Contents

Volume 5 Number 4 2016 JUne

József Kis-benedek. 
ILLEGAL MIGRATION AND TERRORISM 455

Viljar Veebel. 
WILL SANCTIONS AGAINST RUSSIA BE SUCCESSFUL: WILL RUSSIA FALL BEFORE UKRAINE? 465

Jindřich Ploch, Zdeněk Žihla. 
SECURITY AND HINDRANCE AT AIRPORTS 481

Sergej Vojtovič, Valentinas Navickas, Valentas Gruzauskas. 
STRATEGY OF SUSTAINABLE COMPETITIVENESS: METHODOLOGY OF REAL-TIME CUSTOMERS’ SEGMENTATION FOR RETAIL SHOPS 489

Valius Urbonas, Arūnas Alonderis. 
PRECONDITION OF SUSTAINABLE SECURITY: GENESIS OF THE LITHUANIAN AVIATION INSTITUTIONS 501

Elena Petrenko, Anna Shevyakova, Zhanibek Zhartay, Oleg Olefirenko. 
TOWARDS ECONOMIC SECURITY THROUGH DIVERSIFICATION: CASE OF KAZAKHSTAN 509

Ieva Astrauskaitė, Arvydas Paškevičius. 
ASSESSING THE OPTIMAL TAXATION OF THE CAPITAL INCOME: A CASE OF CORPORATE BOND MARKET 519

Vladas Tumalavičius, Jānis Ivančiks, Oleksandr Karpishchenko. 
SUSTAINABLE ECONOMIC DEVELOPMENT OF SLOVAKIA: FACTORS DETERMINING OPTIMAL TAX COLLECTION 533

Zhanna Tsaurkubule. 
ISSUES OF SOCIETY SECURITY: PUBLIC SAFETY UNDER GLOBALISATION CONDITIONS IN LITHUANIA 545

Miroslav Kelemen, Jozefína Drotárová, Danica Kačíková. 
TOWARDS SUSTAINABLE DEVELOPMENT: CHANGING THE MODEL OF SOCIAL POLICY IN LATVIA 575

Zuzana Horváthová, Soňa Křítková, Olga Tcukanova. 
PERCEPTON OF SECURITY AND SAFETY NEED: VOLUNTEER FIRE PROTECTION AS A PART OF VOLUNTEERING ON SLOVAK REPUBLIC 589

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Dear readers,

Today, when academia – industry cooperation and collaboration through clustering and technology transfer trigger new surge of novel activities, it is very important to strengthen such interaction in variety of ways and forms using diverse means and channels. One of such means is science translation, which can be implemented through inclusion of business, society, military, NGOs and other actors into common discussion about processes, problems and relevant policies.

Therefore, today, being a President of Lithuanian Business Confederation, which is the largest business organization of a country uniting service, trading and high-tech companies, serving as national committee of the International Chamber of Commerce in Lithuania, I want to introduce a scientific journal devoted to urgent contemporary issues related to secure sustainable development of regions and countries, businesses and societies.

Let us together foster innovations through efforts directed to converging of theory and practice by sharing the best practices, scientific insights, inclusion of various circles of society into common discussion and collaboration. Let us read, write and reflect in order to contribute to building of our common secure and sustainable future based on continuously emerging innovations born as result of fruitful cooperation of diverse market players.

Best regards

VALDAS SUTKUS
President of Lithuanian Business Confederation
The General Jonas Jurevičius
Military Academy of Lithuania
Vilnius Gediminas
Technical University

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EDITORIAL CORRESPONDENCE including manuscripts and subscription
Prof. Dr. Manuela Tvaronavičienė
Tel.: +370 687 83 944
E-mail: submissions@jssidoi.org, Manuela.Tvaronaviene@vgtu.lt, manuela.tvaronaviene@lka.lt

