkovic, M., *Perspectives for the Western Balkans in light of the ongoing European Crisis*, Open democracy online, 2012.
1. (<http://www.opendemocracy.net/milan-marinkovic/perspectives-for-western-balkans-in-light-of-ongoing-european-crisis>).
7. [Barlette, W. and Monastiriotis, V.,](#) *South East Europe after the*
2. *Economic Crisis: a New Dawn or back to Business as Usual?*, LSEE – Research on South Eastern Europe European Institute, LSE, 2010.
8. Gashi, P., The global economic crisis and Kosovo , *South East Europe after the Economic Crisis: a New Dawn or back to Business as Usual?*, LSEE – Research on South Eastern Europe European Institute, LSE, pp.81-89, 2010.
9. Nikolic, G., Jovanovic, N. and Todorovic, V., CEFTA 2007-2010 experiences, potential and perspective, Centar za novu politiku, Belgrade, 2011.
10. Kikerkova, I., *CEFTA-2006 as basis for economic reintegration of Western Balkan countries*, Third International Conference on Regional Cooperation and Economic Integration – challenges and opportunities, Ss. Cyril and Methodius University, Faculty of Economics-Skopje, 15th-17th October, Skopje, 2009.
11. Gaber, S.B., *The impact of CEFTA (2006) on the Regional Trade Flows*, Annual of the Faculty of Economics -Skopje, pp.161-169, 2012.
12. State Statistical Office of Republic of Macedonia,
<http://www.stat.gov.mk/pdf/2013/7.1.13.05.pdf>, Announcement no: 7.1.13.05.
13. Holzner, M., *Impact of the Croatian EU accession on Regional Trade Patterns*, wiiw Policy Notes and Reports, No. 10, The Vienna Institute for International Economic Studies, Vienna, Austria, 2013.
14. Kotevska, A., Croatia`s EU Accession: Economic Implications for the Balkan Countries, Portal on Central Eastern and Balkan Europe, 2013.

UDC: 005.962:005.332.1]:005.32:331.101.3

**SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR
SUSTAINABLE EFFICIENCY OF ORGANIZATION**

Zanina KIROVSKA, PhD¹
Nedzmije QOKU², MA

ABSTRACT

Managers in companies need to understand the processes of stimulation, excitation, directing the activities of the previously set targets to successfully manage assess and evaluate their employees. Higher the motivation of the employees, greater the results or the performance of an organization are. This paper presents an action research conducted in health institutions that through a questionnaire survey technique gave information in connection to the valuation of employees work performance and the achieved effects. In fact the research has demonstrated the impact of quality assessment of the work with the motivation of employees for job performance, and therefore also with the accomplished results of the company.

KEYWORDS: valuation of work, motivation, job performance, effectiveness and efficiency of work.

JEL CLASSIFICATION: O15

¹ Assistant Professor and Research Associate, Integrated Business Faculty, e-mail: zanina.kirovska@fbe.edu.mk

² Head of Finance and the Public Procurement, JZU "Zdravstven Dom na Skopje"- Skopje, e-mail: stela_710@hotmail.com

INTRODUCTION

The employee performance evaluation is a formal, structured system of measurement/evaluation and impact characteristics, behavior and performance of employee at work within the organization. Performance assessment should help in the formation of perceptions, how successfully the work and tasks of specific jobs are performed and how they contribute to the achievement of company objectives. Objectives and action plans provide employees direction and guide on how to allocate their time to the assigned tasks. Particular differences relate to their own ideas, motivation, skills, abilities, personality traits, values, feelings and needs, which vary from person to person. Since these differences can significantly affect the performance, organizations use training programmes to strengthen and improve the skills and abilities of employees, required to effectively carry out their tasks. If the established programmes are effective, they result in improved performance, while ineffective programmes and lack of training, have negative impact on performance. Companies know that contemporary behavior of employees means not running on programmes and awards they considered unattractive, or where the chances of success are very low. Starting basis for sustainable effectiveness and efficiency of the company is basic salary of employees, which can have a positive impact on improving the performance of employees in the workplace within a firm. Employees certainly find other ways to balance their salaries with their labor, looking for additional sources of motivation and materialization of their labor, but again it should be in order to improve their professional and personal performance.

1. EMPLOYEE PERFORMANCE EVALUATION OBJECTIVES

Employee assessment is crucial to any organization. The assessment process involves several interrelated steps³, so that the manager cannot only evaluate employees and summarize the current employee performance, but should also include future

³Milstein, B., Wetterhall, S., and the CDC Evaluation Working Group, A Framework for Program Evaluation: A Gateway to Tools, Edited by Jeanette Nagy and Stephen B. Fawcett

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

performance, goals and expectations through evaluation. Employee assessment should also be seen as a means of communication with the manager.

With employee performance evaluation, primarily are accomplished strategic goals and interests of the company. From developmental perspective, the objectives should enable assessment of current knowledge, abilities, skills and success in fulfilling them, *thus taking further action: training, study visits, participation in conferences etc.* From current perspective, defining goals should enable realization of the current activities of the company - evaluating employee performance in relation to established standards, and for *further action: motivation, promotion, new fees, rewards, etc.*

Achieving company's goals⁴ through employee performance evaluation, employers determine growth opportunities; discover inner reserves to increase productivity as well as measurement to increase it. Employees, through objectives, can determine in which areas they can develop and upgrade themselves, while the management can specify the tasks and activities of the organization. Setting company's future goals should be planned with a projection of one or three years, because it is not to detail the daily activities, but to help in defining major challenges that the company will work towards in the future.

In order to achieve greater effectiveness, each objective should adhere to one of the so-called smart (SMART) criteria⁵ (specific, measurable, ambitious, realistic, time-bound) and it should be in coordination with the results. It is often considered that objectives and responsibilities are the same category. Objectives are defined as given task to an employee, to be achieved over the business cycle launched, while competence is defined as achieving goals and day-to-day activities.

Measurement purposes are relatively easy for those, responsible for achieving the quantified targets, for example sales (selling a specific number of products for a

⁴Bogicevic, Milikic, B., Management of Human resources, 3 edition, Faculty of Economics, Belgrade, 2006, VII, page 208-210

⁵ Drexel Employee Sample Performance Evaluation , DUCOM Manager Sample Performance Evaluation

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

particular period of time, e.g. one month). More difficult is the situation of highly qualified workers, i.e. intellectual work, for example scientists. But this difficulty is reduced if there is a distinction between products and results. The products can be measured quantitatively, while results are visible effects of the efforts made and they can be measured qualitatively.

Ultimately, measuring purposes is the basis for providing feedback as it identifies where things are going well and creates the basis for further improvement and indications where corrective action is needed⁶.

When performances are documented, it should primarily be taken into account what well as documented. By assessing the performance, each employee' tasks, that have to be achieved over the business cycle, are defined, i.e. expectations for the results. Competencies are defined as completion of these tasks by staff, behavior that they use, as well as activities that produce results. Therefore it is said that objectives and responsibilities are not mutually exclusive. Instead, they are interdependent parts of an effective performance. For example:

- An employee who achieves outstanding results, but does not have appropriate relationship with colleagues or team, probably will not be able to keep these results over time, especially if he or she refuses the help and support of others.
- An employee who maintains excellent interpersonal relations, but does not have results, undermines the effectiveness of the team, and possibly the function of the company.

Therefore only through documentation of the results, employee performance can be accurately assessed.

2. EMPLOYEE EVALUATION PERFORMANCE PROCESS

When evaluating an employee for periodic checks or a promotion, there has to be a list of measurable performance criteria that can be applied consistently to all members of a particular department⁷.

⁶Dzordzevic Boljanovic, J., Pavic, NW, Fundamentals of Human Resource Management, First Edition, University Singidunum, Belgrade 2011, Part I, page 36-38

⁷http://www.ehow.com/how_5023348_evaluate-employee-performance-easy-steps

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

Researchers in this area define 15 employee evaluation performance criteria and 5 performance levels. Using these criteria as a guideline, will provide a solid assessment of the employee. To get an overall rating of the employee, performance level is applied, by the number to each of the performance criteria. Criteria for performance evaluation are the following: Having an ambition/Initiative - Does employee show ambition at work and whether he or she takes initiative to improve the process, product or overall work environment? Attendance - Has the employee regular attendance at work and whether it has a negative impact on the department productivity or morale? Attitude/Cooperation - What is the employee's attitude towards managers, colleagues, work in general? Is the employee's direct supervisor satisfied and is the employee professional in his or her area? Is the employee reasonably flexible when asked to perform an operation/function outside of his or her everyday tasks, or work outside his or her usual working hours for a special project? Communication Skills - Do employees have the ability to communicate properly with colleagues, managers and customers? Have there been any issues created or solved questions, due to the employee's communication skills? Department and Company Orientated - Do employees have a broader view and deeper understanding than simply his or her own duties? Does he or she speak of the company or department with pride? Focus means the ability of the employee to maintain focus on the task? Does he or she have difficulty prioritizing job duties imposed over personal business or socializing with other employees? Improvements from previous evaluation - has the employee shown a noticeable improvement from the previous performance evaluation? Integrity - Does the employee demonstrate ethical behavior in the workplace? Does he or she respect the privacy of other employees and customers? Does the employee know who to ask - is the employee able to distinguish between arrogance and independence in performing his or her duties? Does he or she know when to ask a question, rather than simply making and moving based on assumptions? Level of technical knowledge - Do employees have the ability to demonstrate an acceptable level, some technical knowledge to perform their duties? Productivity/deadlines - is the employee able to consistently meet standards

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

(productivity) according to requirements and project deadlines? Quality of work - has there been positive or negative feedback from customers regarding the quality of the employee's work? What has been observed in terms of employee's work quality? Reliability/trustful person- trust? Does he or she constantly demonstrate competence and independence? Is he or she employee, "go-to" person? Stress Management - How does the employee cope with changes in the work environment? Is he or she able to work in a "noisy environment" and focus on braking down the task at hand in order to complete on time? What is the ability of staff to communicate with other members of the department when tensions are high? Teamwork/If the department is short-handed, does the employee willingly pitch in to complete tasks assigned to others in the department? Does the employee voluntarily want to help?

To create an effective evaluation process⁸ it should not be invested too much, it is enough to identify the crucial things that people have to show success, to establish a simple rating system, to provide managers who will understand the ratings and to expect a comprehensive final examination, followed by a conversation at least once a year. The company can do a modest assessment process and if it is implemented thoughtfully, the same can have a significant positive impact on the workforce.

If an employee's performance should be rectified, the manager should be specific, so the employees know what to do in order to improve results⁹. Setting deadlines for employee to show improvement is very good idea. This may help employees to improve performance and get a better view that benefit both sides - employees and the company. When the employee evaluation is completed, the manager should provide a copy to the employee.

2.1 360 degree feedback

360 degree feedback is a relatively new approach for evaluation performance; the interest is constantly growing and it is¹⁰: "systematically collecting data and

⁸ Bogicevic, Milikic, B., Menadzment ljudskih reursrsa, 3 izdanje, Ekonomski Fakultet Beograd 2006, VII, page 196-198

⁹ http://www.managerassistant.com/employee_assessment.htm

¹⁰ Dzordzevic Boljanovic, J., Pavic, NW, Fundamentals of Human Resource Management, First Edition, University Singidunum, Belgrade 2011, Chapter VIII, page 177-180

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

feedback on the performance of an individual or group of series of players." As many other methods, 360 degree feedback is developed for military purposes, as a support for staff development. It took half a century for professionals in the field of human resources, to recognize this technique. At the end of 90-ies of the last century this sociometric technique experienced massive application in organizations and various objectives: to develop individual, to develop team, facilitating relationships with customers, etc.

360 degree feedback method¹¹ is a tool that allows each employee to get feedback about his or her work. The data can be obtained from the supervisor, co-workers, internal and external customers. It includes self-assessment, assessment of subordinates, superiors, people of the same position in the hierarchy of the company, and part of clients, customers, suppliers - which closes the circle of those who are assessed¹².

The popularity of this technique is associated with the modern understanding of roles within the organization. All participants in the work process have the ability adequately to observe and evaluate the characteristics, skills and behavior of individuals who participate in that process. This obtained contrast in performance or perception of the level of development of an individual is an excellent base for further action and management plans. In the same time, it is also important the organization, where this technique is implemented, to have a tendency to such a business culture that fosters the integration of people and leadership, as a style of management, based on participation. If the organization does not develop such a culture of awareness and confidence and 360-degree feedback is implemented only because "everyone uses it," it might happen a large-scale disaster and the organization will need to recover long term. Therefore, it is good to understand the nature of the 360-degree process before implementing it and clearly define the purpose of it.

¹¹ Dzordzevic Boljanovic, J., Pavic, NW, Fundamentals of Human Resource Management, First Edition, University Singidunum, Belgrade 2011, Chapter VIII, page 177-180

¹²CS Global works with Janus PIM electronic 360-degree feedback (www.csglobal.com.mk)

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

360 degree feedback is a strong and positive addition to the evaluation of the system performance. It allows understanding of each individual of their own performance, as an employee, peer, team member, from the other's point of view as others see it. This feedback provides insight about the skills and behaviors necessary for the organization to accomplish the mission, vision and goals, and live the values. The purpose of the method "360 degrees feedback" is to assist each individual to understand his or her strengths and weaknesses, and to contribute insights into areas of his or her work that need professional development¹³. 360 degree feedback should be applied at first step, in order to evaluate managerial competence, and to create change agent in the way of thinking. Once this process has been successfully introduced in organizational culture and life, depending on the degree of maturity of the company and its needs, 360 degrees feedback technique can be applied to a wider population of employees and other specific needs.

2.2. Dealing with those who have failed and errors when evaluating performance

Employee evaluation should be a normal occurrence in companies. Through evaluation can be found out, whether each employee has done his or her task properly and to recognize difficulties they have experienced during the daily performance of activities. Commonly, the evaluation in the workplace is too stressful and formal! In electronic communication there are practical tips on how each supervisor should refer to the continuing implementation of the employee evaluation.

What is important to mention, is the fact that after the evaluation, managers should never bring his or her (all) employees to the same desired (often utopian) level that they (managers) want. No manager will ever succeed to make all his or her employees to behave like him or her. It is impossible. Instead, superiors should realize that each employee has his/her own values, virtues and faults, which should be utilized

¹³Schuttler, R. and Burdick, J., Laws of communication: The intersection where leadership meets employee performance. USA: John Wiley and Sons., (2010)

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

in the best possible way - turning them into values that will bring further improvements."

Evaluation performance errors are defined as "difference between assessor's evaluation results and objective evaluation, free of bias and other subjective effects."¹⁴ Besides basic errors when evaluating employee performance (mild and strict evaluation, the error of central tendency, "halo" error or halo-effect)¹⁵, there are also some other errors usually made: logical error, contrast errors, similarity errors etc. Supervisors should be aware of common mistakes that result in bias for performance evaluation through the evaluation process. Also, they should be aware of the common mistakes that can result in inaccurate opinion¹⁶. But if the performance evaluation is done properly, the views are balanced and there is an accurate employee performance evaluation, it is a good point to set the future goals. In evaluation performance, it is important always to compare the actual performance to the standards specified in the planning stage. To be fair and objective, evaluation must be based on work related to the conduct of the employee, not the employee personal characteristics or other factors that are not related to work. It is also important to ensure that the evaluation is submitted with all required signatures and supporting documentation.

3. EMPIRICAL RESEARCH

Employee performance evaluation may apply to any action in order to improve outcomes for the whole community, for more specific sectors (e.g., schools, workplaces), or sub-groups (e.g. young people experience violence or HIV/AIDS, etc.). Because of social benefits, health development programmes are continually evaluated.

¹⁴Feldman in Latham, G.P., Wesley, K.N., 1981, Increasing Productivity Through Performance Appraisal, Addison-Wesley Publishing Company

¹⁵Dzordzevic Boljanovic, J., Pavic, NW, Fundamentals of Human Resource Management, First Edition, University Singidunum, Belgrade 2011, Chapter VIII, page 180-182

¹⁶Rivera, E., E-How Contributor, „Supervisors should be aware of common errors resulting in biased performance appraisals“

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

Employee performance evaluation in the health sector should be a framework that promotes a common understanding of social usefulness. It is easier way to engage employees in health care facilities and community health and will ensure faster development in the health sector, through all participants' evaluation in the sector. The authors of the article have conducted empirical research¹⁷ that provides insight to the following general hypothesis: If the health care organization applies a quality system assessment of health workers, then dissatisfaction among employees for financial compensation will be eliminated, which will increase motivation and quality of work.

In order to implement this empirical research, several segments were examined:

1. Professional education of medical staff and ways that improve professional performance (continuous training, using professional literature, etc.)
2. Evaluation, reward and recognition of health workers jobs by employer, their satisfaction and motivation;
3. Working conditions and use of modern techniques and equipment, as a prerequisite for successful and faster execution of tasks;
4. Quality system assessment of health workers and making positive reforms that will lead to removal of unintended errors at work and increase satisfaction and quality of care.

3.1. Hypothetical framework

General hypothesis

If the health care organization applies a quality system assessment of health workers, **then** dissatisfaction among employees for financial compensation will be eliminated, which will increase motivation and quality of work.

¹⁷ Qoku, Ma. N., The quality system assessment of health professionals as a determinant of successful work in the organization," Mmaster's thesis, University if Tourism and Management Skopje (2013)

Particular hypothesis 1

If medical staff is properly educated, continually attend training, use professional literature, **then** they will increase their professional performance.

Individual hypothesis 1.1

If medical staff is properly educated, **then** they can use their knowledge in the workplace.

Independent variable 1.1 appropriate staff education.

Indicators, Questions for staff regarding the suitability of their education with the work they perform. (Questions no. 1, 2, 3)

Dependent variable 1.1 Utilizing basic knowledge in the work.

Indicators, Questions for employee show do they use knowledge at work, acquired from their formal education. (Question no. 3)

Individual hypothesis 1.2

If medical staff is continuously trained in their profession, **then** they will acquire more knowledge, required to carry out everyday tasks.

Independent variable 1.2 Training the medical staff.

Indicators, Questions for medical staff regarding their continual training. (Questions no. 4, 5, 6)

Dependent variable 1.2 Utilizing basic knowledge at work.

Indicators, Utilizing continuous vocational training in their daily work. (Questions no. 7, 8)

Individual hypothesis 1.3

If employees use professional literature, **then** they will increase their knowledge in the area where they work.

Independent variable 1.3 Using professional literature

**SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE
EFFICIENCY OF ORGANIZATION**

Indicators, Statements of employees how often they use professional literature (Questions no. 9, 10, 11)

Dependent variable 1.3 increasing medical staff knowledge through professional literature.

Indicators Statements of the employees for using professional literature. (Questions no. 9, 10, 11, 12, 13, 14)

Particular hypothesis 2

If the work of medical staff is properly valued, rewarded and recognized by the employer, **then** they will be more satisfied and motivated for the work they perform.

Individual hypothesis 2.1

If the work of medical staff is appropriately valued by the employer, **then** the medical staff will be satisfied and will work with greater enthusiasm.

Independent variable 2.1 appropriate assessment of health workers by their employer.