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This work is licensed under a Creative Commons Attribution 4.0 License.
Prof. Alvydas Šakočius, The General Jonas Žemaitis Military Academy of Lithuania alvydas.sakocius(at)lka.lt
Prof. Ani Matei, National School of Political Studies and Public Administration, Romania amatei(at)snspa.ro
Prof. Gediminas Dubauskas, The General Jonas Žemaitis Military Academy of Lithuania Gediminas.Dubauskas(at)mil.lt
Prof. Agota Giedrė Raišienė, Mykolas Romeris University, AVADA, Lithuania
Prof. Mehmet Huseyin Bilgin, Istanbul Medeniyet University, Turkey bilgin(at)ebesweb.org
Prof. Marina Sheresheva, Lomonosov Moscow State University, Faculty of Economics, Russian Federation m.shersheva(at)mai.ru
Prof. Ramaswamy Ganesan, King Saud University, Kingdom of Saudi Arabia ganesan_sivam(at)rediffmail.com
Prof. Bora Aktan, University of Bahrain, the Kingdom of Bahrain gbor(at)uob.edu.bh
Prof. Leon Pretorius, University of Pretoria, Graduate School of Technology Management, Republic of South Africa, leon.pretorius(at)up.ac.za
ILLEGAL MIGRATION AND TERRORISM

József Kis-Benedek

National University of Public Service,
Ludovika tér 2, H-1083 Budapest, Hungary

E-mail: kbjozsef@t-online.hu

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Abstract. The connection between illegal migration and terrorism is in the focal point of security dilemmas since the beginning of the flow of migration and since the terrorist attacks in Paris in particular. The basic question is whether the terrorist organizations are able and will embed terrorists among the migrants. The essay makes a comparison between the American and European handling of refugees emphasizing the effectiveness of the American refugee’s processes. The author refers the challenges of the security services facing the Islamic State.

Keywords: illegal migration, terrorism, intelligence, security, screening of refugees, Islamic State.

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1. Introduction

The Paris attacks are transforming Europe’s migration crisis into a security debate, spurring calls for a clampdown on free movement across borders, and putting proponents of an open door for refugees on the defensive.

France’s firm belief that Islamic State militants planned the attacks – and the possibility that at least one assailant may have posed as a Syrian refugee – are fueling arguments over whether Europe is doing enough to protect itself from terrorists who might infiltrate the thousands of migrants arriving daily from the Middle East and elsewhere.

Evidence that some of the attackers crossed internal European Union boundaries to get to Paris have also brought more demands from EU-skeptic politicians to abolish the continent’s system of open borders.

To proponents of European integration, the attacks highlight the need for more EU cooperation on security and better joint protection of the EU’s external frontier.

The wave of migration to Europe in 2015 raises the connection between terrorism and illegal migration. There are plenty of arguments pro and contra. In December 2015, the United Nations High Commissioner for Refugees announced that 2015 saw record-breaking levels of forced migration; over 60 million individuals were pushed from their homes. Syrian refugees, in images of capsized boats and dead children on the shores of...
Greece, have captured the world’s attention, bringing media coverage to the plight of forced migrants. But the reality is that the world is paying attention to only one subset of the issue: cross-border refugees. The plight of internally displaced people has gone less noticed, simply because these migrants do not land on our shores” (Mitchneck, Beth 2016).

I would like to emphasis at the beginning of this essay that the direct connection between terrorism and migration is a strategic mistake. Neither the refugees nor the better life seeking are terrorists. The refugees look for protection against persecution often perpetrated by terrorists. However it should be taken into consideration that the terrorist organizations can use the illegal migration to send operatives to the target countries. The today’s terrorist organizations seek for finding assailants in the Western countries having citizenship, with no connection to religious organization, possibly without file by security services and having a „normal” daily life. In many European countries they can find people like this. (Besenyő, János 2015) The experiences of the London, Madrid and other attacks have shown this assertion. But the risk that Islamic State or other terrorist organizations could smuggle militants into Europe under cover of a huge wave of migrants is much smaller than some politicians suggest. Islamic State has no need to export fighters to Europe because it imports fighters from Europe. There are five to six thousand Europeans who are, or have been, in Syria, and others are living there all the time. So it’s hard to see the advantage for Islamic State to export Syrian or Iraqis, people who speak Arabic, who know Iraq and Syria, and who they need over there. (http://www.euractiv.com 2015) It is a very cumbersome and plenty of risks to come into the European Union. There is a lot of easier ways to slip in.

There is another reason why Islamic State needn’t care about smuggling people into Europe: there is no shortage of ”lone wolf” militants already in place. From Brussels and Paris to Copenhagen, deadly attacks have been committed since last year by people living in Europe and able to travel freely across continent due to the Schengen borders. There is no need for them to send people right now, but this may well change over time.

„The activity of the Islamic State is facilitated by a rather good propaganda. The effective use of social media has brought to the ISIS efficient results and accomplishments, especially in recruiting youth worldwide. Social media has helped the ISIS disseminate their views and stories across societies around the globe” (Shamieh, Luna – Szenes, Zoltán 2015).

2. The Paris attacks

The brutal terrorist attack in France on November 13 opened a debate over accepting refugees from Syria and the Middle East. A Syrian who applied for asylum could have been of the attackers, although his passport was forged. Later the French authorities discovered another suspected person as well. All identified attackers have been French or Belgian nationals. The attacks revealed the extent to which the situation in Syria, the immigration crisis in Europe and international terrorism are interconnected. (https://www.stratfor.com 2015) The repercussions of the attacks will be similarly far-reaching not only in the fight against terrorism, but other fields as well.

Let see some examples:

– Governors and presidential candidates in the USA have voiced opposition to accepting any Syrian refugees.
– The Paris attack will seriously challenge the continuity of the Schengen Agreement. France has re-established border-controls, as have Sweden, Germany and Slovenia. Hungary built a fence to protect its border (Schengen external border) with Serbia and Croatia. In November 2015 Slovenia and Macedonia started to build fence on the border.
– Closing off Europe’s external borders without finding a home for the migrants could lead to seriously problems in the Balkans, where migrants will be stranded. As several thousand men and women become involuntary migrants to countries with high unemployment and ethnic tensions, the region’s already fragile political and social structures will experience significant strain in the next few month. Of course it depends on whether the European countries will be able to find a common solution to the migrant crisis.
− The rising of terrorism and migration could accelerate the rise of nationalist parties across Europe.
− The rise of Euroskepticism will be felt elsewhere in Europe. In Germany, under pressure of conservative forces, Chancellor Angela Merkel has already changed policy to toughen regulation of asylum.
− The Paris attack and the growing terrorist threat in Europe will make it hard for the European Commission to defend its plan to relocate refugees across the Continent. The plan is already in serious trouble, only a few hundred of the 120,000 refugees have actually been relocated. Poland said it will opt out from the plan, and other countries in Central and Eastern Europe will probably follow suit. Brussels will be too weak to introduce sanctions against the countries that choose not to participate in the plan.
− The European Union and Turkey try to enhance the cooperation to prevent asylum seekers from entering Europe. If somebody could do effective steps against the flow of migrants to Europe, this is Turkey. The Turkish government basically made three requests: money, visa liberalization for Turkish citizens and a no-fly zone in northern Syria. After the Paris attacks, Brussels will probably offer more flexible visa conditions and other concession for Turkish citizens and the Turkish state.
− The migration and the growing terrorism in Europe will accelerate some processes that were underway in Europe, such as resistance to migration and criticism of the Schengen Agreement.

3. Differences between European and American refugee’s admission

There is a huge difference between the European and American refugee’s admission system. Unfortunately the EU countries made a big mistake in 2015 in letting enter thousands of illegal migrants without control to Europe. The defense of external Schengen borders is the task of the country respective but very few countries had taken this regulation seriously. It is very hard to check the refugees after entering the country. A basic difference between the European and American practice is that the European first let enter the foreigners and thereafter try to check them. The American method is to check first and let them enter after a comprehensive control.

In defense of the European method I have to mention the huge number of refugees arriving in mass to the border or mainly to the „green border”. The authorities often were not able to stop them. They refused the registration because they wanted to be registered in Germany or later in Sweden. Many of them showed no passport or other paper for identification. In many cases they refused taking photo or fingerprints as well.

Terrorist organizations certainly have realized and profited this great possibility to send theirs people to Europe. I am convinced that actually nobody can say in Europe the exact number of terrorist or would-be terrorists. The uncontrolled flow of refugees carries another threat as well: those who cannot be integrated to the societies can be later radicalized and from the radicalization is the terrorism not far away.

I am convinced that the book of Samuel P. Huntington on the Clash of civilization (the book was written 20 years ago) is very actual in 2016 as well. „The religious revival has in part involved expansion by some religions, which gained new recruits in societies where they had previously not had them. To a much larger extent, however, the religious resurgence involved people returning to, reinvigorating and giving new meaning to the traditional religions of their communities” (Huntington, Samuel P. 1997).