Indicators, Questions for medical staff regarding evaluation of their work by the employer. (Questions no.15, 16, 17, and 19).

Dependent variable 2.1 Increasing motivation and satisfaction of employees through appropriate valuation of their work by the employer.

Indicators, Statements of employees for proper evaluation of their work by the employer. (Questions no.15, 16, 17, 18, and 19).

Individual hypothesis 2.2

If the health worker's job is appropriately rewarded for investing more effort in his/her daily work, **then** employees will be more satisfied and motivated and will give more effort performing their everyday tasks.

Independent variable 2.2 rewarding the medical staff by the employer for making more effort in performing their work.

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

Indicators, Questions for staff regarding the remuneration for extra effort required in the performance of their daily work. (Questions no. 17, 18, 19)

Dependent variable 2.2 Employees are motivated to work and to invest further in the work.

Indicators, statement of the employees about appropriate remuneration by the employer for their extraordinary effort at work. (Question no. 19)

Particular hypothesis 3

If medical staff work in modern conditions, use modern technology and equipment, **then** they will do their job more effectively, better and faster.

Individual hypothesis 3.1

If medical staffs work in modern conditions, **then** they will perform their tasks more effectively and easily.

Independent variable 3.1 working in modern conditions and premises.

Indicators, Questions for employees about conditions there work. (Questions no. 20, 21, 22, 23).

Dependent variable 3.1 greater effectiveness and efficiency of medical staff in modern conditions and facilities.

Indicators, statement of the employees about performing their work in modern conditions facilities. (Questions no. 22, 23).

Individual hypothesis 3.2

If medical staff use modern technology and equipment in workplace, **then** they will have better work performance, they will shorten the waiting time of their patients for the necessary examination and their health problems treatment.

Independent variable 3.2 Using modern technology and modern medical equipment to perform their daily work.

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

Indicators, Questions for employees how does the use of modern technology and modern medical equipment help employees at work. (Questions no.21, 22, 23)

Dependent variable 3.2 Better job performance of health workers, more confident and quicker analysis results, faster and better diagnosis and treatment of patients' health problems.

Indicators statement of the employees about using advanced technique and modern medical equipment (questions no. 22, 23, and 24).

Particular hypothesis 4

If there is a quality system assessment and quality of work of medical staff, positive reforms, no pressure and blackmail, **then** they will work with higher quality and success, greater pleasure, without stress that could lead to unintended errors in the workplace.

Individual hypothesis 4.1

If there is a quality system assessment of the scope and quality work of medical staff, **then** the medical staff satisfaction will be greater.

Independent variable 4.1 Quality system assessment of the scope and quality of medical staff.

Indicators Questions for medical staff about the quality system assessment. (Questions no. 24, 26, 29, 30)

Dependent variable 4.1 Increasing satisfaction and quality with quality system assessment.

Indicators, statement of the medical staff for the quality evaluation system for their work. (Questions no. 24, 27, 28, 29)

Individual hypothesis 4.2

If medical staffs are not under pressure, blackmailed, **then** they will not have stressful situation or possibly unintended errors at work.

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

Independent variable 4.2 Without pressure and blackmail on the medical staff in performing their daily work.

Indicators, questions for medical staff about whether they face with pressures and blackmail while performing their daily work.

Dependent variable 4.2 Work without pressure and blackmail results in greater satisfaction in performing their duties, absence of stress and unintentional errors.

Indicators statements of employees to perform their work without pressure and blackmail.

(Questions no. 25, 29, 30)

The methodological approach in the research involves theoretical methods application: analytical method, classification, deductive method and empirical methods: descriptive statistical analysis.

The following research techniques have been used: a survey technique, an interview and assessment attitudes technique.

The questionnaire (given as Appendix 1) has covered a total of 103 respondents (managers and full-time health care employees) in Skopje (municipality of Karpos), classified into two groups according the educational structure (university education, secondary education). Both groups (all respondents) answered the same closed questionnaire composed of 30 questions, each one with 5 offered-answers: a) strongly agree; b) mildly agree c) agree; d) slightly agree and d) disagree. The research was conducted in three phases: Preparatory phase, Empirical research - and Results and discussion. In the preparatory phase the following issues were defined: *who* conducts the survey, *how* is the survey conducted (group questionnaire), *which topic(s)* are treated in the questionnaire (assignments knowledge-theoretical and practical level and leadership and employee motivation), *when* the survey is conducted (time of the survey and processing results). The research process determines the selection and application of research methods (questionnaire with check list) and the choice of features (sex, educational background) by calculating the average grade.

4. RESULTS AND DISCUSSION

To prove or dismiss the hypotheses claims quantitative and qualitative analysis of the survey results have been conducted. For better perception results and correlation between the responses, they are grouped in favor of proving each hypothesis individually, according to the variables that contain it. Scoring and calculation will be done so that each statement 1) *Strongly agree* receives 5 points, each statement 2) *Mildly agree* gets 4 points, each statement 3) *Agree* gets 3 points, each answer under 4) *Partially agree* receives 2 points and each statement 5) *I do not agree* gets one point. The maximum number of points that can be collected from one question (assuming all respondents answer with a response 5) will be the number of participants multiplied by 5 and the minimum is 1 (if all respondents answer with 1). The total number of question points which respond to a variable are added and divided by the number of questions. For a clearer understanding of scoring, average score for each variable is divided by the number of respondents that gives an arithmetic average of the examined variable that can range from min. 1 to max. 5. Taking into account the different number of respondents, depending on the questionnaire that was filled out by the arithmetic sum of the two survey questionnaire, it is divided by two. Arithmetic mean greater than 2.5 confirms the variable, while the arithmetic mean less than 2.5 discards.¹⁸¹⁹

Particular hypothesis 1

In order to verify the claims of the particular hypothesis 1 the results of the individual hypotheses indicators 1.1; 1.2 and 1.3 obtained from questionnaire for respondent's assessment attitudes have been analyzed.

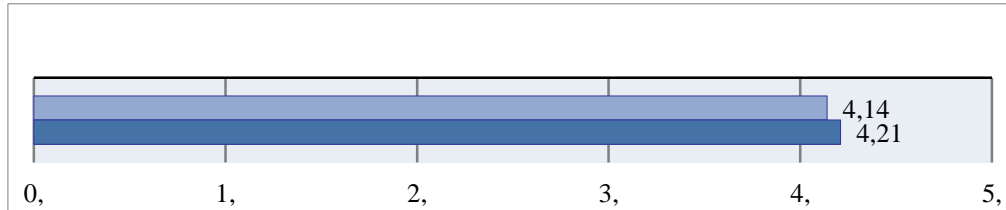
¹⁸ Dragovic, Dr. A. Borota Popovska M., (2010): Methodology of Social Research, Univerzity "St. Cyril and Methodius", Institute for Sociological, Political and Juridical Researches, Skopje Practice for internal use

¹⁹ Zelenika, R. (2000): Methodology and technology of scientific and professional papers, IV ed. Rijeka Faculty of Economics

**SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE
EFFICIENCY OF ORGANIZATION**

Individual hypothesis 1.1. The claims of individual hypothesis 1.1 will be confirmed or refuted by analyzing results of the dependent and independent variables as follows:

Data analysis of indicators covered in individual hypothesis 1.1. have shown that the arithmetic mean of respondent's regarding the independent and dependant variables are 4.21 and 4.14, respectively (Histogram 1).



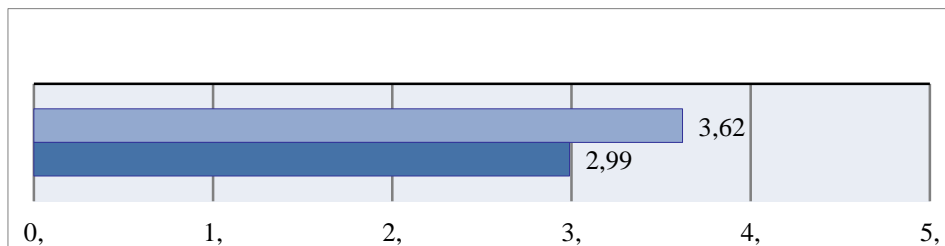
Histogram 1

The results shown in Histogram 1 confirm that the claims of the individual hypothesis 1.1 are substantiate.

Individual hypothesis 1.2.

The claims of individual hypothesis 1.2 will be confirmed or refuted by analysis results of the dependent and independent variable 1.2.

Data analysis of indicators covered in individual hypothesis 1.2. show that the arithmetic mean of respondent's regarding the independent and dependant variables are 3.62 and 2.99, respectively (Histogram 2).



Histogram 2

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

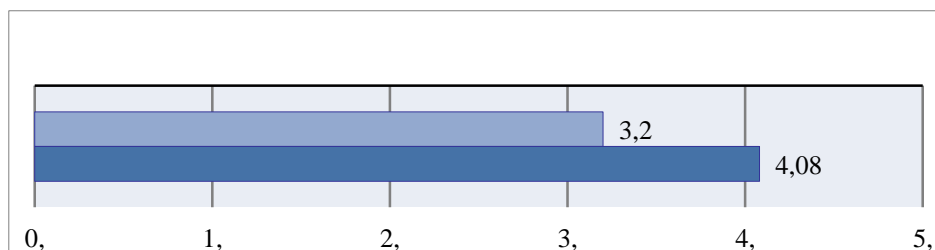
After data analysis indicators of independent and dependent variable and their confirmation, it can be concluded that the claims of the individual hypothesis 1.2 are substantiate.

Individual hypothesis 1.3

The claims of individual hypothesis 1.3 will be confirmed or refuted by analysis results of the dependent and independent variable 1.3.

The claims of individual hypothesis 1.3 will be confirmed or refuted by analysis results of the dependent and independent variable 1.3.

Data analysis of indicators covered in individual hypothesis 1.3. show that the arithmetic mean of respondent's regarding the independent and dependant variables are 3.2 and 4.08, respectively (Histogram 3).



Histogram 3

After data analysis indicators of independent and dependent variable and their confirmation, it can be concluded that the claims of the individual hypothesis 1.3 are substantiate.

Particular hypothesis 2

In order to verify the claims of the particular hypothesis 2 the results of the individual hypotheses indicators 2.1 and 2.2 obtained from the questionnaire for respondents assessment attitudes have been analyzed.

**SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE
EFFICIENCY OF ORGANIZATION**

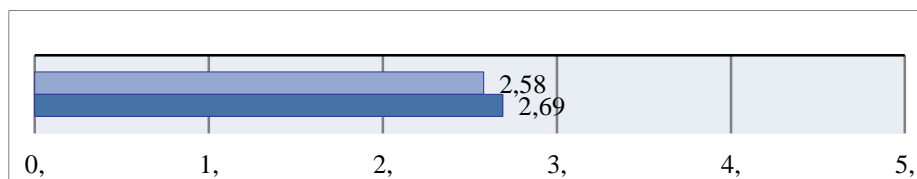
Individual hypothesis 2.1

The claims of individual hypothesis 2.1 will be confirmed or refuted by analysis results of the dependent and independent variable.

The claims of individual hypothesis 21 will be confirmed or refuted by analysis results of the dependent and independent variable 2.1.

The claims of individual hypothesis 2.1 will be confirmed or refuted by analysis results of the dependent and independent variable 2.1.

Data analysis of indicators covered in individual hypothesis 2.1. show that the arithmetic mean of respondent's regarding the independent and dependant variables are 2.58 and 2.69, respectively (Histogram 4).



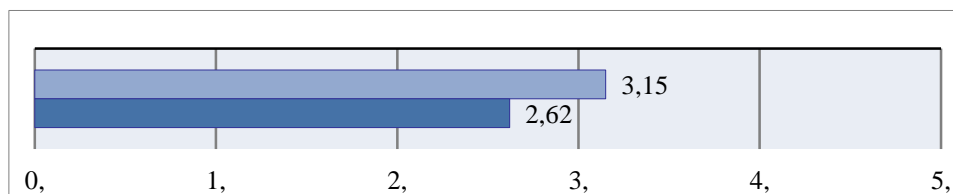
Histogram 4

After data analysis indicators of independent and dependent variable and their confirmation, it can be concluded that the claims of the individual hypothesis 2.1 are substantiate.

Individual hypothesis 2.2

The claims of individual hypothesis 2.2 will be confirmed or refuted by analysis results of the dependent and independent variable 2.2.

Data analysis of indicators covered in individual hypothesis 2.2. show that the arithmetic mean of respondent's regarding the independent and dependant variables are 3.15 and 2.62, respectively (Histogram 5).



Histogram 5

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

After data analysis indicators of independent and dependent variable and their confirmation, it can be concluded that the claims of the individual hypothesis 2.2 are substantiate.

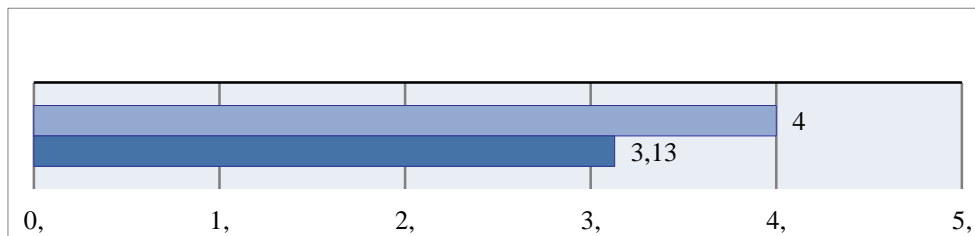
Particular hypothesis 3

In order to verify the claims of the particular hypothesis 3 the results of the individual hypotheses indicators 3.1 and 3.2, obtained from the questionnaire for respondents assessment attitudes have been analyzed.

Individual hypothesis 3.1

The claims of individual hypothesis 3.1 will be confirmed or refuted by analysis results of the dependent and independent variable.

Data analysis of indicators covered in individual hypothesis 3.1. show that the arithmetic mean of respondent's regarding the independent and dependant variables are 4.0 and 3.13, respectively (Histogram 6).



Histogram 6

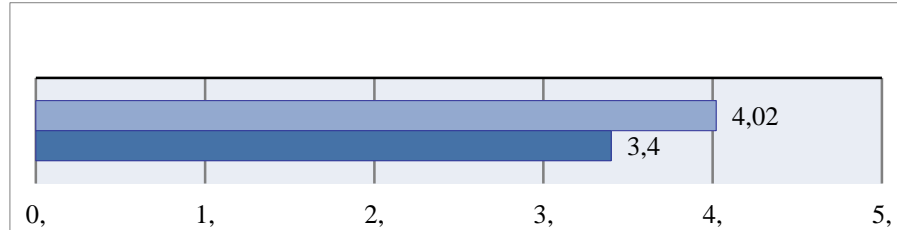
After data analysis indicators of independent and dependent variable and their confirmation, it can be concluded that the claims of the individual hypothesis 3.1 are substantiate.

Individual hypothesis 3.2

The claims of individual hypothesis 3.2 will be confirmed or refuted by analysis results of the dependent and independent variable 3.2.

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

Data analysis of indicators covered in individual hypothesis 3.2. show that the arithmetic mean of respondent's regarding the independent and dependant variables are 4.02 and 3.4, respectively (Histogram 7).



Histogram 7

After data analysis indicators of independent and dependent variable and their confirmation, it can be concluded that the claims of the individual hypothesis 3.2 are substantiate.

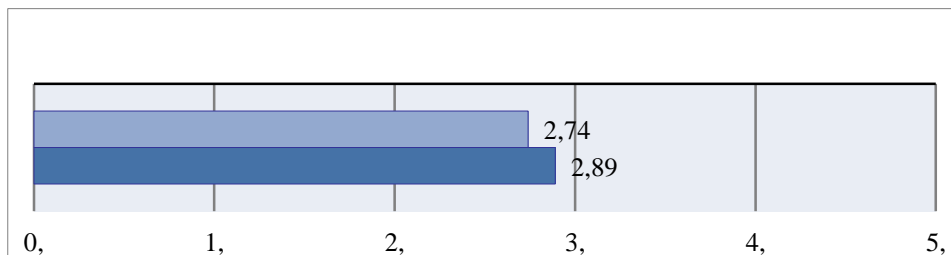
Particular hypothesis 4

In order to verify the claims of the particular hypothesis 4 the results of the individual hypotheses indicators 4.1 and 4.2 obtained from questionnaire for respondents assessment attitudes have been analyzed.

Individual hypothesis 4.1

The claims of individual hypothesis 4.1 will be confirmed or refuted by analysis results of the dependent and independent variable.

Data analysis of indicators covered in individual hypothesis 4.1. show that the arithmetic mean of respondent's regarding the independent and dependant variables are 2.74 and 2.89, respectively (Histogram 8).



Histogram 8

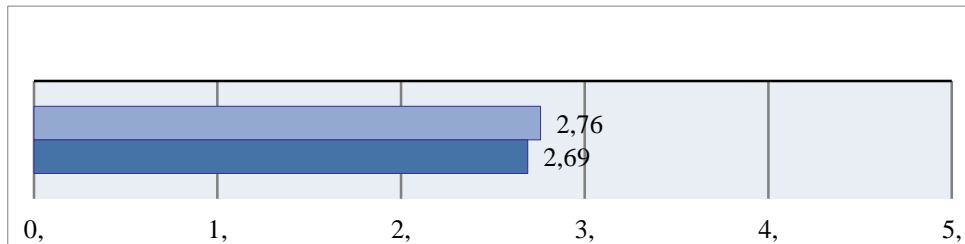
SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

After data analysis indicators of independent and dependent variable and their confirmation, it can be concluded that the claims of the individual hypothesis 4.1 are substantiate.

Individual hypothesis 4.2

The claims of individual hypothesis 4.2 will be confirmed or refuted by analysis results of the dependent and independent variable 4.2.

Data analysis of indicators covered in individual hypothesis 4.2. show that the arithmetic mean of respondent's regarding the independent and dependant variables are 2.76 and 2.69, respectively (Histogram 9).



Histogram 9

After data analysis indicators of independent and dependent variable and their confirmation, it can be concluded that the claims of the individual hypothesis 4.2 are substantiate.

From the quantification of the independent and dependant variables in all four specific hypotheses it can be clearly seen that claims are substantiated. Automatically it can be concluded that the general hypothesis: **If a quality system assessment of the health workers is applied in health organization, then the dissatisfaction of employees, because of equal payment for different jobs, will be eliminated and this will increase the motivation and quality of work** is fully substantiate.

5. CONCLUSION

Management performance system is based on achieving agreed objectives and demonstrating competence framework. Work achievement evaluation should be normally completed every 12 months. If the company, institution, agency, etc. possess good employee performance, success and competitive advantage in the market are inevitable.

However, we are often faced with poor performance or we should manage performance that need to be changed and improved. In some cases, despite training and development, performance of the individual may remain weak and unacceptable. In these circumstances we need to start the process of individual performance improving. The goal of improvement process is to help employees improving performance at early stage for several reasons; for individual, team and the institution benefit. Experienced managers take a series of measures and actions at an early stage, when employee does not show enough good results in the workplace. The manager is required to provide additional support to improve performance through coaching, counselling, mentoring, etc. Most often the employee improved results are recognized in a period of 6 months.