It is worth seeing the American method of admitting refugees and connection between terrorism and refugees.

From the 859,629 refugees admitted in the USA from 2001 onwards, only three have been convicted of planning terrorist attacks on targets outside of the United States and none was successfully carried out (Nowrasteh, Alex 2015). That is one terrorism-planning conviction for every 286, 543 refugees that have been admitted. To put that in perspective about one in every 22,541 Americans committed murder in 2014. The terrorist threat from Syrian refugees in the United States is over-exaggerated and they have very little to fear from them because the refugee vetting system is so thorough. There are many differences between Europe’s vetting of asylum seekers from Syria and how the United States screens refugees. The geographic distance between the United States and Syria allows the US government to better control the migrants, while large numbers of Syrian who try to go to Europe are less carefully checked.
It is important to make differences between refugees and asylum seekers. The asylum seekers show up at national borders and ask to stay. They must show they have a well-founded fear of persecution due to their race, religion, nationality, membership in a particular social group, or their political opinion if they return to their country of origin. There is an application and investigation process, and governments often detain the asylum seeker during that process. But the investigation and vetting of the asylum seeker often take place while he is allowed inside the country. Many of the Syrians and others who have entered Europe are asylum seekers who are vetted through similar, less stringent security screens, but due to the huge number of refugees and the unpreparedness of the authorities it happened many times that unregistered, unknown people from different crisis areas moved across countries.

In the US a refugee is somebody who is identified by the United Nation High Commissioner for Refugees (UNHCR) in a refugee camp. In the United States UNHCR does the first round of security checks on the refugee according to international treaties to which the United States is a party, and refers some of those who pass the initial checks to the U.S. Refugee Admissions Program (USRAP). The referrals are then interviewed by a U.S. Citizenship and Immigration Services (USCIS) officer abroad. The refugee must be outside of the United States, be of special humanitarian concern to the government, demonstrate persecution due to race, religion, nationality, political opinion, or membership in a particular social group, and must not be firmly resettled in another country. Refugees are processed from a great distance away and more thoroughly vetted than asylum seekers as a result.

Because the refugee is abroad while the U.S. government checks their background, potential terrorist links, and their claims to refugee status, the vetting is a lot more thorough and can take up to two years for non-Syrians. For Syrians, the vetting can take about three years because of the heightened concerns over security.

Asylum seekers, on the other hand face rigorous checks, but they are conducted while the asylum seeker is inside the United States and not always while he is in a detention center. Syrian fleeing violence that come the United States will be refugees, whereas many getting into Europe are asylum seekers. This distinction shows very well that the United States is in a far better security situation vis-a-vis Europe on any potential terrorist threat from Syria. The distinction between asylum seekers and refugees is usually lost when discussing the security treat from refugees.

4. The process of the refugee’s screening in the USA

The first step for a refugee is to arrive and register in an UNHCR refugee camp outside of Syria. The UNHCR then refers those who pass the first stage of vetting to the U.S. government refugee process. The National Counterterrorism Center, the Terrorist Screening Center, the Department of Defense, the FBI, Department of Homeland Security and the State Department use biometrics and biographical information collected through several interviews of the refugee and third party persons who know him or could know him to evaluate their security risk and to investigate whether they are suspected of criminal activity or terrorism. Numerous medical checks are also performed. During this entire screening process, which takes about three years for Syrians, the refugee has to wait in the camp. If there is any evidence that the refugee is a security threat he or she is not allowed to go to the United States. Refugee security screening goes beyond weeding out actual terrorists but also seek to identify those who provided material support to them.

Remarkable are the figures: in 2015, the United States has accepted only 1,682 Syrian refugees, which is 0.042 percent of the 4,045,650 registered Syrian refugees. (Refugee Processing Center 2015) Only one out of every 2,405 Syrian refugees in a camp was resettled in the United States in 2015. If the United States still takes in 10,000 Syrian refugees in 2016, and the number of refugees rises to 4.5 million, a mere 0.22 percent of them—one out of every 450 will be resettled in the United States. That number is still so small and the process so well monitored that potential terrorists are unlikely to see the refugee system as a viable way to enter the United States. The US refugee process is so long, so thorough, that it is probably the least efficient way for a potential terrorist to enter the US. In the 14 years since September 11, 2001, the United
States has resettled 784,000 refugees from around the world, according to data from the Migration Policy Institute, a D.C. think tank. And within that population, three people have been arrested for activities related to terrorism. None of them were close to executing an attack inside the U.S. and two of the men were caught trying to leave the country to join terrorist groups overseas (Berman, Russell 2015).