Managing poor performance is a separate evaluation procedure and process than evaluation working achievements process, which allow timely and quick action. Weak performance is usually the result of competencies and skills that influence the way things are done or how people behave. Dealing with improving performance issues is very difficult.

Honest communication through horizontal, vertical and diagonal line is essential for improving performance. Support should be available to the manager and employees by supervisors, human resource department and the company or institution management.

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

APPENDIX 1

QUESTIONNAIRE

Date of survey Job position Vocational preparation Organizational unit

Nr.	Questions	Assessment Level				
		Disagree	Mildly agree	Agree	Considerably agree	Completely agree
I	<i>Knowledge task: theoretical and practical level</i>	1	2	3	4	5
1	Does your education correspond to your working tasks?					
2	Does theoretical knowledge of formal education help you in daily work?					
3	Did you perform practical work during formal education that helps you in everyday work?					
4	Does the company arrange professional training?					
5	Do you independently attend some training to improve your skills and competencies?					
6	Do you participate in professional lectures, professional workshops, seminars, congresses and so on?					
7	Do you apply knowledge that you have gained on training, in your work?					
8	Do you apply knowledge, acquired from participation of professional lectures, professional workshops, seminars, congresses, etc. in your daily work?					
9	Do you use professional literature?					
10	Does using professional literature help you to increase your knowledge?					
11	What is your opinion: Can medical staff gain additional knowledge for easier and better work performance using a professional literature?					

**SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE
EFFICIENCY OF ORGANIZATION**

12	Do you buy foreign professional literature?					
13	Do you use foreign professional literature?					
14	Does the company supply you with brochures and other professional materials?					
II	<i>Leadership: employee motivation</i>					
15	Does the employer properly evaluate your work?					
16	Does the system of performance assessment offer motivation in performing everyday tasks at work?					
17	What is the work environment and organizational climate in the company?					
18	Are you rewarded by your employer for making more effort, than it is determined in carrying out your work?					
19	Does rewarding for extraordinary effort affect your motivation in carrying out your duties?					
20	Do you work in modern and contemporary facilities?					
21	Are you satisfied with the contemporary and modern facilities where you work?					
22	Does modern technology and medical equipment contribute to better results in your work?					
23	Will the quality of your work depend on what kind of modern medical equipment and technique you work?					
24	Do you think the quality system of work performance assessment contributes to satisfaction and quality that you do the job?					
25	Do you have pressures and blackmail while you perform your daily work?					
26	Are extra responsibilities properly valued?					

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

27	Do you have opportunities for advancing career that is financially valued?					
28	Does the compensation meet average needs of your family?					
29	Do you think the system of employee performance assessment should be adjusted?					
30	Do performance assessment criteria evaluate the real financial effort in the company?					

REFERENCES

1. Ahmad F, Hudak PL., Bercovitz K, Hollenberg E, Levinson, W., "Are Physicians Ready for Patients With Internet-Based Health Information?", *J. Med. Internet Res.* 8 (3): e22. doi:10.2196/jmir.8.3.e22. PMC 2018833 PMID 17032638, 2006
2. Atwater, L. and Waldman, D., *Leadership, feedback and the open communication gap*. Arizona State University, 2008
3. Action plan for a European e-Health Area, Commission of the EU, Brussels, 2004
4. B Net – Interactive Business Network (www.findarticles.com), *Effective organizational communication: a competitive advantage*, 2010
5. Burchfield Katherine, Health Insurance Fund Governance Reform Component, Macedonian Health Sector Reform Project – Health Sector and Social Protection Project, JPN 26814- MK, Draft version report 1.1., Skopje, March 2004
6. Bogicevic, Milikic, B., *Management of Human resources*, 3 edition, Faculty of Economics, Belgrade, 2006
7. Crocco AG, Villasis-Keever, M., Jadad, AR., "Analysis of cases of harm associated with use of health information on the internet," *JAMA* 287 (21): 2869-71. doi: 10.1001 / jama.287.21.2869. PMID 12038937, June 2002
8. Dzordzevic Boljanovic, J., Pavic, NW, *Fundamentals of Human Resource Management*, First Edition, University Singidunum, Belgrade 2011
9. Dressler, Gary: *Human Resource Management*, 10th edition, Prentice Hall, Upper Saddle River, New Jersey, 2008
10. Dragovic, Dr. A., Borota Popovska, M., (2010): *Methodology of Social Research*, Univerzity "St. Cyril and Methodius", Institute for Sociological, Political and Juridical Researches, Skopje Practice for internal use
11. Guffey, Mary Ellen, Rhodes Kathy, Rogin Patricia, *Business communication: Process and product*. Canada: Nelson education, 2010
12. *Health Information A National Strategy*, Published by the Ministry of Health and Children, Dublin, Ireland, 2005
13. Hallin, A. and T. Karrbom Gustavsson, "Digging Wider and Deeper". Revealing the hegemony and symbolic power of 'project' studies and practice". In the *International Journal of Project Organization and Management* 2(1): 1-15. (2010)
14. *ICT Strategy Application in Healthcare*; Published by the Ministry of Health of the Republic of Montenegro, Podgorica, Montenegro, 2005
15. Jacobson, P., "Empowering the physician-patient relationship: The effect of the Internet." *Partnership: the Canadian Journal of Library and Information Practice and Research*, 2(1). ISSN 1911-9593, 2007

SYSTEM OF EMPLOYEE PERFORMANCE ASSESSMENT, FACTOR FOR SUSTAINABLE EFFICIENCY OF ORGANIZATION

16. Kukić, S., stamps, B. (2006): Methodology of Social Sciences, Faculty of Economics, University of Mostar
17. Lorenzo, S. Sierra's theory of communicatively: calculating the value of organizational communication through cost effort and perception, 28.10.2010
18. Miljevic, IM (2007): Methodology of Scientific Research Script, University of East Sarajevo, Faculty of Philosophy
19. Milosavljevic, S. Radosavljevic, I., (2003): Fundamentals of political science methodology, Official Gazette, Belgrade
20. National Health Information Management and Information & Communications Technology Strategy; Final Report Published by the Boston Consulting Group, Sydney, Australia, 2004
21. Project operational - Health Sector Management Project (IBRD Loan No. 4733-MK), Skopje, 2004
22. Project Training program for capacity building, human resource management, OSCE & Macedonian Centre for International Cooperation, 2008
23. Shaw Charles, Recommendations on the regulation and organization of quality and safety in health care, Macedonian Health Sector Reform Project - Improving Quality of Health Care, JPN 26814-MK, Final report, Skopje, March 2004
24. [Schuttler](#), R., [Burdick](#), J., Laws of communication: The intersection where leadership meets employee performance. USA: John Wiley and Sons. 2010
25. Jones, G. и George, J., Modern Management, Global Communications, Government of Macedonia Project - Translation of 1000 titles, Skopje, 2009
26. Torrington, D., Hall, E.L., Taylor, S.: Human Resource Management, 7th Edition, Prentice Hall, London 2008
27. Thim R & C, Health Information System Component, Macedonian Health Sector Reform Project Health Sector and Social Protection Project, JPN 26814-MK, Final Report - Summary Technical Report, Skopje, March 2004
28. Todorovic, Z., Šijaković, I. Matic, T. (2007): Guidelines for the development of technical and scientific papers, University of Banja Luka, Banja Luka
29. Qoku, Ma. N. The quality system assessment of health professionals as a determinant of successful work in the organization, Master's Thesis 2013
30. World Health Organization Family of International Classifications: Definition, scope and purpose Revised, August 2004
31. Zelenika, R., (2000): Methodology and technology of scientific and professional papers, IV ed. Rijeka Faculty of Economics

INTERNET WEB SITES

1. <http://journal.lib.uoquelp.ca/index.php/perj/article/view/244/374>
2. <http://jama.ama-assn.org/cgi/content/full/287/21/2869>
3. www.ncbi.nlm.nih.gov/pmc/articles/PMC2018833
4. www.managerassistant.com/employee_assessment.htm
5. www.csglobal.com.mk
6. http://www.ehow.com/how_5023348_evaluate-employee-performance-easy-steps
7. <http://www.allbusiness.com/human-resources/workforce-management/575014-1.html>

UDC: 330.35:339.5]:303.724

THE IMPACT OF FOREIGN TRADE ON ECONOMIC GROWTH

Iskra STANCHEVA-GIGOV, PhD¹

ABSTRACT

The question of the existence and nature of the relationship between foreign trade and economic growth is the subject of much interest and debate. But, neither existing theoretical models nor empirical analysis do not provide a definitive answer to that question. Therefore this paper examined two main issues: first, whether there is any link between trade openness and economic growth for a particular group of countries, and, secondly, what is the nature of the relationship.

Given the availability of data in order to assess the impact of foreign trade on economic growth in this paper it is used a model of panel regression analysis.

The results arising from the research indicate that trade openness influences and increases the likelihood of economic growth, although with a moderate overall effect. This paper has verified the fact that economic openness is one of the key determinants of economic growth, in conjunction with human capital, the foreign direct investment rate and government consumption.

KEYWORDS: foreign trade, trade openness, economic growth, regression analysis.

JEL CLASSIFICATION: F14, F19, C01, C33

¹ Assistant professor at Institute of Economics-Skopje, University Ss Cyril and Methodious-Skopje, e-mail: iskra@ek-inst.ukim.edu.mk

1. INTRODUCTION

In contemporary conditions all countries are included in the foreign trade with the rest of the world. The importance of foreign trade can't be ignored because it contributes to numerous benefits and comprehensive development of each national economy. Namely, over decades despite the trend of increasing international trade, it can be observed a tendency of increased economic growth in the world. It leads to the conclusion that economic growth and foreign trade are positively correlated.²

But despite of numerous confirmations about positive relationship between these two categories it must be noted that existing theoretical knowledge (that mainly refers to the theories of international trade and theories of economic growth) do not give a definite answer to question of the existence and nature of the relationship between foreign trade or trade openness and economic growth. Given the fact that the theory of foreign trade and the theory of economic growth (Harrod-Domar Model, Robert Solow growth model, and Models in Endogenous Growth such as - AK growth model, The Romer Model of Growth and Lucas Growth Model) did not provide definitive determination of the impact of trade on growth, an extensive empirical literature trying to determine the relationship was done. Over the past four decades, economists have created a large amount of statistical evidence on the relationship between foreign trade and economic growth. They estimate the coefficients of correlation, coefficients of regression, cointegration test, and perform various other statistical tests to confirm or deny the existence of the relationship between foreign trade and economic growth. The empirical evidence also does not clearly establish whether the foreign trade leads to economic growth or whether it merely follows economic growth.

No definitive answer to that question was great encouragement to conduct further analyzes. Therefore, such an analysis is conducted in this paper.

2. LITERATURE REVIEW

There are comprehensive empirical studies about the impact of trade on economic growth. With the development of econometrics, however, many complicated

² World Bank, World Bank Indicators, and International Monetary Fund, World Economic Outlook

methods based on a mathematical model were introduced to analyze the interactive impact between trade and economic growth.

Typical of the early studies were Michaely and Balassa.³ Michaely used simple correlation analysis to test whether the average rate of economic growth was positively related to the change in the ratio of international trade to GDP. He found a strong positive correlation and concluded that the protectionist import substitution policies applied in many developing countries were ill advised. Balassa applied simple regression analysis to a sample of 10 countries between 1956 and 1974 and found that trade export volume were positively related to a country's rate of economic growth⁴. Dollar argued that outward-oriented developing economies achieve indeed much more rapid growth than inward-oriented developing ones.⁵ The seminal empirical studies of Sachs and Warner⁶ and Frankel and Romer⁷ provide support for the growth enhancing effect of international trade. Sachs and Warner found that the growth rate of the economies with free trade regimes is higher than the closed economies. In the same way, Frankel and Romer show that trade openness generated higher income levels in a cross section of 63 countries in the year 1985. They found a model that distinguishes three channels through which it is assumed that trade affects real income. Coe and Helpman⁸ studied the international R&D diffusion among 21 OECD countries and Israel over the period of 1971-1990, and found that international trade is an important channel of transferring technology and that a country's productivity is not only dependent on its own R&D stock but also on the R&D stock of its trade partner.

³ Michaely Michael, "Exports and Growth." *Journal of Development Economics* 4, March 1977, 49-53 and Balassa B., "Exports and Economic Growth: Further Evidence," *Journal of Development Economics*, Vol. 5, 1978, 181-189.

⁴ Hendrik Van den Berg and Joshua J. Lewer, *International Trade and Economic Growth*, M.E. Sharp, 2007

⁵ Dollar D., *Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs, 1976-85*, *Economic Development and Cultural Change*, 1992

⁶ Sachs J., Warner A. *Economic Reform and the Process of Global Integration*, *Brookings Paper on Economic Activity* No.1, 524, 1995

⁷ Frankel A., Romer D., *Does Trade Cause Growth?*. Harvard University, 1999

⁸ Coe, D. and Helpman, E. 'International R&D Spillovers', *European Economic Review*, 1995

Arguably the most ambitious attempt to model the channels through which international trade influences economic growth is Wacziarg.⁹ He constructed an openness index for a large sample of countries, which he then used to test six potential channels through which international trade could affect economic growth. According to Wacziarg's results, trade openness has a positive impact on economic growth: openness to trade encourages national governments to implement virtuous macroeconomic policies within the framework of international trade agreements.

It should be noted that there is some criticism regarding the empirical methodology and the robustness of some aforementioned studies¹⁰. For instance, Rodriguez and Rodrik argue that the growth benefits of trade openness should be reconsidered using different empirical methodology.¹¹ They outline that a potential two-way causality between trade and growth and the omission of relevant control variables (of high correlation with trade openness) might also generate biased results. Rodriguez and Rodrik also draw attention to the accuracy of openness indicators. In fact, these studies use "trade volume", which could be potentially correlated with economic institutions and geographic characteristics. In their empirical study, they estimate the impact of institutions, geography and trade on income in a set of 140 countries, in 1995. After controlling for the quality of institutions, the results reveal no significant effect of trade on growth. Besides these, there are many other recent studies that confirm the positive impact of trade on economic growth¹².

However, despite the wealth of literature that supports the view that trade enhances economic growth, there are studies that argue that the increase in openness can prevent economic growth¹³.

⁹ Wacziarg R., Measuring the Dynamic Gains from Trade, World Bank Economic Review, Vol. 15(3), 2001

¹⁰ See more: Sachs and Warner, 1995; and Frankel and Romer, 1999

¹¹ Rodriguez Francisco, Rodrik Dani, "Trade Policy and Economic Growth a Skeptics Guide to the Cross-National Evidence", University of Maryland and Harvard University, May 2000

¹² See more: Chen, 2009; Gonzales Rivas, 2007; Yücel (2009) etc.

¹³ See more: Rodriguez and Rodrik, 2000; Clemens and Williamson, 2002, and Vamvakidis, 2002

From the above mentioned it can be concluded that the numerous consistent statistical results have not yet definitively answered the question what is the impact of foreign trade on economic growth.

3. PANEL REGRESSION ANALYSIS OF THE IMPACT OF FOREIGN TRADE ON ECONOMIC GROWTH

3.1. Variables used in the panel regression analysis

Following Barro's pivotal research¹⁴, a significant number of variables in strong correlation with the economic growth rate have been identified in the modern empirical literature on this subject.

The basic approach comprises evaluation of panel regressions in the following form:¹⁵

$$y_{i,t} = a + \beta_1 * X_1 + \beta_2 * X_2 + \dots + \beta_n * X_n + \varepsilon_{i,t} \quad (5)$$

where y is the vector of the real economic growth rates and X_1, \dots, X_n are vectors of the predictor (independent) variables, which are used differently by different researchers and research papers, β_i marks the inclination of the vector coefficients of the explanatory variables and $\varepsilon_{i,t}$ is a random error. For instance, Sala-I-Martin, Doppelhofer and Miller¹⁶ conclude that the following variables are in very strong correlation with the economic growth: initial level of GDP per capita, investment rate (gross investments expressed as a percentage of GDP), a number of measures for the scope and quality of the population's education, certain political indicators etc.

Taking into consideration the theoretical body of knowledge and the most frequently cited independent variables when analyzing foreign trade influence on the

¹⁴ Barro Robert, Determinants of economic growth: a cross-country empirical study, NBER WORKING PAPER SERIES, Cambridge, MA 02138, August 1996

¹⁵ Recently, numerous authors have been using panel techniques to evaluate the same type of regressions. See e.g. Islam (1995), Caselli, Esquivel and Laffort (1996) or Barro and Sala-I-Martin (1995), as cited in Sala-I-Martin X., Doppelhofer G., and Miller R. I., Determinants of Long-Term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach, NBER Working Paper Series, June 2000, p.2.

¹⁶ Sala-I-Martin X., Doppelhofer G., Miller R. I., Determinants of Long-Term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach, NBER Working Paper Series, June 2000

economic growth in the empirical literature (with particular emphasis on the works of Levine and Renelt, Sala-i-Martin and Wacziarg, as well as the data available¹⁷, the ensuing six basic predictor variables have been selected for the purposes of the econometric calculations in this paper:

- Initial GDP per capita
- The number of years spent in education by the population of over 25 years of age
- Natural population growth
- The level of trade openness
- The level of public expenditure
- The inflow of foreign direct investment

At this point it is necessary to briefly justify the choice of variables from a theoretical perspective, to show the relationship between the determinants used and the economic growth rates, as well as the expected value representative of this relationship.

The initial level of GDP per capita (gdppc) tests the hypothesis for the (conditional) Beta (β) convergence. The theory of the conditional Beta-convergence predicts that poor economies grow faster than rich economies, enabling them to gain on the developed economies' performance in the long run. Sala-i-Martin (1996) introduced the concept of "Beta-convergence" to portray the situation in which countries approach their own steady state. Otherwise, Beta-convergence directs to the fact that due to decreasing capital inflow, economies grow faster when they are far below their steady state. In the neoclassical model of growth the growth rate of GDP per capita is in inverse proportion to the initial level of income, a fact confirmed by a great deal of studies (e.g. Baddeley¹⁸ and Dawson and Sen¹⁹). Considering the

¹⁷ See in more detail: Van den Berg H. and Lewew J. J., *International Trade and Economic Growth*, M.E. Sharp, 2007, p. 57-64

¹⁸ Baddeley, M., *Convergence or divergence? The impacts of globalisation on growth and inequality in less-developed countries*, *International Review of Applied Economics*, 20(3): 391–410, 2006.

¹⁹ Dawson, J.W. and Sen, A., *New evidence on the convergence of international income from a group of 29 countries*, *Empirical Economics*, 33(2): 199–230, 2007.

theoretical pointers and the strong empirical findings, this variable's expected coefficient value is negative.

Education levels of the adult population (edu-education or average number of years spent in education) is a variable which determines the human capital of a country. It is important hereto to emphasize that the former is far from being a perfect measure of a country's human capital, however, in view of the lack of alternative education indicators, this particular measure is useful when performing growth regressions. "The indicator reveals changes neither in the quality of education nor in the capacity of the educational system to address the specific skills required of the workforce. We have adopted the Barro-Lee (2011) International Data Set on Educational Attainment in the Adult Population (over 25 years of age)²⁰. Additional limitation on the average-number-of-years-in-education measure is the fact that it is regarded as unrealistic that an extra year in education adds the same quantum of human capital, regardless of whether it is a matter of a student in primary or university level education. Notwithstanding, the value is forecast to be positive, since human capital development and reinforcement is expected to produce effects that will bring about a more rapid economic growth."²¹

The relationship between **population growth (popgr)** and economic growth continues to stir up controversy among the economists who address questions related to economic growth and development. Those with a pessimist view on population growth claim that the latter impedes development, inasmuch as a larger population requires additional capital output per worker and entails considerable public expenditures for the upkeep of future generations.