As we have seen the vetting of refugees before entering a country needs time and is not easy at all, but not impossible. After entering a country the checking of refugees is highly difficult. This is the case in Europe. In Europe not only the refugees are considered as a security threat but those who have travelled to crisis areas mainly to Syria and Iraq and entered to the ranks of ISIS or other terrorist organization. Theirs return to Europe means a serious security threat. It is not by chance that France after the Paris attacks made a proposal to the EU to screen every single EU passport holders entering to continent for the first time to catch fighters returning from the Middle East. Europol admitted that only 2,000 of the estimated 5,000 extremist who have travelled to Syria and Iraq to make jihad have been logged on an EU-vide intelligence sharing database used by Britain to disrupt plots. It means Britain has no way of checking the background of 3,000 suspected terrorists, even if their own country has identified them as a threat. One French official said the EU’s borders were „like a sieve”. (Holehouse, Matthew 2015)

Another proposal after the Paris attacks is that every single migrant is checked against a terror watch list, after French authorities revealed that Abdelhamid Abaaoud and another terrorist were able to return from Syria via the migrant route of Greece, intensifying fears that terrorists are able easily to exploit the refugee crisis to get to Europe. According to Bernard Cazeneuve, the French interior minister, French intelligence was unaware Abaaoud was in the country until after the massacre, and said other states had provided no intelligence on his whereabouts. At present, only non-EU passport holders are meant to have SIS checks (SIS = Schengen Information System). EU passport holders only undergo a cursory visual passport inspection, to respect their “freedom of movement”. Up to six of the eight Paris attackers fought in Syria, and Abaaoud had boasted to an ISIL magazine of how police failed to catch him as he moved several times between Belgium and Syria, with border guards failing to recognize his face as a wanted man. (Holehouse, Matthew 2015). We cannot forget if the terrorist is not in the database, it is hard to identify the person. According Rob Wainwright, the director of Europol and a former intelligence officer in MI5: the majority of the data is supplied by just a handful of states. It is a fact that the majority of the perpetrators of the Paris attacks is not refugees and have European passport. Some were born and raised in France and Belgium before being radicalized.

According to The Telegraph as few as one in 100 wanted terrorists carrying European passports were being checked against the EU’s anti-terrorism watch list in some countries. Just 10-20 per cent of EU citizens have their passports checked against a database designed to catch foreign fighters returning from Syria and Iraq. This means that „home-grown jihadists” are able to travel freely from Syria to Europe. (Richards, Victoria 2015) An operative working for Islamic State has revealed the terror group has successfully smuggled thousands of covert jihadists into Europe. The Syrian operative claimed more than 4,000 covert ISIS gunmen had been smuggled into western nations – hidden amongst innocent refugees. He revealed the ongoing clandestine operation is a complete success. (Brown, Aron 2015) I think this as a clear propaganda of the IS but who can verify it?

We cannot forget the lessons of 9/11 concerning migration and terrorism. (Martin, Susan 2015)

- Many of the hijackers received visas to enter the US as tourists or students so they could present valid and original travel document during border crossing. The computerized „look-out” system did not flag them as terrorists.
- Even if the look-out system had identified them as a terrorist, the hijackers may have been able to enter the US illegally via Canada or Mexico. The vast majorities who enter illegally over the Mexican border are job seeker and pose no security threat, but the same vulnerabilities that permit large-scale unauthorized migration could be exploited by terrorist to enter the US. I think the situation in Europe is a little similar.
- The US does not track the movement of foreigners once they have entered.
- There are significant differences among countries in the treatment of immigration inside US (and in Europe as well).
5. Challenges facing the Intelligence Community

One of the roots of the illegal migration is the Islamic State, but I would like to emphasize not the only. The causes of migration are wider. The Islamic State (IS) is much more than a terrorist organization; it is a guerilla organization with state ambitions by using mainly terrorist methods. Over the last four years, since the beginning of the civil war in Syria, the Islamic State developed from an extremist fringe and marginal faction participating in the civil war to become the strongest, most ferocious, and best funded and best armed militia in the religious and ethnic war that is waged today in Syria and Iraq. (Neriah, Jacques 2014) Many expert even Islamic stated that this organization is not Islamic at all and not a state.