The major neoclassical models of growth predict that population growth has the same effect as amortization: The increased workforce supply decreases the capital per worker. According to this model category, given that the remainder of the conditions

²⁰ Barro, Robert and Jong-Wha Lee, "[A New Data Set of Educational Attainment in the World, 1950-2010.](#)" *Journal of Development Economics*, vol 104, pp.184-198, <http://www.barrolee.com/data/dataexp.htm>

²¹ Stojkov Aleksandar, *Current Account Deficit and Economic Growth, Evidence from the South Eastern European Economies*, Iustinianus Primus Faculty of Law, Skopje, 2009, p. 184

stays unchanged, the steady state of production level will rise if the population growth rate decelerates. On the other hand, the camp holding an optimistic viewpoint on population growth assume that it improves long-term productivity by engendering new ideas, as well as by learning and doing practical work, made possible by the heightened production volume. Particularly, the literature on endogenous growth stresses that generation of new ideas together with population growth are powerful catalysts for economic growth. On the grounds that growth theorists are divided on the issue of the multiple roles demographics play in economic growth, it is anticipated that the coefficient value of this variable could go in both directions (+/-)."²²

Trade openness (to) refers to the degree to which countries engage in trade with other countries or economies. Both developed and developing economies are becoming more and more dependent on international trade, making trade openness the major determinant of growth in the literature on economic growth.²³ International trade and capital mobility have an essential role in the determination of a country's economic growth, represented by productivity levels and GDP. The openness of the global economy leads to industrialization, creating new jobs, GDP growth and possibly also domestic economic growth. The explanation for this is that trade increases the pressure imposed by international competition, which in turn impacts the economy's productivity. Through exporting activities, a country could face higher demands for its goods and services, thus increasing production levels. Similarly, importing goods and services from abroad is said to improve the efficiency and productivity of domestic companies, which again leads to economic growth. Taking into account that developing countries might lack the know-how and technology to efficiently and effectively make use of their resources, international trade and foreign investment could serve as a substitute for the former, exposing these economies to new technologies and intellectual capital, which will as a result bring about economic growth.

²² Ibid. p. 185

²³ Petrakos, G., Arvanitidis, P. & Pavleas, S, Determinants of Economic Growth: The Experts' View, 2007

With regards to the trade openness index²⁴, we have utilized the “trade-to-GDP-ratio”, which is the sum of imports and exports of goods and services in relation to GDP, as a preferred measure of the level of trade openness. The theoretical models of Grossman and Helpman (1991), Rivera-Batiz and Romer (1991) and the bulk of Edwards’ empirical literature (1998), Frankel and Romer (1999), Wacziarg (2001), Greenaway et al. (2002), Foster (2008) and Wacziarg and Welch (2008) predict positive correlation.²⁵ On the other hand, certain articles, such as Gabriel (2006) and Slaughter (1998))²⁶ dispute the idea that foreign trade promotes growth. Therefore, in this case the value of the relationship between trade openness and growth is also expected to be ambivalent.

Government consumption (govcons) is yet another predictor variable used in the panel regression analysis. Levine and Zervos (1993)²⁷ have undertaken to measure the government’s involvement in economic activity by way of using the government-spending-to-GDP-ratio. Their findings show a statistically insignificant though negative correlation between government consumption in relation to GDP and economic growth. In the same manner, Barro (1996), Fischer (1993), Levine and Renelt (1992), De Gregorio (1993) and Easterly and Rebelo (1993)²⁸ in their research have found a significant negative impact on growth of government consumption relative to GDP. This specific measure of government consumption is intended to disclose expenditures which do not directly boost productivity. It follows henceforth, that a higher volume of unproductive government consumption and related taxation reduce

²⁴ According to Frankel and Romer (1999), Irvin and Terviö (2002), Dollar and Kraay (2003) and Dowrick and Golley (2004) et al. See in more detail: Huang Lian-Chou and Chang Shu-Hwa, Trade and Economic Growth: Does the Financial System Matter?, p. 8

²⁵ Stojkov A., Zalduendo J., Europe as a Convergence Engine Heterogeneity and Investment Opportunities in Emerging Europe, Policy Research Working Paper 5837, The World Bank Europe and Central Asia Region Office of the Chief Economist, October 2011, p. 9

²⁶ Chan Wan Hak Donna, Do Foreign Investment and Trade Openness Accelerate Economic Growth?, April, 2011, p. 4-5

²⁷ Levine, R. and S. Zervos., Looking at Facts: What We know about Policy and Growth from Cross-Country Analysis. *World Bank Policy Research Papers*, WPS 1115, 1993.

²⁸ Mariotti Martine, An Examination of the Impact of Economic Policy on Long-run Economic Growth: An Application of a VECM Structure to a Middle-Income Context, University of the Witwatersrand, 2001, p. 5

the growth rate for a given initial level of GDP. In this sense, the big government (heavy government consumption) has the effect of hindering economic growth. Subsequently, the government-spending-to-GDP-ratio is an indicator of the size of the government and it is evident from here that the relationship between the government size and the growth would be negative.

Foreign direct investment (hereafter referred to as FDI) serve as both a direct capital financing method and as a way to bring about positive externalities. FDI is a medium of technology transfer, which contributes towards long-term growth, with high probability, much more so than domestic investments. Technology diffusion is possible through import of high-tech products, as well as acquiring human capital. FDI includes financial, technological, managerial and intellectual capital, which all together comprise the resources for production of goods and services. In fact, FDI is considered to be an additional channel enabling domestic economies accelerated growth.

FDI per capita, FDI as a percentage of GDP, FDI inflows and FDI net inflows are frequently used as indicators of the foreign capital inflow in a country. In this paper, we have employed the FDI-as-a-percentage-of-GDP indicator, with that the value of the FDI-to-GDP-growth-per-capita-ratio could be ambivalent (+/-). Namely, opinions on FDI's contribution to economic growth are divided in the empirical literature. Some authors (Bloomstrom (1994), Khawar (2005), Alfaro (2007), Dimelis and Papaioannou (2010)) maintain that FDI encourages economic growth, while others (Tsai (1994), Carkovic and Levine (2002), Mencinger (2003), Durham (2004)) assert that there is no positive effect of FDI on the economic growth rate.²⁹

In conjunction with the afore-mentioned, it is necessary to mention that Rodriguez and Rodrick (2000)³⁰ state that the frequent emergence of significant relations between trade and growth could be due to the close correlation of international trade with other key variables that determine economic growth.³¹ If only

²⁹ Op. cit. Chan Wan Hak Donna, Do Foreign Investment and Trade Openness Accelerate Economic Growth?, ... , p. 4-8

³⁰ Op. cit. Van den Berg H. and Lewer J. J., International Trade and Economic Growth, ... , p. 57

³¹ Studies of the "Four Asian Tigers" point to education, stable macroeconomic policies, rule of law and lack of social conflict as some of the major factors in their rapid growth.

the variable *trade* is added to the basic options of the growth regression but the other explanatory variables are left out, then some of the improvements in the overall factor productivity, which are in fact due to the omitted variables, will be mistakenly added to the category trade through the standard statistical estimation methods. If, for example, trade volume is increasing and institutions in the country are improving and building a more favorable approach towards business and economic growth during the same period of the analysis, but at the same time the institution variables are not included in the regression, then the variable *trade* is going to have an unjustified higher statistical significance in the explanation of economic growth.

With that in mind, to further reinforce the empirical analysis and the results obtained, a few additional variables have been included, which have been proven to have valuable input into these types of analyses in certain recent research.

Apart from enhancing education and promoting foreign direct investment inflows, countries (specifically poor ones) can also boost their economic growth rate by reducing corruption, improving the quality of state institutions, maintaining macroeconomic stability, ensuring efficient operation of the government, the legislation, the constitution etc. Some of these will be included in the analysis that follows.

3.2. Methodology and Data

The data used in this analysis have been taken from the World Development Indicators, published by the World Bank and refer to 84 countries for the period between 1972 and 2011, whereas for the transitional economies the relevant period is between 1994 and 2011. Table 1 in the appendix shows the countries incorporated in the sample.

The panel regression analysis models are suitable for examination of the influence of trade openness on economic growth. The static panel models are usually estimated by using techniques of fixed effects or random effects. The models with fixed effects control or mitigate the effects of the time invariant variables by introducing time invariant effects. In the models with random effects, the intercept is treated as a result

THE IMPACT OF FOREIGN TRADE ON ECONOMIC GROWTH

of the random variation from an arithmetic mean of intercepts. The intercept is exacted from a given distribution for each unit and is independent from the random error of a specific observation. In this case, the Hausman specification test has demonstrated that it is more appropriate to use the panel model with random effects.

The panel model with fixed effects is in the following form:

$$y_{i,t} = a_i + x_{i,t}\beta + e_{i,t} \quad (6)$$

While the panel model with random effects looks like this:

$$y_{i,t} = \mu + a_i + x_{i,t}\beta + e_{i,t} \quad (7)$$

To empirically assess whether foreign trade contributes to the discrepancies in the economic growth worldwide, in compliance with the elaborated analytical framework, the basic equation of economic growth is formulated in the following way:

$$gr_{i,t} = \alpha_1 + \alpha_2 gr_{i,t-1} + \beta_1 \ln(gdppc_{i,t}) + \beta_2 edu_{i,t} + \beta_3 popgr_{i,t} + \beta_4 to_{i,t} + \beta_5 govcons_{i,t} + \beta_6 invy_{i,t} + \beta_7 bureau_{i,t} + \beta_8 corrupt_{i,t} + \beta_9 reer_{i,t} + \beta_{10} polity2_{i,t} + \varepsilon_{i,t} \quad (8)$$

Where i indicates the countries included in the analysis ($i=1, \dots, 84$), whose data are available throughout the period of the analysis, t denotes the time period (1972-2011), or more specifically the years included in the analysis, $gr_{i,t}$ is the average rate of real GDP per capita, $gr_{i,t-1}$ is the growth rate of real GDP per capita from the previous year,³² a_1 is the common intercept, a_2 is a coefficient of the previous values of the dependent variable, β_j marks the inclination of the vector coefficients of the explanatory variables (Table 1), whereas $\varepsilon_{i,t}$ is a random error, which is individually and equally distributed over the time and the units.

Table 1. Symbols, description and expected value of the explanatory variables

<i>Symbol</i>	<i>Description of the explanatory variables</i>	<i>Expected value*</i>
$\ln gdppc_{i,t}$	Logarithm of the initial level of real GDP per capita in 1972 USA \$**	-
$edu_{i,t}$	Education of the population over 25 years of age (average number of years spent in education)	+
$popgr_{i,t}$	Annual growth rate of the population in the country	+ / -
$to_{i,t}$	Trade openness (export+import as a percentage of GDP)	+ / -
$govcons_{i,t}$	Government consumption (as a percentage of GDP)	-
$invy_{i,t}$	Foreign direct investment (as a percentage of GDP)	+ / -
$bureau_{i,t}$	Bureaucracy quality	+
$corrupt_{i,t}$	Corruption	-

³² The inclusion of the growth rate of real GDP per capita from the previous year is justified by the slow change in or rather the persistent conduct of the growth rate. Namely, it has been confirmed that as with a great deal of other phenomena, the economic growth continues to move in a state of inertia here as well in a relatively stable ambience, i.e. in the greater part it emulates growth from previous years.

THE IMPACT OF FOREIGN TRADE ON ECONOMIC GROWTH

<i>reer_{i,t}</i>	Real effective exchange rate	-
<i>polity2_{i,t}</i>	Constitution	+

Note:

* "+" denotes a positive relationship, "-" a negative one and zero indicates a theoretically ambivalent relationship with a dependent variable.

** A logarithm of the value is calculated at this point to level off the large differences of the GDP growth rates per capita among the countries analyzed.

The previously outlined regression equation is estimated by using the STATA 11.0 statistical software.

3.3. Results from the panel regression analysis

The results from the regression analysis are shown in Table 2. It consists of five regressions (given in five columns) outlining the estimated coefficients of the appropriate independent variables and their levels of statistical significance assessed by the t-values (given in the parentheses in each of the columns). The first column portrays the estimated coefficients for all basic explanatory variables.

Generally, the coefficient of determination denoted by the value R^2 indicates that around 78.0% of the variations of the dependent variable could be accounted for by the variations of all independent variables included in the model, which points to the relative success of the model in explaining economic growth. The findings are statistically significant to a large degree and the coefficient values are consistent with economic theory.

Table 2. The influence of foreign trade on average GDP growth

<i>Independent variables</i>	<i>Regression</i>				
	The dependent variable is the average growth rate of real GDP per capita				
	[1]	[2]	[3]	[4]	[5]
Natural logarithm of initial GDP per capita	-0.271 [1.23]	-0.315 [1.45]	-0.221 [0.98]	-0.230 [1.05]	-0.257 [1.15]
Education of the population aged over 25	0.186 [2.51] **	0.192 [2.57] **	0.181 [2.45] **	0.151 [2.66] ***	0.121 [2.02] **
Population growth rate	-0.174 [1.05]	-0.178 [1.08]	-0.170 [1.02]	-0.290 [1.81] *	-0.295 [1.73] *
Trade openness	0.006 [2.75] ***			0.005 [2.38] **	0.004 [2.28] **
Government consumption	- [3.10] ***	-0.075 [3.06] ***	- [3.14] ***	-0.071 [2.99] ***	
Foreign direct investment (FDI)	0.069 [3.09] ***	0.070 [3.24] ***	0.068 [2.96] ***	0.081 [3.55] ***	0.077 [3.21] ***

THE IMPACT OF FOREIGN TRADE ON ECONOMIC GROWTH

Quality of bureaucracy	0.273 [1.56]	0.272 [1.55]	0.276 [1.57]	0.175 [1.01]	0.146 [0.85]
Corruption	0.256 [2.09] **	-0.251 [2.04] **	0.263 [2.15] **	-0.207 [1.82] *	-0.288 [2.55] **
Real effective exchange rate				-0.003 [1.81] *	-0.003 [1.89] *
Constitution (polity2)					-0.005 [0.17]
Export (as a % of GDP)		0.011 [2.80] ***			
Import (as a % of GDP)			0.011 [2.56] **		
Number of observations	1829	1829	1829	1829	1829
Number of countries	84	84	84	84	84
R ²	0.74	0.75	0.74	0.76	0.78

Note: The asterisks indicate statistical significance of *** 1, ** 5 and * 10 percentage level

The initial GDP per capita coefficient for the given period is statistically irrelevant in the explanation of the economic growth in the countries from the sample, which is somewhat understandable, considering the use of annual data instead of average values for specified time periods.

The coefficient for the human capital influence represented by the average number of years **the over-25 population has spent in education** is in positive correlation with the economic growth and has a significance level of 5% in all regressions (except for the regression in column [4] with significance of 1%). This refers to the fact that each additional year in education is likely to increase the average annual GDP growth rate by 0.18 percentage points. Therefore, in order for economies to experience economic growth, governments should focus on quality education for the population. This is crucial, given that economies are enabled to use the expertise of the population, i.e. human capital to introduce innovations and boost productivity. The qualified workforce is able to use foreign technology, as well, which further confirms the fact that the human capital and knowledge employed to generate new ideas and innovations lead to productivity improvement, increased investment rates and overall to heightened economic growth.

The coefficient of the **population growth rate** is unstable and statistically insignificant in all regression growth equations. It is only statistically significant (with significance of 10%) in the fourth and fifth columns, where a number of additional

research variables have been introduced, however, it can be added that the value is consistent with the neoclassical theory projections, according to which a higher growth (by 1%) is related to a lower economic growth rate (by around 0.29 percentage points).

The estimated coefficient for **trade openness** (expressed as a trade-to-GDP-ratio) ranges between 0.004 and 0.006 in the three regressions and is statistically significant with a level of significance of 1% and 5% in the first column and fourth and fifth columns, respectively. The findings are in favor of the hypothesis that trade openness influences and increases the likelihood of economic growth, although with a moderate overall effect. In fact, an increase of trade openness by 10% leads to a higher economic growth rate by 0.06 percentage points.

Economists also employ export intensity and import penetration as independent variables in the estimation of trade influence on GDP growth. Export intensity could be measured by using the export-to-GDP-ratio or the export growth rate, whereas, import penetration refers to the foreign companies' ability to compete against domestic firms and it is represented by the average effective rates of protection, the import-to-GDP-ratio, the import growth rate and the import flows.

For the purposes of our analysis, we have applied the indicators **export as a percentage of GDP** and **import as a percentage of GDP**. As a variation of the basic regression equation, with the aim to distinguish between the influence of export and that of import on economic growth, new export and import regressions have been performed (as illustrated in columns 2 and 3, respectively). The results lead to a conclusion that both the export variable (as a percentage of GDP) and the import variable (as a percentage of GDP) are positively correlated with economic growth, i.e. they positively affect the GDP growth rate, whereby both the export and import coefficients are 0.011 and they differ only by their significance (which is 1% for exports and 5% for imports).

The interpretation is that by boosting productivity and efficiency, export has a positive influence on economic growth, while import increases competition. The growth model becomes more accurate with the inclusion of import. Generally speaking, studies

to date have determined that import could diminish economic growth as a result of reduced domestic production of goods and services, decreasing productivity and production in the long run. However, some former studies have established that import-oriented trade brings about positive effects on economic growth, as is the case with our findings.

The obtained results for the statistical significance of import and export suggest that there is a possibility of import dependence on export in the countries analyzed, starting from the assumption that this situation is due to the fact that import is intended for export processing, which subsequently leads to growth and not so much for consumption of luxury goods.

The coefficient of ***government consumption*** statistically differs from the zero in all four regressions. Its economic significance indicates that the volume of government consumption has a negative impact on economic growth, i.e. the coefficient has the theoretically predicted value and is statistically significant at a level of 1%. Veritably, the increase of government consumption by 1% of GDP contributes to reduction of the economic growth rate by 0.07 percentage points, if all other factors remain unchanged. The findings greatly coincide with recent studies of the connection between government consumption and growth.

The estimated coefficient of ***foreign direct investment*** is also stable in all growth equations, it is furthermore, statistically significant at a level of 1% and is in accordance with studies predicting a positive value of this relationship. Specifically, an increase in foreign direct investment (as a percentage of GDP) by 1% is related to a higher growth rate by 0.70 percentage points. Foreign direct investment has the role of a diffuser, facilitating the transfer of knowledge and technology, as drivers of economic growth. The transfer of technological and business know-how by means of foreign direct investment helps to close the gap among countries and can have spillover effects on the whole national economy. Their productivity levels and subsequently their impact on economic growth are contingent on the human capital disposable in the host-country which enables exploitation of the spillover effects on foreign direct investment.