The Middle East influenced by the conception of Sykes-Picot began to disintegrate. The Islamic State does not seem like a passing phenomenon. The structures being established indicate that even if the actual leaders of the IS are killed, the system has created a succession procedure that will allow them to survive, just like al-Qaeda survived the killing of Osama Bin Laden. Killing the leadership of the IS is not the best method because there are many replacement and the organization is embedded in the Sunni population. Uprooting the IS phenomenon will be a long and arduous road. Without creating a chasm between the IS and the local population, and without reaching a long and lasting political solution that will put an end to Sunni-Shiite rivalries in Iraq and to the conflict in Syria, the chances of success will remain negligible.

The success of the Islamic State in conquering large parts of Syria and Iraq (as big as the UK) demonstrates the fragile nature of the countries in the Middle East and the volatility of the security problems in the region. The Islamic State is a relative newcomer to the Middle East terror and Islamic extremist groups that arose over the past 50 years. Its forerunner was ‘al Qaeda in Iraq’ (AQI), a group formed in 2006 by Abu Musab al-Zarqawi. AQI was so violent and extreme that Osama bin Laden dissociated al Qaeda from AQI. At the same time, Iraqi Sunni tribes formed the Awakening Movement (Sahwa) to combat AQI. Zarqawi was killed later in 2006 by an U.S. air strike. AQI was weakened by the Sahwa and did not resurface as a significant force until 2011 when the group, now under the name Islamic State of Iraq, joined the fighting in the Syrian civil war. The change of name (ISIS/ISIL) and leadership with al-Baghdadi did not diminish the group’s propensity for extreme violence. ISIS originally affiliated with Jabhat al Nusra, a group associated with al Qaeda, but soon split to display a willingness to fight any and all in the Syrian conflict. (Henley Putnam University, 2015)

The Islamic State is a major threat to both rebel and loyalist forces in Syria. Having long devoted the majority of their fighters and efforts to battles against each other, rebel groups and his regime of Assad are becoming increasingly aware that they cannot afford to let the Islamic State take advantage of the country’s internal conflict to assault and seize weakly held territory. This is particularly true as the group converges on important populated areas such as Aleppo or even Homs and Damascus, where it previously had no substantial presence.

Though the Islamic State certainly faces some critical threats of its own, including rebel and coalition efforts to cut off its supply lines through Turkey the group is still able to maintain its force in a number of areas. Each new base, town or supply depot that it secures only boosts its foothold in Syria’s civil war, which in turn translates into gains across the border in Iraq. The Syrian government and disparate rebel forces must now dedicate more of their attention to the Islamic State threat as it becomes an increasingly important factor in their battle plans and objectives. Concerning the future it is probable that: (https://www.stratfor.com 2015)

- „The Islamic State will prioritize the defense of its core supply lines, used to provide equipment and much-needed recruits.
- The Islamic State will continue to demonstrate considerable flexibility in its offensive operations.
- The Syrian government and rebel forces will have to increasingly devote their attention and resources to fighting the Islamic State, rather than prioritizing battles with each other”.

Members of the Islamic State are planning to carry out major terror attacks against targets not only in the Middle East but in the United States or in Europe as well. There is evidence that the organization is running sleeper
cells around the world, outside of Iraq and Syria. The goal: to gain a greater foothold in the Islamic world – politically and militarily. (Dvorin, Tova 2014) The intelligence community has since discovered that IS is working to recruit foreign fighters to carry out terror attacks abroad, an alarming fact revealed by a former member of al Qaeda. In addition, many people were recently arrested in Europe over IS connections, which could be considered as a proof for the recruitment. Taking into consideration that IS is more formidable than al Qaeda, (IS is) better equipped, they’re better manned, they’re better resourced, they’re better fighters, they’re better trained than the al Qaeda in Iraq that our forces faced. It is a global expansionist, global jihadist organization it is swollen with foreign fighters and suicide bombers who will go wherever the organization tells them to go.

The real threat presented by the Islamic State is to the West itself, thanks to the vast and unprecedented numbers of Westerners who have joined the jihad in Iraq and Syria.

Parallel whit this the Islamic extremism is growing not only in the Middle East but in Europe as well. According to the evaluation of experts „Islamic extremism is the belief that traditional Islamic values must be universally adopted to defeat the encroachment of Western influence and return to the purest form of Islam. Radical Islamists perceive that Western cultural and economic influences, the sponsorship of pro-Western Muslim governments, the creation of the state of Israel, and the dilution of traditional Islamic law (Sharia) are all violation of the Koranic scriptures by illegitimate Muslims who have abdicated their responsibility to maintain the values of the faith and the people”. (Maras, Marie-Helen 2013)

European security services are already overwhelmed by the size and scope of this threat, with hundreds of European jihadists returning home every month, fresh from battle on behalf of the Islamic State, and ready to cause mayhem and recruit others for the jihad. E.g. in France, the number of its citizens waging jihad in Syria and Iraq, mostly on behalf of the Islamic State, is without precedent. While earlier jihadist campaigns in Bosnia in the 1990s or in Iraq a decade ago, for instance, attracted a few dozen French nationals apiece, the current wars in the Middle East have involved nearly a thousand French citizens – 942 in Syria over the last two years, according to French intelligence, which tracks the involvement of these fighters as best it can. Paris believes that about 350 French citizens are waging jihad in Iraq and Syria at present, and French security services are simply overwhelmed by the number of extremists – known jihadists, would-be jihadists, plus returning jihadists – they need to track. (http://20committee.com 2015)

Marc Trévidic, a counterterrorism magistrate with long experience in dealing with jihadists, known for his frank talk about terrorism, portraying French intelligence, police, and courts as “disarmed” in the face of a new and more dangerous domestic extremism scene that is now directly tied to Syria and Iraq, as well as the Islamic State. His recent words to the media paint a disturbing portrait: “Everything is different these days! Before, would-be jihadist had a smattering of instruction. There is no religious background now; it is the image that wins them over. The appeal is to their feelings, not to their intellect. The explosion is due to the Internet. The youngsters we have to deal with are overexcited, not intellectually radicalized… The profiles are completely disparate. Some are impossible to check out. Never before have we come up against women and minors! Before long, the only age group missing will be the very old… We can no longer sift them or monitor them as before to find out what their intentions are. We are forced to arrest them as soon as they set foot in the country. We need to know what they have been through. On the whole, they have been through horrendous experiences. We lack the evidence needed to probe them properly. However, some of them are potentially dangerous, all the more so in that they are forced into waging an individual jihad in the attempt to escape detection”. (Sengès, Gilles 2015).

The possible radicalisation of refugees is the problem of the near future. „The term ‘radicalisation’ is used widely, but a consensus on its definition and drivers has yet to be achieved and past research has proved of little explanatory value. Following the terrorist attacks in Madrid (2004) and London (2005), politicians and policy-makers began to use the term ‘radicalisation’ or ‘violent radicalisation’ to describe the attitudes and/or behaviours of predominantly young individuals who subscribe to extreme violent beliefs”. (Dawson, Laura – Edwards, Charlie – Jeffray, Calum 2014) Concerning the future researches the radicalisation and the fight against radicalisation will be an important topic.
The real threat presented by the Islamic State is to the West itself, thanks to the vast and unprecedented numbers of Westerners who have joined the jihad in Iraq and Syria. European security services are already overwhelmed by the size and scope of this threat, with hundreds of European jihadists returning home every month, fresh from battle on behalf of the Islamic State, and ready to cause mayhem and recruit others for the jihad.

German security authorities estimate that 450 radical German Muslims have traveled in the direction of Syria. (Weinthal, Benjamin 2015) An official from Germany’s intelligence told that it is difficult to track radical German Islamists leaving Germany for Syria because they do not need a visa to first land in Turkey. The southern Turkey border has been the principal point of entry into Syria for jihadists seeking to fight Assad’s regime and create a caliphate state.

Roughly 150-200 radical German Islamists have returned from Syria and are currently in Germany. The Federal Republic outlawed Islamic State activities. The Lebanese political militia Hezbollah has legal status for its so-called political wing in Germany.