With the aim to underpin the empirical analysis and the results obtained therefrom, in the analysis that follows, a few additional variables have been included which are thought to affect growth. They are as follows: the quality of bureaucracy, the level of corruption, the real effective exchange rate and the nature of the constitution.

In continuation, *the quality of bureaucracy and the constitution* are statistically insignificant in the determination of countries' economic growth, while the level of corruption and the real effective exchange rate are statistically significant standing at 5% and 10%, respectively. Both *corruption and the real effective exchange rate* have an inverse relationship with economic growth, which confirms the logical order of influence, that is to say, if corruption in the countries comprising the sample rises, decrease in economic growth is expected and conversely, should the real exchange rate be overestimated, economic growth conditions will be hindered. Overestimated exchange rates are related to lack of foreign currencies, usury and corruption, large unsustainable current account deficits, balance-of-payments-crises, as well as "stop-go" macroeconomic policies, which altogether have a detrimental effect on economic growth.

Upon adding the new variables, the results in terms of the impact of trade openness remain stable with only a slight change related to the size of the coefficient and the statistical significance.

4. CONCLUSION

The results arising from the research indicate that trade openness influences and increases the likelihood of economic growth, although with a moderate overall effect. The panel regression analysis carried out has verified the fact that economic openness is one of the key determinants of economic growth, in conjunction with human capital, the foreign direct investment rate and government consumption. The former indicates that countries which are successful in international trade are open to foreign direct investment, attract foreign workers and achieve higher economic growth

than countries which fail to integrate into the global economy. Therefore, it is necessary to analyze the future shift in the openness of each country separately, in order to more accurately assess the sustainable future growth of these countries.

REFERENCES

1. Balassa B., "Exports and Economic Growth: Further Evidence," *Journal of Development Economics*, Vol. 5, 1978.
2. Baddeley, M., Convergence or divergence? The impacts of globalisation on growth and inequality in less-developed countries, *International Review of Applied Economics*, 2006
3. Barro Robert, Determinants of economic growth: a cross-country empirical study, NBER WORKING PAPER SERIES, Cambridge, MA 02138, August 1996.
4. Barro, Robert and Jong-Wha Lee, "[A New Data Set of Educational Attainment in the World, 1950-2010.](#)" *Journal of Development Economics*, vol 104, pp.184-198. <http://www.barrolee.com/data/dataexp.htm>
5. Chan Wan Hak Donna, Do Foreign Investment and Trade Openness Accelerate Economic Growth?, April, 2011
6. Coe, D. and Helpman, E. 'International R&D Spillovers', *European Economic Review*, 1995.
7. Dawson, J.W. and Sen, A., New evidence on the convergence of international income from a group of 29 countries, *Empirical Economics*, 2007.
8. Dollar D., Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs, 1976-85, *Economic Development and Cultural Change*, 1992
9. Frankel A., Romer D., Does Trade Cause Growth?. Harvard University, 1999.
10. International Monetary Fund, *World Economic Outlook*
11. Levine R. and Zervos S., Looking at Facts: What We know about Policy and Growth from Cross-Country Analysis. World Bank Policy Research Papers, WPS 1115, 1993.
12. Mariotti Martine, An Examination of the Impact of Economic Policy on Long-run Economic Growth: An Application of a VECM Structure to a Middle-Income Context, University of the Witwatersrand, 2001
13. Michaely Michael, "Exports and Growth." *Journal of Development Economics* 4, March 1977.
14. Petrakos G., Arvanitidis P. & Pavleas S., Determinants of Economic Growth: The Experts' View, 2007
15. Rivera-Batiz Luis A. and Romer Paul M., Economic Integration and Endogenous Growth, 1991.
16. Rodriguez Francisco, Rodrik Dani, "Trade Policy and Economic Growth a Skeptics Guide to the Cross-National Evidence", University of Maryland and Harvard University, May 2000
17. Sala-I-Martin X., Doppelhofer G., Miller R. I., Determinants of Long-Term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach, NBER Working Paper Series, June 2000
18. Sachs J., Warner A. Economic Reform and the Process of Global Integration, *Brookings Paper on Economic Activity* No.1, 524, 1995.
19. Stojkov Aleksandar, Current Account Deficit and Economic Growth, Evidence from the South Eastern European Economies, Iustinianus Primus Faculty of Law, Skopje, 2009
20. Stojkov A., Zalduendo J., Europe as a Convergence Engine Heterogeneity and Investment Opportunities in Emerging Europe, Policy Research Working Paper 5837, The World Bank Europe and Central Asia Region Office of the Chief Economist, October 2011
21. The World Bank, World Development Indicators, <http://data.worldbank.org/data-catalog/world-development-indicators>
22. Van den Berg H. and Lewew J. J., International Trade and Economic Growth, M.E. Sharp, 2007
23. Wacziarg R., Measuring the Dynamic Gains from Trade, *World Bank Economic Review*, Vol. 15(3), 2001

THE IMPACT OF FOREIGN TRADE ON ECONOMIC GROWTH

APENDIX

Table 1. Countries included in the sample

Advanced economies (other than EU-15) (9): Australia (AUS), Canada (CAN), Israel (ISR), Japan (JPN), New Zealand (NZL), Norway (NOR), Singapore (SGP), Switzerland (CHE), United States (USA).
EU-15 (excluding Luxembourg) (14): Austria (AUT), Belgium (BEL), Denmark (DNK), Finland (FIN), France (FRA), Germany (DEU), Greece (GRC), Ireland (IRL), Italy (ITA), Netherlands (NLD), Portugal (PRT), Spain (ESP), Sweden (SWE), United Kingdom (GBR).
Latin America and the Caribbean (19): Argentina (ARG), Bolivia (BOL), Brazil (BRA), Chile (CHL), Colombia (COL), Costa Rica (CRI), Dominican Republic (DOM), Ecuador (ECU), El Salvador (SLV), Guatemala (GTM), Honduras (HND), Jamaica (JAM), Mexico (MEX), Nicaragua (NIC), Panama (PAN), Peru (PER), Trinidad and Tobago (TTO), Uruguay (URY), Venezuela (VEN).
East Asia (with market access) (7): China, People's Republic of (CHN), India (IND), Indonesia (IDN), Korea, Republic of (KOR), Malaysia (MYS), Philippines (PHL), Thailand (THA).
Other emerging economies and middle-income countries (13): Algeria (DZA), Botswana (BWA), Egypt, Arab Republic of (EGY), Gabon (GAB), Iran, Islamic Republic of (IRN), Jordan (JOR), Libya (LBY), Mauritius (MUS), Morocco (MAR), Pakistan (PAK), South Africa (ZAF), Syria (SYR), Tunisia (TUN).
Low-income countries (2): Tajikistan (TJK), Namibia (NAM).
Central and Eastern Europe (EU10 minus Bulgaria; this country is excluded due to lack of one of the regressors) (9): Czech Republic (CZE), Estonia (EST), Hungary (HUN), Latvia (LVA), Lithuania (LTU), Poland (POL), Romania (ROM), Slovak Republic (SVK), Slovenia (SVN).
EU candidate and potential candidate countries (6): Albania (ALB), Bosnia and Herzegovina (BIH), Croatia (HRV), Macedonia, FYR (MKD), Montenegro (MNE), Turkey (TUR).
EU neighborhood countries (5): Armenia (ARM), Belarus (BLR), Moldova (MDA), Kazakhstan (KZH), Ukraine (UKR).

UDC: 621.38:628.4]:502.131
621.395.721.5:628.4

**REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH
COMMERCIALY SUSTAINABLE MOBILE DEVICES**

Martin KISELICKI, MSc¹

ABSTRACT

The mobile device industry is growing at a rapid pace, which is only seen to be increasing in recent years. Mobile devices have become a part of society and everyday life, but little regard is paid to the environmental impact that the production, usage and disposal of these devices are producing. The research presents statistics that current initiatives for developing more sustainable practices and processes in the industry only influence the overall carbon footprint in a limited fashion, which necessitates the introduction of new models and methods. The main hypothesis of the research paper is whether two new initiatives, the Fairphone initiative and the Phonebloks initiative, can be implemented in a commercially successful way and drastically reduce the environmental impact of the industry. The initiatives are examined by their environmental impact on the production and transportation phases, as well as customer usage and disposal phases. By presenting and projecting greenhouse gas emissions and electronic waste throughout the life-cycle of the analyzed devices, it can be concluded that the methods discussed in this paper could have a great impact at reducing the carbon footprint, if implemented by leading companies in the industry. The research paper also presents several barriers for success which could prevent the implementation of these initiatives and have to be addressed to achieve the best possible results.

KEYWORDS: Mobile devices, environmental, impact, carbon footprint, LCA, initiatives

JEL CLASSIFICATION: Q51, Q56

¹Lecturer, Integrated Business Faculty, e-mail: martin.kiselicki@fbe.edu.mk

1. INTRODUCTION

Within the last few years, mobile devices started emerging as the most popular gadgets, regardless of the age group, social group or other demographic characteristics of the individual. During the last century, we have witnessed several key innovations and revolutionary products, but rarely have technical innovations incorporated into everyday usage as fast as personal mobile devices. The first mobile phone call using the Global System for Mobile Communications (GSM) took place in 1991 in Finland (Feshke and Fettweis, 2011), and 23 years later there are approximately 4 billion GSM users. At the time of research, the total number of mobile subscriptions in the world in 2012 has passed 3,5 billion, almost half the population of the planet (GSMA, 2012). Comparing mobile with fixed network communications, there are only approximately 758 million fixed-line subscribers worldwide (ITU, 2014). In comparison with Internet technologies, in 2014, the number of Internet users is 2,9 billion², meaning mobile communications have exhibited the highest growth regarding new IT technologies.

The surge in popularity is poised to grow, as more and more new generations will continue to buy new mobile devices. The three top-tier companies that are leading the industry in sales are Samsung, Nokia and Apple, in respective order from one to third place. The annual reports of these three companies show that each successive year more devices are being shipped and sold compared to the previous year (for example, Samsung sold 444 million units in 2013, compared to 384 million in 2012) which proves the global expansion of mobile devices (Times of India, 2014). In some cases, companies are overwhelmed with the demand, leading to production shortages and the need for fast expansion. With demand and production growing each year, little regard is paid to the environmental impact produced by the industry. Even though companies such as Apple and Samsung are executing programs and activities related to the subject of sustainability, the core problem is that the industry assesses and

² <http://www.internetlivestats.com/internet-users/>

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

reacts to environmental impact in a limited fashion, beginning and concluding with the production process, as well as a simple life-cycle assessment of the product.

The main question and hypothesis of this research paper is whether key phases (the production and transportation processes, as well as the usage and disposal by the end-consumer) can evolve sufficiently for newer, sustainable mobile devices to be created and more importantly, become commercially successful, thus bringing profit to the company, as well as substantial improvements to the environmental impact of the industry as a whole. The study aims to present valuable insights into LCA (life-cycle assessment) of environmental impact, carbon footprint modeling, as well as analyze the current and future initiatives for sustainable mobile devices. All the data presented in this research paper is collected from June 2014 through August 2014.

2. ASSESSING THE ENVIRONMENTAL IMPACT OF MOBILE DEVICES

Environmental waste caused by IT technologies represents one of the fastest growing types of waste in the world. According to Gartner, IT now causes approximately two percent of the global CO₂ emissions and the carbon footprint of this industry exceeded that of the world aviation industry in 2007 (1,5%), increasing the difference each successive year (Swaine, 2009). Another report from Ericsson, *The Global Footprint of Mobile Communications*, estimates that the carbon footprint of all information and communication technology will almost double between the years 2007 and 2020. Leading this charge is the footprint of mobile communications, which is estimated to be tripled in the same period, growing at a rate 50% faster than other IT-related industries, rising from about 86 to 235 Mto CO₂e³, suggesting a steeper increase than predicted in other well-known studies, such as the SMART2020 report. In this case, the carbon footprint of mobile communications will represent more than one third of the present annual emissions of the entire United Kingdom (GSMA, 2013).

³ CO₂e is the concentration of CO₂ that would cause the same level of radiative forcing as a given type and concentration of greenhouse gas.

Ericsson acknowledges that the calculation and life-cycle assessment models used in the study are based on up-to-date data, which result in an increase of CO₂ emissions by a factor of three until 2020. However, because of the fact that the calculations are based on expected improvements following the current trend, there is a possibility that in case only minor efficiency improvement (lower than predicted) of production, usage and disposal phases are achieved in future years, the carbon footprint produced by mobile devices could even increase more than threefold.

2.1 Methods and measures for calculating mobile devices carbon emissions and e-waste

EPA (2009) defines e-waste as “electrical and electronic equipment that is dependent on electric currents or electromagnetic fields in order to function (including all components, subassemblies and consumables which are part of the original equipment at the time of discarding), which will or already has entered the waste stream with the purpose of recycling, reuse or disposal”. In case of electronic devices, the impact on the environment cannot be simplified only on the product itself, because it is also created when consumers use the device – meaning throughout its entire life-cycle. Companies in the industry generally utilize two models for calculating the environmental impact of mobile devices:

1. **Carbon footprint** - A measure of the total amount of carbon dioxide (CO₂) and methane (CH₄) emissions of a defined population, system or activity (Wright et al., 2001), considering all relevant sources, sinks and storage within the spatial and temporal boundary of the population, system or activity of interest. Calculated as carbon dioxide equivalent (CO₂e) using the relevant 100-year global warming potential (GWP₁₀₀).
2. **LCA or Life-cycle assessment** – EPA (2006) defines LCA as a “technique to assess the environmental aspects and potential impacts associated with a product, process, or service, by:
 - a. Compiling an inventory of relevant energy and material inputs and environmental releases

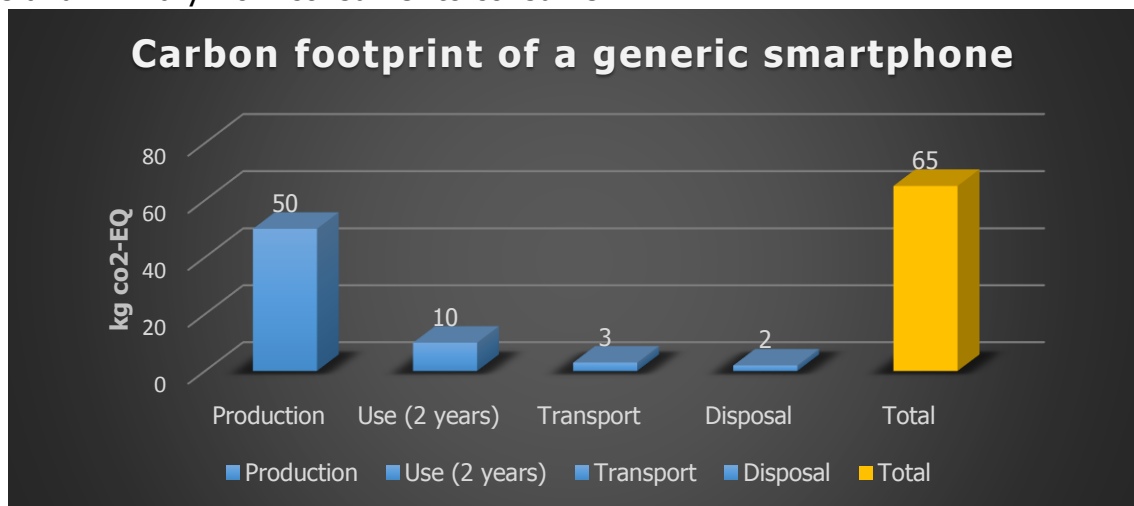
REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

- b. Evaluating the potential environmental impacts associated with identified inputs and releases
- c. Interpreting the results to help you make a more informed decision”

The major stages in an LCA study are raw material acquisition, materials manufacture, production, use/reuse/maintenance, and waste management. The system boundaries, assumptions, and conventions to be addressed in each stage are presented. As a whole, this method entails several difficulties for companies to execute it on a normal basis, with the largest concern being providing trade secrets and other relevant information to the competitors.

2.2 Current impact of mobile devices on the environment

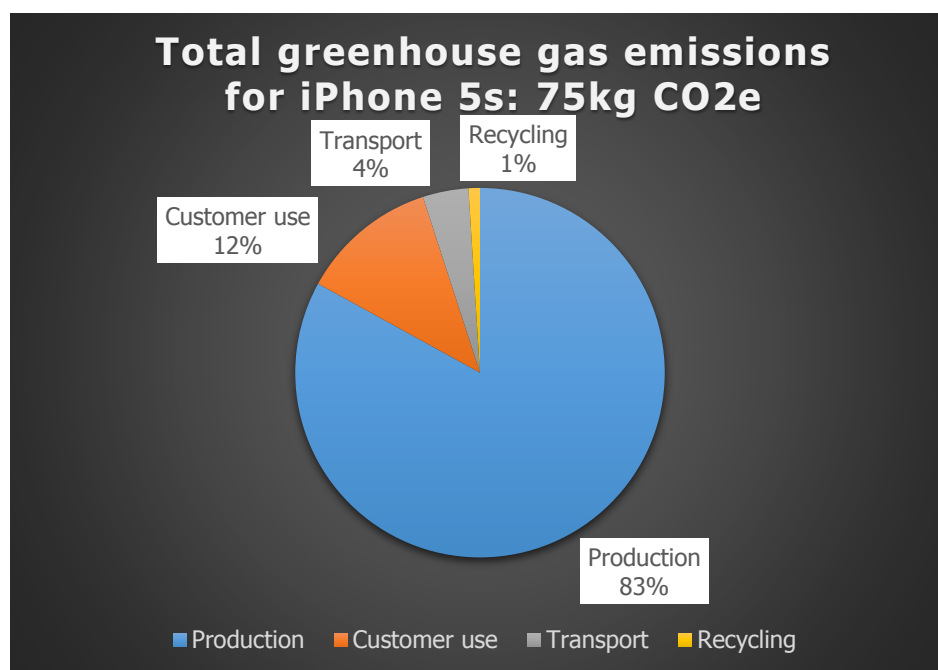
As elaborated in the previous section, when accounting the impact of mobile devices on the environment, assessment is made on several key phases: the production process, the usage process and the waste disposal process. Unlike other industries or products, which incur higher waste during production and disposal, mobile devices tend to produce significant waste and emission in the usage process as well. For example, making phone-calls an hour each day is calculated to be approximately 1 ton of CO₂e per year (Berners, 2010). This means that calculations for the environmental impact of a single mobile device over a defined time period is highly influenced from the level of usage and will vary from consumer to consumer.



Graph 2.1 – Carbon footprint of a generic smartphone, source: <https://www.fairphone.com/2013/08/01/whats-in-a-life-cycle-assessment/>, accessed on 25th of July, 2014, page 1

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

Graph 2.1 presents the typical smartphone emissions during a two-year usage period. The data is based on an average score and specifies that production of the smartphone takes up the largest portion in emissions and environmental impact, with 50kg CO₂e. The actual usage of the phone is accountable for 10kg CO₂e, while the disposal and transport processes produce approximately 5kg CO₂e, which results in a total of 65kg CO₂e produced by the average smartphone user in a two-year life-span. The numbers indicate that production accounts for more than three quarters of the total carbon footprint with 77%. Most of the industry leaders use this model, which is analyzed more thoroughly in Apple's environmental report for its flagship model, the iPhone 5s (graph 3.2).

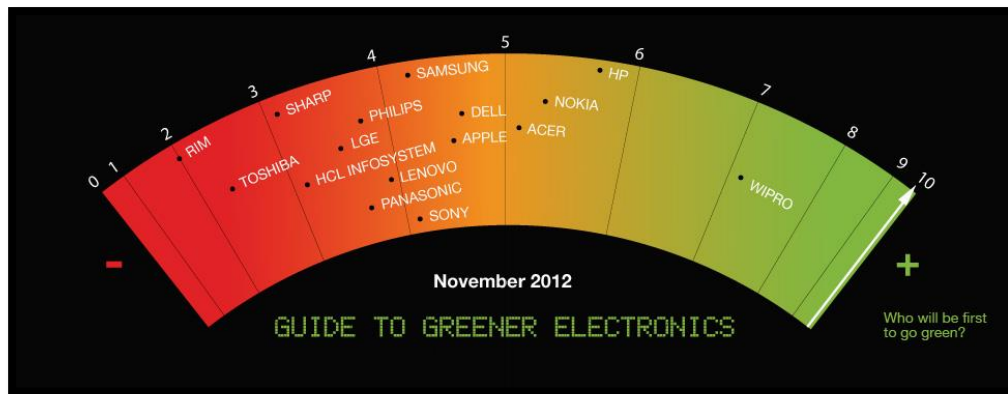


Graph 2.2 – Greenhouse gas emissions for iPhone 5s, source: iPhone 5s, Environmental report, 2013, Apple

The results presented in Apple environmental report for iPhone 5s are in line with the average carbon footprint of a generic smartphone shown in graph 2.2. In the case of iPhone 5s, the production phase participates with 83% of the total carbon footprint, which is higher than the average 77%. Furthermore, despite Apple's claims that the company is reducing the carbon footprint on all of their devices, iPhone 5s accounts for 75kg CO₂e, which is higher than the average 65kg CO₂e of an average smartphone.

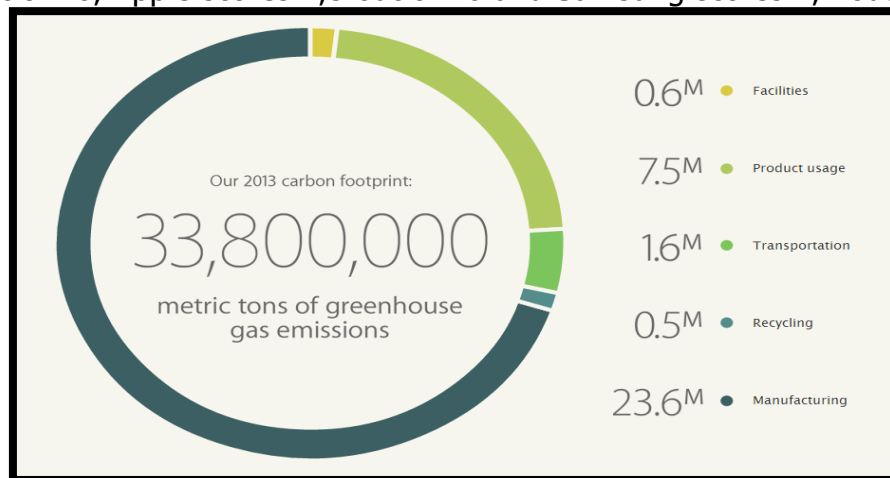
REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

This leads to a separate problem regarding the improvement of sustainability of the production of mobile devices. Between 2008 and 2012, Apple introduced renewables and sustainable practices, announcing that the company managed to decrease the CO2 emissions per dollar revenue from its manufacturing facilities by a respectable 21,5 percent. However, viewed in a larger marketing concept, Apple sold approximately 48% more units in 2012 and for a higher price than 2008, which indicates that the company overall absolute greenhouse emissions are estimated to have increase by 34% in 2012 alone (Sofroniou D., 2013).



Picture 2.1 – Greenpeace ranking of electronic companies, 2012

The ranking table of electronic companies regarding sustainable practices places the top three selling companies in the mobile industry on third (Nokia), sixth (Apple) and seventh (Samsung) place. Even though they rank high on the list, Nokia scores only 5,4 out of 10, Apple scores 4,5 out of 10 and Samsung scores 4,2 out of 10.



Picture 2.2 – Apple carbon footprint for 2013. Source: <http://www.apple.com/environment/climate-change/> (accessed on 23rd of July, 2014)

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

Analyzing the carbon footprint of Apple for 2013 in picture 3.2, production and manufacturing processes participate with staggering 69%, far surpassing product usage and manufacturing costs. This is a clear indicator that despite improvements in product materials and manufacturing processes, companies only achieve minimal impact on the carbon footprint and overall environmental impact of mobile devices. In case of Apple, although more sustainable practices and materials are introduced, the carbon footprint of the company is increased in each successive year.

Based on the presented facts and projected trends, a conclusion can be drawn that current initiatives undertaken by leading companies in the mobile device industry can only have limited influence on the overall environmental impact. Therefore, the next section examines two new initiatives (Fairphone and Phonebloks) which could have a significantly larger impact over the sustainability aspect in the production, usage and disposal phases of the life-cycle of a mobile device.

3. ANALYZING KEY INITIATIVES FOR DEVELOPING SUSTAINABLE MOBILE DEVICES

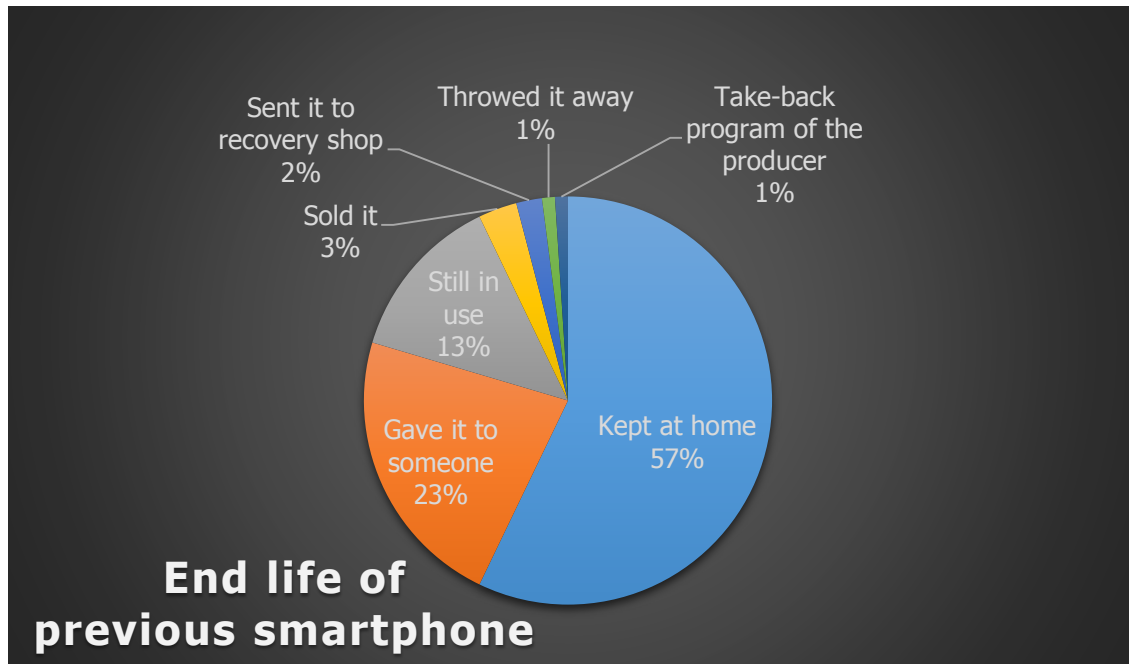
Current global smartphone manufacturers implement sustainable practices and initiatives, however, as indicated in the previous section of this research paper, they have minimal impact on the bottom line of carbon footprint of the mobile devices industry. As elaborated before, there are three key areas in which environmental impact occurs during the life-cycle of a mobile device:

1. Production
2. Usage and;
3. Disposal

Combining life-cycle and carbon footprint statistics in the previous section, it is demonstrated that the highest environmental impact occurs in the production phase, which is a fixed number per unit, while the impact for the usage and disposal processes are variable, and based on the individual consumer. A simple relation can be made that if the consumer uses the mobile devices for a longer time period, the impact on the environment will be lowered, primarily because of the amortization of the fixed impact

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

of manufacturing a device. Recent numbers indicate that consumers tend to change their phones every 15 to 18 months (Reilly D., 2014) with newer devices. Furthermore, only 3% of consumers sell their old handset and 23% give it away, which leaves more than half (57%) consumers that don't recycle or dispose of their old mobile devices in any way.



Graph 3.1 – End life of previous smartphone, source: Guvendik M., (2013), Next step in Life Cycle Assessment: Inventory Analysis

In the next two sections, two initiatives, Fairphone and Phonebloks, are examined and evaluated based on their environmental impact on identified key phases (production, usage and disposal phase).

3.1 The Fairphone initiative

Fairphone is presented as a mobile phone initiative that encapsulates not only environmental, but also social and health aspects in the industry. Fairphone's mission is defined as "developing a smartphone that is designed and produced with minimal harm to people and planet, while the vision is to deliver technology that matters"⁴. The main goal of the company is to develop a mobile device in a transparent and socially responsible way, raising the bar for the industry and giving consumers a choice for

⁴ <http://www.fairphone.com/wp-content/uploads/2013/02/FairPhone-Company-Profile.pdf>

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

fairer electronic. Presales of the first and current model began in mid-2013 and the first batch contained 25,000 units which were successfully sold. At the time of research, the second batch is in the process of being sold, with 35,000 smartphones made available to the public. The company aims to use conflict-free materials, reuse part of the revenue for recycling e-waste, extend the life-cycle of the devices and reduce various environmental impacts through a four-point structure:

1. Design for Longevity
2. Design for Service
3. Design for re-use in manufacture
4. Design for material recovery

The environmental impact of the initiative is examined in the two sub-sections below.



Picture 3.1 - First version of Fairphone, source: <https://www.fairphone.com/2013/03/19/designing-in-circles/>

3.1.1 Fairphone's estimated environmental impact on the production and transportation phases

The impact of Fairphone on the average production and transportation processes of a smartphone is focused on reducing the greenhouse gas emission through two key methods. The first method of reducing greenhouse gas emission during production is that, Fairphone, unlike other smartphones, is delivered without an accompanied

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

charger and headphones. Acknowledging the fact that consumers replace their devices every 15 to 18 months, Fairphone predicts that the typical user already owns the necessary charging cable and headphones from previous smartphones. This is achieved by implementing a standard MicroUSB port for charging on the phone, as well as 3,5mm standard input for headphones. By utilizing this method, 1.6474kg of CO₂e per charger and 0.725kg CO₂e per headphones are saved. For the first batch of units, the total savings are calculated to be approximately 42.6 tons of CO₂e (Szilagyi, 2013). For the second batch of units, the estimations are that approximately 72,846 tons of CO₂e will be saved.

The second method implemented by Fairphone for reducing greenhouse gas emission during the entire production process is using rail freight shipping instead of the air cargo shipping, which has been the industry standard. By utilizing this practice, greenhouse gas emissions can be reduced for as much as 26 times – for shipment of the first batch of Fairphones, rail freight greenhouse gas emissions were estimated to be 3,6 tons of CO₂e, while air cargo greenhouse emission are estimated to have been 95,4 tons of CO₂e.

These two methods enabled the company to lower the greenhouse gas emission during production for a total of 134,4 tons of CO₂e. None of the methods are currently used by the three industry leaders, Samsung, Apple and Nokia, in their production and transportation processes. Putting the numbers in perspective, Apple sold 150 million iPhones in 2013 (Wesserman, 2013) and by implementing these sustainable methods of production and transportation, the savings in greenhouse gas emission would have been approximately 13,3 million tons of CO₂e.

3.1.2 Fairphone's estimated environmental impact on the consumer usage and disposal phases

The Fairphone initiative aims to implement several improvements regarding the environmental impact of disposal phase. Most prominently, the company is reserving 3 euros per sold unit to fund e-waste recycling programs in Ghana, in collaboration

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

with Dutch non-profit organization Closing the Loop⁵. Regarding the first batch of 25,000 sold units, Fairphone managed to recycle 75,000 phones with the collected revenue. In terms of a global manufacturer such as Apple, this would lead to 450 million recycled phones for the 150 million iPhones sold in 2013. Additionally, the packaging of the phone is made of 100% recyclable materials, compared to 70-80% which is the industry average. The company also claims to use less toxic materials and “easy to open and recycle” designs, but fails to offer specific information and statistics about the initiatives.

In terms of reducing the environmental impact during the consumer usage phase, Fairphone aims to extend to life-cycle of their smartphone beyond the typical 15-18 month usage, however the first model is based on aging hardware⁶ and except the open-source software platform, all the hardware components are manufactured by third parties and at the time of research, are considered below industry standards for performance.

3.2 The Phonebloks initiative

Phonebloks represents an initiative for a modular smartphone which is created and designed by Dave Hakkens. Unlike Fairphone, which is a commercially available phone, Phonebloks is a concept phone with the primary focus on the reduction of electronic waste. Although Phonebloks does not represent the first attempt at a modular design in a phone, it is the most notable because of the support and attention it gathered. The initiative has more than 960,000 supporters and a social reach over 380 million users⁷, as well as partnership with Motorola and Google. The concept is based on attaching individual third-party components (called bloks) to the main board, which would ultimately enable the consumer to create a personalized smartphone.

The sustainability aspect is present when the consumers need to replace or upgrade a blok, enabling them to focus on individual components instead of replacing the smartphone every 15 to 18 months. The initiative suggests that by using bloks instead

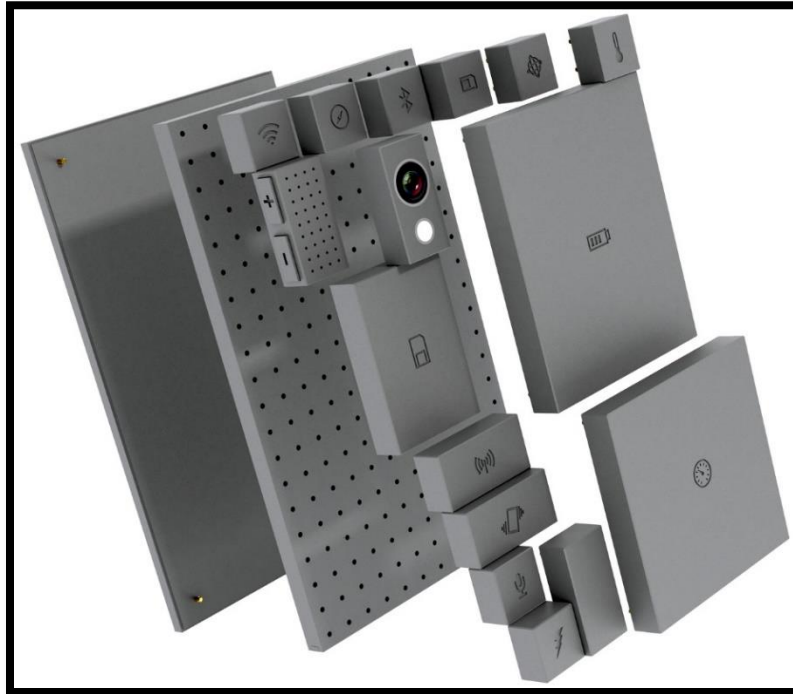
⁵ <https://www.fairphone.com/projects/responsible-e-waste-recycling/>

⁶ <https://www.fairphone.com/fairphone/>

⁷ <https://phonebloks.com/en/about>

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALLY SUSTAINABLE MOBILE DEVICES

of a complete product, the life-cycle of a single unit can be increased indefinitely, leading consumers to change only parts (bloks) every few months, instead of buying a new smartphone.



Picture 3.2 – Phonebloks concept, source: <http://phonebloks.com/gallery/>

Bloks would be made available and sold on an open platform, called the Blokstore, which would enable users not only to buy new blocks, but also to sell their old ones. The implications of the environmental impact on the production, consumer usage and disposal phases are analyzed in the next two subsections.

3.2.1 Phonebloks estimated environmental impact on the production and transportation phases

Unlike the Fairphone initiative, the focus of Phonebloks is towards improving the environmental impact of the consumer usage and disposal phases. The initiative is expecting to gather third-party companies, subsidiaries and consumers to produce, transport and ship bloks, which makes it difficult to determine the carbon footprint of each individual manufacturer. Furthermore, by encouraging users to create their own bloks, the initiative does not take into account establishing environmental standards which have to be fulfilled before selling them on the mentioned Blokstore. This could translate in unmonitored and scattered production phases, which would not utilize

economies of scale and there is a possibility that the carbon footprint of producing a single Phonebloks unit will be larger than of a generic smartphone. The established process has higher resource requirements during production, which results in increased e-waste disposal and greater environmental impact than existing methods of production used by the analyzed companies. Because Phonebloks, at the moment of research, represent a concept, it isn't possible to calculate specific percentages of increased e-waste during the production phase. Regarding transportation, Phonebloks also doesn't delegate mandatory methods of shipment, meaning the choice is left to the companies and individuals that manufacture and sell the bloks. This type of transportation process would lead higher than average carbon footprint for shipment of units, because companies and individuals would not use economies of scale during transportation (sending multiple units at once), instead relying on single-unit shipments.

3.2.2 Phonebloks estimated environmental impact on the consumer usage and disposal phases

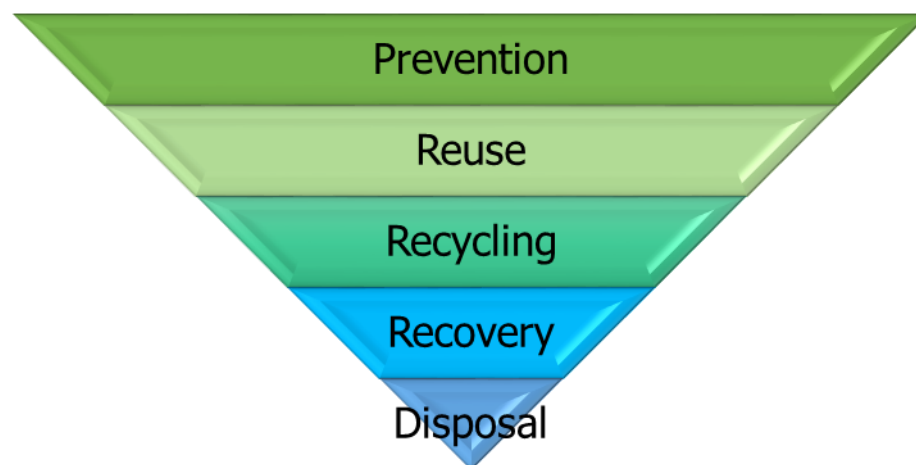
As mentioned before, the main focus of the initiative is turned towards reducing (and in the best-case scenario) eliminating the environmental impact of the consumer usage and disposal phases. Phonebloks sets to eliminate planned obsolescence, which represents "a business strategy in which the obsolescence (the process of becoming obsolete – meaning you are no longer able to use the product) of a product is planned and built into it from its conception and design phases" (The Economist, 2009). The purpose of planned obsolescence is to motivate consumers to buy a new smartphone sooner than needed by building phones that break and are difficult to repair. The question posed by planned obsolescence is what motivates the consumer to change or upgrade their phone?

First, there are basic economic reasons. The consumers have the ability to buy a new phone whenever they want, while from the aspect of producing companies, they generate more turnover and profit as they sell more phones. Second, there are psychological reasons, meaning that consumers want to follow certain trends and

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

desire the best hardware possible. Finally, there are practical reasons such as breaking the phone, the need for certain features (waterproof case, dual-sim capability) which necessitate a newer and different device.

The Phonebloks initiative aims to eliminate planned obsolescence through modular design. During consumer usage, modules (bloks) that break can be easily replaced by other bloks, without the need to open the phone or, ultimately, buy a new phone. Additionally, when the consumer feels the need to upgrade his phone, he can focus on upgrading only certain elements, such as the camera or processor, without the need to buy an entirely new phone. This translates directly into the disposal phase, which is where the Phonebloks concept achieves the greatest impact.



Graph 3.2 Types of disposal of an old phone, source:

<http://blog.phonebloks.com/post/89651166898/what-happens-with-our-broken-phones-by-klara>

As shown in graph 3.2, there are 5 types of disposal that consumers can utilize regarding their old phones. The least preferred is direct disposal without any concern about recycling, followed by recovery from a dump site for recycling, giving the phone up for a recycling program, reusing components of the phone for manufacturing purposes (or straight refurbishment of the phone) and most preferred is prevention of disposal through continued usage of the devices. Statistics show that approximately 150 million mobile devices were disposed in 2013 (Friman K., 2014), of which a high 90% ended up in a landfill instead of being recycled. Taking planned obsolescence into account, this would encompass another 150 million phones being produced, because

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

consumers wouldn't dispose their old phone without buying a new one, leading to higher environmental impact in the production process.

Specific numbers are difficult to estimate, because they depend on the carbon footprint of the blocks that are being produced, as well as the frequency of the purchase of new blocks. With the implementation of a simple model that assumes an average consumer would purchase two to three new blocks every 15-18 months instead of a new iPhone, this decreases the carbon footprint of the production phase for up to 70%, or from 62,25kg CO₂e for the production of a single unit of iPhone 5s to 18,67kg CO₂e for the production of modular blocks for the equivalent upgrade.

4. POSSIBLE BARRIERS FOR COMMERCIAL IMPLEMENTATION AND SUCCESS

The previous section was focused on the estimation on the real-world impact of two key initiatives for sustainable mobile devices, Fairphone and Phonebloks. However, the numbers indicated in the research are made using calculations and simple models based on information, predictions and trends presented by companies behind the initiatives. During the analysis of the marketing and technological aspects of the initiatives, several key barriers were identified and are presented below:

1. **Economic feasibility** –The leading companies in the mobile industry heavily depend on standardized models of mobile devices, as it enables them to achieve economies of scale and lower the production and transportation costs. By implementing modular design, partner companies would have a problem predicting initial demand of blocks, which would increase the risk and costs for producing units. The barrier can be overcome if a single OEM⁸ would be designated for producing all the components of the modular phone. This is already being accomplished with the partnership of Phonebloks and Project Ara⁹, an initiative developed by Google.
2. **Incorporating the whole supply chain in the initiative** – Both the Fairphone and Phonebloks initiatives face the same problem when searching for

⁸ OEM – Original Equipment Manufacturer

⁹ <https://phonebloks.com/en/about>

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

supply-chain partners, which is the difficulty to encourage them to have the same level of transparency and environmental responsibility as the parent company. Fairphone partnered with MediaTek for the processor on their mobile device, a company which also partners with industry leaders such as HTC and LG. Although the parent company, Fairphone, discloses all information regarding environmental impact to the public, the same doesn't hold for MediaTek or any other partner in their supply-chain.

3. **Technological feasibility** – Another barrier which both affects Fairphone and Phonebloks on several levels. In the case of Fairphone, the company aims to extend the life-cycle of the product, but is implementing aging hardware which is unwanted by consumers. In case of Phonebloks, the modular design raises several issues, most notably the performance of the devices and interoperability issues when different modules by different manufacturers are installed together. At the time of research, these barriers weren't being address by either initiative.
4. **Cultural issues** –The planned obsolescence model is able to function because consumers always thrive to have the latest and best hardware regardless of price or environmental implications. Both Fairphone and Phonebloks initiatives indicate that consumers have to sacrifice certain aspects of performance and design to be able to create a more sustainable mobile device. Judging by the initial sales of Fairphone, the average consumer still isn't ready to embrace environmental responsibility as long as it means to sacrifice other aspects of the user experience. At the time of research, approximately 19,000 of the planned 35,000 units of the second batch of Fairphone were sold¹⁰. The number indicates that despite the initial success of selling out the first batch of units of Fairphone (25,000 units), the consumer interest is still at an insufficient level for the device to become globally successful and have a larger impact on sustainability of the industry.

¹⁰ <http://shop.fairphone.com/>

5. **Risk of creating more electronic waste** – One of the main ideas behind the Phonebloks concept is to eliminate planned obsolescence by enabling the consumer to change the bloks if they are broken or need an upgrade. However, combined with human error, a modular phone has more components that are loose and a greater possibility to be broken. The initial concept of giving the consumer access to the bloks increases the percentage of human error, as consumers can bend the connections or install the bloks incorrectly. Because each hardware component of Phonebloks is larger than the identical component in a typical smartphone, there is a possibility of creating more electronic waste instead of reducing it. The risk is increased because at the time of research, there were no certifications or established practices for responsible disposal and recycling of obsolete bloks.

5. CONCLUSION

The problem faced in this research paper is whether the mobile device industry can continue to function through more sustainable and environmental friendly methods and processes. Analyzing current trends, the paper demonstrates that the practices employed by the leaders in the industry are deemed insufficient and electronic waste caused by the production and usage by mobile devices will triple in 6 years, by the beginning of the year 2020. The numbers indicated in the paper are a precursor that the current level of implementing sustainable practices only influences greenhouse gas emissions and electronic waste in a limited fashion.

Analyzing the life-cycle of a mobile device, the largest environmental impact occurs in the production phase, surpassing other phases by more than 70%. The two analyzed initiatives for sustainable mobile devices, Fairphone and Phonebloks, focus on reducing environmental impact in the production, usage and disposal phases, although, as analyzed, they have achieved mixed success. The initiatives offer new, more sustainable methods for producing mobile devices, as well as extending the consumer usage and eliminating planned obsolescence, but are plagued with several different

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

issues and barriers for success. The research paper indicates that the current rate of improvement of the environmental impact of the mobile device industry is insufficient and there are different methods, some of which are already commercially viable, that leading companies in the industry can consider implementing in the future.

This paper can be expanded with further research of other potential concepts or working models of sustainable mobile devices. Further research can also be done regarding mobile communications as a whole, including other hardware components and processes which could be improved through more sustainable methods of production, usage and disposal.

REFERENCES

1. Apple, (2013), iPhone 5s, Environmental Report
2. Berners M., (2010), How Bad Are Bananas?: The carbon footprint of everything, Profile Books, ISBN-10: 1846688914
3. EPA, (2009), Life-cycle Assessment (LCA), available at <http://www.epa.gov/nrmrl/std/lca/lca.html#define> (accessed on 10th of July, 2014)
4. EPA (2009), Waste definitions, available at http://www.epa.sa.gov.au/xstd_files/Waste/Guideline/guide_waste_definitions.pdf (accessed on July 5th, 2014)
5. Feshke A., Fettweis M., (2011), *The Global Footprint of Mobile Communications: The Ecological and Economic Perspective*, IEEE Communications Magazine, August 2011, (page 55)
6. Friman K., (2014), What happens with our broken phones?, available at <http://blog.phonebloks.com/tagged/mobile-phone> (accessed on 28th of June, 2014)
7. Greenpeace, (2012), Ranking of electronic companies, available at <http://www.greenpeace.org/international/en/campaigns/climate-change/cool-it/Campaign-analysis/Guide-to-Greener-Electronics/> (accessed on 1st of August, 2014)
8. GSMA, (2012), GSMA Announces New Global Research that Highlights Significant Growth Opportunity for the Mobile Industry, available at <http://www.gsma.com/newsroom/gsma-announces-new-global-research-that-highlights-significant-growth-opportunity-for-the-mobile-industry/> (accessed on 25th of June, 2014)
9. GSMA (2013), Global carbon footprint of mobile phone communication to triple by 2020, available at <http://www.gsma.com/publicpolicy/global-carbon-footprint-of-mobile-phone-communication-to-triple-by-2020> (accessed on 4th of July, 2014)
10. ITU, (2014), Fixed-telephone subscriptions, available at http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx?utm_source=twitterfeed&utm_medium=twitter.co.jp (accessed on June 26th 2014)
11. Reilly D., (2014), Average mobile phone lifespan shorter than contracts, available at <http://www.cable.co.uk/news/average-mobile-phone-lifespan-shorter-than-contracts-survey-finds-801682187/> (accessed on 7th of August, 2014)
12. Sofroniou D., (2013), The Footprint of a Smartphone – How Far Can One Trace It?, available at <http://studentreporter.org/2013/11/the-co2-footprint-of-a-smartphone-how-far-can-one-trace-it/>
13. Swaine J., (2009), Two Google searches 'produce same CO2 as boiling a kettle', available at <http://www.telegraph.co.uk/technology/google/4217055/Two-Google-searches-produce-same-CO2-as-boiling-a-kettle.html> (accessed on 10th of July, 2014)

REDUCING ELECTRONIC AND ENVIRONMENTAL WASTE THROUGH COMMERCIALY SUSTAINABLE MOBILE DEVICES

14. Szilagyi A., (2013), What's in a Life-Cycle Assessment?, available at <https://www.fairphone.com/2013/08/01/whats-in-a-life-cycle-assessment/> (accessed on 10th of July, 2014)
15. Times of India, (2014), World's Top 10 Mobile Phone Companies, available at <http://timesofindia.indiatimes.com/tech/slideshow/worlds-top-10-mobile-phone-companies/itslideshowviewall/30351440.cms> (accessed on 4th of July, 2014)
16. The Economist (2009), Planned Obsolescence, available at <http://www.economist.com/node/13354332> (accessed on 18th of July, 2014)
17. Wesserman T., Apple Sold 150 Million iPhones, 71 Million iPads in 2013, available at <http://mashable.com/2013/10/28/apple-150-million-iphones/> (accessed on 14th of July, 2014)
18. Wright, L., Kemp, S., Williams, I. (2011) 'Carbon footprinting': towards a universally accepted definition. Carbon Management, 2 (1): 61-72.

UDC: 316.347:332.146.2

**PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS
FOR INTERETHNIC RELATIONS**

Aleksandar PETKOVSKI, Ph.D.¹

ABSTRACT

The Commissions for Interethnic Relations have been introduced as one of the mechanisms of Consocial Democracy for management of interethnic relations on local level. The author is taking the existing competences and the expected outcomes from the work of the Commissions, as points of departure for the analysis of their performances. The results reveal shortcomings in the work of the Commissions. The author is issuing recommendations for sustainable development of Commissions for Interethnic Relations, calling for precise defining of Commissions' competences, provision of their financial sustainability, getting the necessary support from the respective municipalities, and diminishing the influence of the political parties in the work of the Commissions for Interethnic Relations.

KEYWORDS: commissions, interethnic relations, consocial democracy, municipalities, sustainable development

JEL CLASSIFICATION: K19

¹ Legal Counsel at University of Information Science and Technology "St. Paul the Apostle", Ohrid, e-mail: aleksandar.petkovski@uist.edu.mk

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

1. INTRODUCTION

Ever since Republic of Macedonia stepped out of the Yugoslav Federation and gained its independence in 1991, it seems that there were irreconcilable differences between political and academic elites of Macedonians and Albanians, regarding the manner in which the state should balance between the interests of the two largest ethnic groups in the country². Most academics and politicians from Macedonian ethnic community, define Republic of Macedonia as civil state that guarantees the rights and the freedoms of ethnic minorities in accordance with the existing international standards³. On the other side, most academics and politicians from Albanian ethnic community, disagree that Albanians should be treated as national minority, and instead demand Albanians to be treated as constitutive nation enjoying equal rights with the members of the Macedonian ethnic community⁴. The inability of political leaders of Macedonians and Albanians to reconcile the afore mentioned differences is most commonly considered as the main reason for the emergence of armed conflict⁵ in 2001, between the joint police and military forces under control of the Government and the paramilitary National Liberation Army - NLA (comprised of ethnic Albanians). The armed conflict from 2001 was stopped with signing of the peace accord, widely known as the "Ohrid Agreement"⁶, signed in August 2001. In its essence the Ohrid Agreement is

² According to results from the last Census of population in Republic of Macedonia from 2002, 64% of country's total population of 2.1 million declare as ethnic Macedonians, while 25% of the population as ethnic Albanians. See Државен завод за статистика на Република Македонија (2005). Попис на население, домаќинства и живеалишта во Република Македонија. Т.13. Скопје.

³ For detailed explanation see: Шкарик, Светомир.(1994). Уставно право - прва книга. Скопје: Унион трејд, р.143.

⁴ For detailed review on the demands of Albanian ethnic community, the reasons for outburst of the armed ethnic conflict from 2001, and how they perceived their status within the society prior and after the conflict from 2001, see: Rexhepi, Zeqirja (2005). Zhvillimet politiko-shoqërore te Shqiptarët në Maqedoni. Tetovë: Tringa Design,

⁵ Most ethnic Macedonian authors suspect that the main reason behind the armed rebellion of the Albanian National Liberation Army, was their goal to conquer territories under the pretext of fighting for human rights. For detailed argumentation of this line of thought see: Николовска, Наталија & Силјановска-Давкова, Гордана (2001). Македонска транзиција во дефект: од унитарна кон бинационална држава. Скопје: Магор, pp.67-85.

⁶ Find the text of the Ohrid Agreement, on the following internet address: <http://mls.gov.mk/index.php?news=450> [Last access, October 12, 2013].

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

broadly relying on mechanisms of Consocial Democracy⁷. Author Brendan O'Leary is referring to Consocial Democracy as "the favorite approach of the international community for building the institutions of post conflict societies in countries with diverse ethnic structure of the population"⁸. The essence of the Consocial approach toward building the institutions in multiethnic societies relies on deploying legal mechanisms which will allow non majority communities to protect their positions and interests, against any eventual attempt for domination from the largest ethnic community. Multiethnic composition and proportional representation of all ethnic communities in the public administration, consensual decision making and right to veto certain decision, are among most utilized legal mechanism of Consocialism. Along with the well known Consocial mechanisms introduced in the Ohrid Agreement and implemented through subsequent amendments to the Constitution and the existing legislation, the Consocial approach toward building the institutions of post conflict society in Republic of Macedonia, embraced the introduction of the Commissions for Interethnic Relations as mechanisms for nurturing of good interethnic relations in the municipalities with mixed ethnic structure.

2. OBJECTIVES AND METHODOLOGICAL APPROACH

The objective of this paper is to reveal the current state of affairs related to the work and the functioning of the Commissions for Interethnic Relations⁹, to analyze this situation against the expected results from their work, and to offer recommendations for sustainable development of the Commissions. The author is departing from the assumption that in the current state of affairs the Commissions are not in capacity to sustain their proper functioning.

⁷ For understanding the notion and the main characteristics of Consocial Democracy see the work of Arend Lijphart who is considered the founding father of this concept. Lijphart, Arend (1977). *Democracy in Plural Societies: A Comparative Exploration*. New Haven, CT. Yale University Press.

⁸ Such as in: Afghanistan, Bosnia, Cyprus, Iraq, Kosovo, Lebanon, and Macedonia. For more see: O'Leary, Brendan (2005). *Debating consociational politics: Normative and explanatory arguments*. In Noel, Sid JR. *From Power Sharing to Democracy: Post-Conflict Institutions in Ethnically Divided Societies*. Montreal: McGill-Queen's Press, pp. 3–43.

⁹ Further in the text also referred to as: Commissions.

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

The methodological approach used for realization of the objectives of this paper consists of collection and analysis of legislation, published papers and analysis related to the work of the Commission, with attention on using the results from the research on the work of the Commissions, carried out by the author within the process of writing of his doctoral thesis¹⁰. The method of thematic or framework analysis, primarily used in applied political sciences, was used for processing of gathered data¹¹.

3. DEFINING THE COMMISSIONS FOR INTERETHNIC RELATIONS

The Commissions for Interethnic Relations came about with the enactment of the Law on Local Self-governance¹² in 2002. Their mandate is defined in article 55 from the Law, stipulating that Commissions bear mandate to review issues related to interethnic relations in the municipality, and to give suggestions and submit initiatives to the Council of the municipality for resolution of interethnic issues and advancement of interethnic relations. The Law stipulates that the establishment of Commission for Interethnic Relations is mandatory in every municipality where percentage of members belonging to minority ethnic community exceeds 20% of the total population. In real life, 19 of Macedonia's 80 municipalities and the city of Skopje are obliged to establish Commissions. In addition 14 other municipalities have established Commissions, even though not being legally required to do so. Regarding Commissions' composition, law stipulates that every Commission should be comprised of equal number of representatives, representing each of the ethnic communities living in the municipality.

The concept introduced with the Commissions for Interethnic Relations in Republic of Macedonia is neither new nor unique. Author Andries Odendaal traces the

¹⁰ Within this research the author conducted 19 semi structured interviews with members from 12 different Commissions, 5 unstructured interviews with representatives of civic organizations, 3 semi structured interviews with university professors, one interview with a member of the group of experts that produced the first draft of the Law on Local Self-governance, and one member of Parliament.

¹¹ To find out more on the method of thematic or framework analysis, see: Robson, Colin (2002). *Real world research: a resource for social scientists and practitioner – researchers*. 2nd ed. Malden, MA; Oxford; Carlton, Victoria: Blackwell Publishing, pp.467-470.

¹² See: Закон за локална самоуправа (2002). Службен весник на Република Македонија, бр. 5/2002. Скопје.

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

concept of establishment of Local Peace Committees back in the sixties of the last century, when such Committees were established in the United States, following the effort for addressing and preventing the increasing number of racial incidents.

Odendaal is defining Local Peace Committees as: "Bodies functioning on local (sub-national) level consisted of influential members of the community with diverse social profiles, aspiring toward managing potential crisis and keeping the peace through deployment of nonviolent actions"¹³. The concept of Local Peace Committees was embraced by the United Nations and became part of their peace building strategies¹⁴.

Concerning the effects from the work of the Commissions, several domestic authors relevant in the field of interethnic relations, expect that Commissions will contribute to the overall advancement of interethnic relations. Authors Neziri and Tomovska perceive Commissions as: "Vital mechanisms for mediation on interethnic issues within municipality"¹⁵. A group of authors of the Practical Guide on the Functioning of Commissions for Interethnic Relations, are expecting that the work of the Commissions will result in decrease of interethnic tensions, and will contribute toward active inclusion of smaller ethnic communities in the decision making on local level¹⁶, while Djevat Ademi - member of Parliament and former President of the Parliamentary Committee on Interethnic Relations says that: "Commissions for Interethnic Relations are representing the essence of the Ohrid [peace] Agreement"¹⁷.

¹³ For definition, origins, and international disperse of Local Peace Commissions, see: Odendaal, Andries (2010). *An Architecture for Building Peace at the Local Level: A Comparative Study of Local Peace Committees*. UNDP. pp. 3-7. Retrieved from www.undp.org/.../UNDP_Local%20Peace%20Committees_2011.pdf [Last access, 18 April, 2013].

¹⁴ The concept of Local Peace Committees has been deployed in Nicaragua, Northern Ireland, India, South Africa, Kenya, Ghana and in other places.

¹⁵ See: Neziri, Damir. & Tomovska, Ivana (2011). *Analizë të politikave: komisione për marrëdhënie ndërmjet bashkësive*. Tetova: Shoqata Instituti për zhvillimin e bashkësive, p.10.

¹⁶ See: Хазири, Љуљзим. и други (2009). *Практичен водич за работата на Комисиите за односи меѓу заедниците*. Скопје: Заедница на единиците на локалната самоуправа на Република Македонија - ЗЕЛС, p.9.

¹⁷ Interview with Djevat Ademi, June 2013.

4. FINDINGS ON THE CURRENT STATE OF AFFAIRS IN THE OVERALL FUNCTIONING OF THE COMMISSIONS

The results from the analysis of the current state of affairs in the overall functioning of the Commissions reveal that there are several areas with serious shortcomings impeding their proper functioning.

The legal framework for functioning of the Commissions defined in article 55 of the Law on Local Self-governance is too broad. The Law stipulates that Commissions have mandate to review issues related to interethnic relations in the municipality, and to give suggestions and submit initiatives to the Council of the municipality, and the Council is obliged to review the submitted initiatives and suggestions and to take decisions upon them. Under the present definition virtually every issue in the work of the municipality could be interpreted as issue related to interethnic relations. In reality Municipal Councils often take decisions on issues of relevance for interethnic relation without consulting the Commission. For example, the budget of the municipality is highly relevant for the implementation of many issues of significance for the local ethnic communities, but not a single municipal budget has ever been reviewed by any Commission.

Attempting to define the competences of the Commissions more precisely, several authors suggest that the use of the provisions from article 41 of the Law on Local Self-governance should be extended on defining the mandate of the Commissions. The idea is that all regulations concerning the culture, the use of language and alphabet, and the use of symbols of minority ethnic communities in the municipality must be reviewed by respective Commission for Interethnic Relations, and the Council must take into consideration Commission's decision prior to enactment of the regulation in question¹⁸.

¹⁸ For detailed explanation on the attempt for precise defining of competencies of the Commissions see: Бојацијева, Александра (2011). Прирачник за комисиите за односи меѓу заедниците (КОЗ). Скопје: Фондација „Метаморфозис“ & Здружение на граѓани за поддршка на меѓуетнички дијалог и за развој на заедницата „Заеднички вредности“, pp. 10-14

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

Commissions for Interethnic Relations lack finances. According to the survey conducted by the Organization for Security and Cooperation in Europe (OSCE), only 3 out of 33 existing Commissions received financial support from the Budget of the Municipality based on their annual program of activities¹⁹. Taking into consideration that Commission members do not receive any financial remuneration for their work, the lack of finances is limiting their work and preventing members from making field visits or any other activities outside of the municipal building. Author's findings reveal that in the period between 2005 and 2012 the Commissions (through several local NGO's) received financial support of close to 400 000 euro, money provided by donor agencies for supporting the initial establishment and the work of the Commissions²⁰.

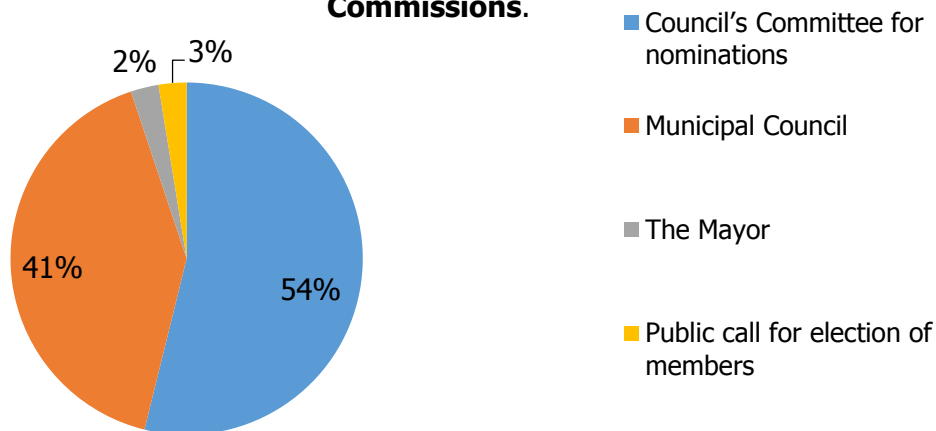
Results from the research related to the work of the Commissions, conducted by the author, reveal that **the influence of the political parties on the work of Commissions is enormous and to a large extent is driving their activity in line with political parties' interests.** The influence of politics on the work of the Commissions is predominantly executed through the process of nomination and election of members of the Commissions.

¹⁹ See: OSCE Mission to Skopje (2010). MU Survey on the MC Committee on Inter Community Relations 14 May 2010. Skopje: OSCE Mission to Skopje, p.3.

²⁰ See: Петковски, Александар (2014). Улогата на комитетот и комисиите за односи помеѓу заедниците во Македонија - целисходност, перспективи и меѓународни практики. Докторска дисертација. Тетово: Универзитет на Југоисточна Европа. p, 114.

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

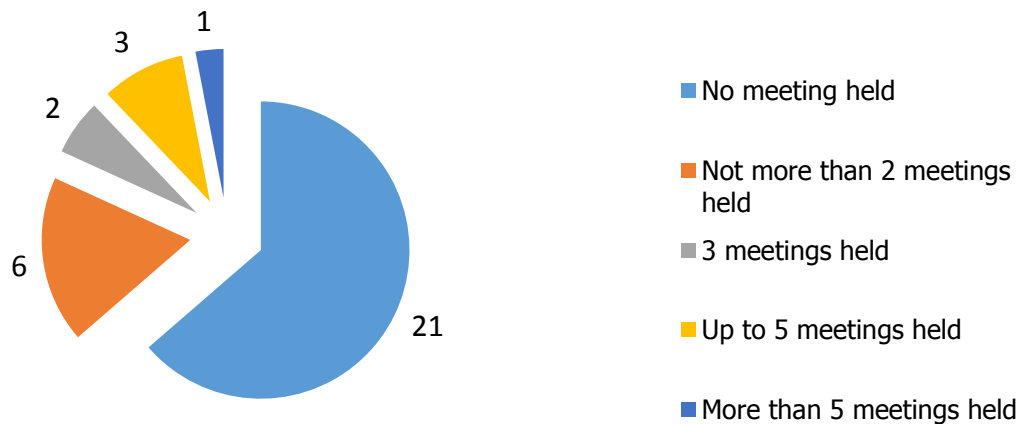
Table 1. Manner of nomination of members of the 33 Commissions.



Source: Based on data from author's Doctoral Thesis

As displayed in Table 1, Commission members are nominated either by one or more members of the Municipal Council or by Council's Committee on Elections and Appointments. In either ways the dominant political party in the Council of the Municipality has the final say regarding Commissions' composition, because the Council of the Municipality is electing Commissions' members by majority vote. The author is under impression that **the political parties represented in the Municipal Councils are not particularly fond and supportive toward the work of the Commissions.** The results presented in Table 2, from OSCE's survey,

Table 2. Display of the number of meetings held by 33 CIRs in the period between April 2009 and April 2010

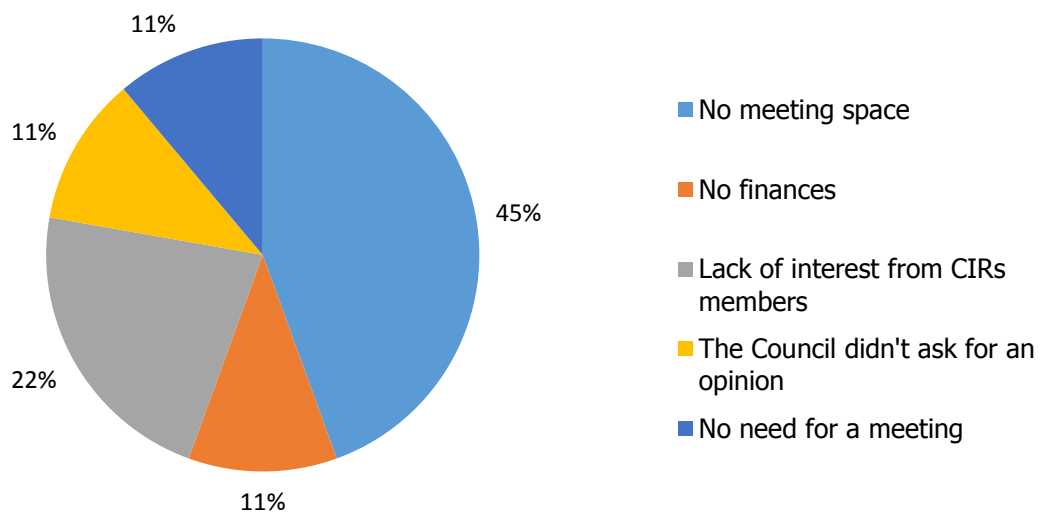


Source: OSCE's Survey on Municipal Committees from 2010

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

show inconsistency in the frequency of work of the Commissions in the period between April 2009 and April 2010²¹. Taking into consideration that majority from the members of the Commissions are in the same time members of the Municipal Councils as representatives of certain political party, the impression that the political parties are not particularly supportive toward the work of the Commissions, is growing stronger. Another set of results from the Survey on the Functioning of the Commissions for Interethnic Relations²², displayed in Table 3, shows similar results in favor of the aforementioned argumentation. 45% from the 154 members of Commissions responded that main reasons for not convening meetings on regular basis could be found in the lack of interest from members of the Commissions and the Councils of the municipalities, or that there was no need for a meeting.

Table 3. Answers from 154 Commissions' members, when asked to state the reasons for not convening meetings on regular basis



Source: Survey of the NGO Institute for Development of the Communities

The political influence and the diagnosed apathy of the political parties for the work of the Commissions is also visible following the results of their work. **The**

²¹ See: OSCE Mission to Skopje (2010). MU Survey on the MC Committee on Inter Community Relations 14 May 2010. Skopje: OSCE Mission to Skopje, p.7.

²² The Survey was conducted by the NGO Institute for Development of the Communities from Tetovo, and published in the work of: Neziri, Damir. & Tomovska, Ivana (2011). Analizë të politikave: komisione për marrëdhënie ndërmjet bashkësive. Tetova: Shoqata Instituti për zhvillimin e bashkësive, p.21.

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

Commissions for Interethnic Relations completely avoid their interference in issues with sensitive political context. In situation of outburst of fights between ethnic Macedonian and ethnic Albanian high school student in several cities, Commissions from Tetovo, Kumanovo and Struga did as much as writing press releases - asking the involved parties to stop the violence. All political issues of major importance concerning interethnic relations are regularly addressed by the leaderships of the political parties at local or national level.

In addition the results show that **Commissions lack capacity for managing the work and the administration.** Commissions do not get any administrative support from the municipality and often their work is impeded by lack of meeting space.

5. DISCUSSION

Contrary to the overall expectations that the Commissions for Interethnic Relations will contribute toward the advancement of interethnic relations, the results rather show that Commissions are not up to the expectations. Author Renata Deskovska came to a similar conclusion, when saying that there was a general impression that Commissions were not fulfilling their mission²³. The results reveal that Commissions are facing major challenges in several segments of vital importance for their unimpeded functioning. The international experiences from the work of the Peace Committees are showing that some of the Committees producing very effective outcomes, like the Committees from South Africa²⁴ and Ghana²⁵, have their own budgets and receive substantial support from the respective governments, especially on issues of administrative and technical nature as well as on liaison with governmental and other public institutions on local and national level. It is difficult to grade the issues according to their importance for sustainable development of the Commissions, but it

²³ See: Deskovska, Renata (2009). Constitutional mechanisms for inter-ethnic dialogue in the Republic of Macedonia. Skopje: Law Faculty - Iustinianus Primus, p.7.

²⁴ See: Odendaal, Andries (2010). An Architecture for Building Peace at the Local Level: A Comparative Study of Local Peace Committees. UNDP. p. 12. Retrieved from www.undp.org/.../UNDP_Local%20Peace%20Committees_2011.pdf [Last access, 18 April, 2013]

²⁵ See: Bawumia, A.M. & Ojielo, Ozonnia (2007). Building peace for development in Ghana. Ministry of the Interior. Accra. pp.7-8.

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

seems that the allocation of budget and provision of administrative and technical support should receive priority. It is widely known that finances are precondition for the functioning of every serious organization. The results show that for the period when Commissions were receiving financial support from donor agencies, the volume of their activities had considerable increase²⁶. The lack of finances demotivates Commissions' members and halts any eventual activities, like meetings or field visits. Provision of annual budget of activities will give opportunity for the Commissions to plan their activities and sustain their work.

Bearing in mind that members of Commissions and Municipal Councils often do not have any experience in managing the work of the Commissions, municipalities must allocate at least one of their civil servants to guide and help the Commissions with administrative issues such as: organizing the meetings, producing minutes from the meetings, archiving, and counseling. In addition, municipalities must find ways for allocation of office space, computers, and communication equipment, necessary for provision of basic conditions for unimpeded functioning of the Commissions.

The results reveal that political parties have control over the work and the decision making in the Commissions. Members of the Municipal Councils which are in the same time members of Commissions for Interethnic Relations regularly prioritize and put the interests of the political parties they represent in the Municipal Council, before the interests of the citizens from respective ethnic community they represent in the Commission. Hence, a large portion of the inconsistency and the idleness in the work of the Commissions should be explained through the divergence in interests between the Commissions and the political parties. As consequence, exclusion of political parties from the Commissions and recruiting members among influential and respected members in the community is one of the basic preconditions for sustainable development of Commissions.

²⁶ See: Петковски, Александар (2014). Улогата на комитетот и комисиите за односи помеѓу заедниците во Македонија - целисходност, перспективи и меѓународни практики. Докторска дисертација. Тетово: Универзитет на Југоисточна Европа. pp, 121-123.

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

Finally, the legal provisions defining the mandate and the situations where the Council of the municipality must obtain Commission's opinion prior to making decisions must be further specified. The example of specifying in details the Constitutional provisions, pertaining the work of the Committee on Interethnic Relations,²⁷ with the Law on the Committee on Interethnic Relations, is a good example to be followed in the case of further specification of the provisions from article 55 of the Law on Local Self-governance.

6. RECOMMENDATIONS

On basis of presented findings and argumentation, the author is giving the following recommendations for sustainable development of Commissions for Interethnic Relations:

- Precise defining of Commissions' competences with accent on defining the situations where the Council of the municipality must obtain Commission's opinion prior to making decisions;
- Provision of financial sustainability through introduction of annual budget for the work of every Commission;
- Municipalities should provide the necessary administrative and technical support, and the required space for work of the Commissions;
- Commissions should be composed of influential and respectable members in the local community, free of allegiance to any political party.

²⁷ The Committee on Interethnic Relations is a Parliamentary body with almost identical mandate to the mandate of the Commissions for Interethnic Relations, with exception that the focus in the work of the Committee encompasses interethnic relations on national, rather than local level.

PRECONDITIONS FOR SUSTAINABLE DEVELOPMENT OF COMMISSIONS FOR INTERETHNIC RELATIONS

REFERENCES

1. Bawumia, A.M. & Ojielo, Ozonnia (2007). Building peace for development in Ghana. Ministry of the Interior. Accra.
2. Бојациева, Александра (2011). Прирачник за комисиите за односи меѓу заедниците (КОЗ). Скопје: Фондација „Метаморфозис“ & Здружение на граѓани за поддршка на меѓуетнички дијалог и за развој на заедницата „Заеднички вредности“.
3. Deskovska, Renata (2009). Constitutional mechanisms for inter-ethnic dialogue in the Republic of Macedonia. Skopje: Law Faculty - Iustinianus Primus.
4. Државен завод за статистика на Република Македонија (2005). Попис на население, домаќинства и живеалишта во Република Македонија. Т.13. Скопје. Retrieved from: http://www.stat.gov.mk/pdf/kniga_13.pdf [Last access July 10, 2014].
5. Хазири, Љуљзим. et al. (2009). Практичен водич за работата на Комисиите за односи меѓу заедниците. Скопје: Заедница на единиците на локалната самоуправа на Република Македонија - ЗЕЛС.
6. Lijphart, Arend (1977). Democracy in Plural Societies: A Comparative Exploration. New Haven, CT. Yale University Press.
7. Neziri, Damir. & Tomovska, Ivana (2011). Analizë të politikave: komisione për marrëdhënie ndërmjet bashkësive. Tetova: Shoqata Instituti për zhvillimin e bashkësive.
8. Николовска, Наталија & Силјановска-Давкова, Гордана (2001). Македонска транзиција во дефект: од унитарна кон бинационална држава. Скопје: Магор.
9. Odendaal, Andries (2010). An Architecture for Building Peace at the Local Level: A Comparative Study of Local Peace Committees. UNDP. Retrieved from: www.undp.org/.../UNDP_Local%20Peace%20Committees_2011.pdf [Last access, 18 April, 2013].
10. O'Leary, Brendan (2005). Debating consociational politics: Normative and explanatory arguments. In Noel, Sid JR. From Power Sharing to Democracy: Post-Conflict Institutions in Ethnically Divided Societies. Montreal: McGill-Queen's Press.
11. Петковски, Александар (2014). Улогата на комитетот и комисиите за односи помеѓу заедниците во Македонија - целисходност, перспективи и меѓународни практики. Докторска дисертација. Тетово: Универзитет на Југоисточна Европа.
12. Rexhepi, Zeqirja (2005). Zhvillimet politiko-shoqërore te Shqiptarët në Maqedoni. Tetovë: Tringa Design.
13. Robson, Colin (2002). Real world research: a resource for social scientists and practitioner – researchers. 2nd ed. Malden, MA; Oxford; Carlton, Victoria: Blackwell Publishing.
14. Шкариќ, Светомир.(1994). Уставно право - прва книга. Скопје: Унион тред.
15. Закон за локална самоуправа (2002). Службен весник на Република Македонија, бр. 5/2002. Скопје.
16. OSCE Mission to Skopje (2010). MU Survey on the MC Committee on Inter Community Relations 14 May 2010. Skopje: OSCE Mission to Skopje.
17. Рамковен Договор (2001). Retrieved from: <http://mls.gov.mk/index.php?news=450> [Last access, October 12, 2013].



INTEGRATED BUSINESS FACULTY - SKOPJE