It is unclear if the German authorities view the 150 radical jihadists as terrorists who returned to the Federal Republic. The information from monitored ISIS conversations, also known as Islamic State, revealed that the terrorists cannot use airports on their way to Europe because of the strict control. Members of the Islamic State are planning to carry out major terror attacks against targets not only in the Middle East, but in the United States or in Europe. There is evidence that the organization is running a sleeper cells around the world, outside of Iraq and Syria. The goal is: to gain a greater foothold in the Islamic world – politically and militarily. (Dvorin, Tova 2014) The intelligence community has since discovered that IS is working to recruit foreign fighters to carry out terror attacks abroad, an alarming fact revealed by a former member of Al Qaeda. In addition, many people were recently arrested in Europe over IS connections, which could be considered as a proof for the recruitment.

With the growing of the territories under the IS there is another tendency as well. The split of Iraq is a reality. To prove this statement I would like to refer on a declaration of a group of old Sheikhs and community leader from Alan bar (living and operating under ISIS controlled areas) published a statement with following principals: (Aljazeera 2015).

1. These leaders and their tribes and communities have given their allegiance to ISIS leader and recognize him as the leader of IS under which they live.
2. They call for all tribes and communities who fled Alanbar to come back home with guarantees of safety and to live with dignity instead of being under Iranian government control who has mistreated the Sunni refugees in the most in-humane manner.
3. They are calling for Sunnis everywhere to come back home and help in rebuilding IS their new nation free of Iranian influenced government.
4. They do not recognize any Sheikh that is not on the ground or who is not going back to Alanbar to be part of this new nation.
5. They vow to fight Iranian backed government and coalition forces that are supporting this Iranian backed Militia and Hashid.
6. They do not recognize Iraqi army or security forces as national because they are under the control of Iranian military relationship.

The appearance and the function of the Islamic State show very clearly that the decision of the US administration to dismantle the former Iraqi armed forces during the Iraq war was a strategic mistake.
Conclusions

It is too early to assess and make a clear statement to what extent the illegal migration has been connected to terrorism. After Paris attacks the connection has been proved. But it is a mistake to make equal mark between them. The EU countries made a fault in allowing the refugees flow without checking people.

Finding the right balance between security and liberty is never easy. Prevention, prosecution and protection must be the cornerstones of any new immigration policies adopted to fight terrorism. More specifically, immigration policies and procedures should seek to identify, deter the entry of, and, to the extent possible, apprehend terrorists for criminal prosecution, in keeping with internationally recognized standards for protection of liberties and civil rights. Immigration policy reforms cannot in and of themselves prevent terrorism, but they are a key part of any comprehensive approach to combat terrorism. The activities of the Western national security services are important but not enough in finding the terrorism and preventing illegal migration.

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József KIS-BENEDEK, habil. Ph.D.; Hon. Col. (ret.), is honorary professor at the National University of Public Service in Budapest, Hungary. He is a former intelligence analyst. Research interests: Middle East, terrorism, crisis management and national security. He is member of the military science committee of the Hungarian Academy of Sciences.
WILL SANCTIONS AGAINST RUSSIA BE SUCCESSFUL:
WILL RUSSIA FALL BEFORE UKRAINE?

Viljar Veebel¹, Raul Markus²

¹Estonian National Defence College; Riia 12, 51013 Tartu, Estonia
²Tallinn Technological University; Akadeemia 5, 19086 Tallinn, Estonia

E-mails: ¹viljar.veebel@gmail.com; ²raul@optium.ee

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Abstract. Current study aims to analyse the Russian-Ukrainian conflict and related economic and political sanctions in the framework of game theory, debate the possible outcomes and to suggest the measures, which could contribute to the successful solution of the conflict. “The chicken dilemma” and “the dollar auction game” have been selected among various models for deeper analyse as matching the starting criteria and possible rational options for conflict endgame. The criteria of success and predicted success scenarios are seen different, but as the authors see it, in theory both Russia and the EU could be motivated to “pull back”. However, their willingness not to “lose the game” is determined in real terms by the “breaking points” that both parties to the conflict would like to avoid.

Keywords: sanctions, game theory, Russia, Ukraine, the EU, positive conditionality.

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1. Introduction

The conflict in the Eastern Ukraine and related sanctions between Russia, on the one hand, and the European Union (EU) and its allies on the other, have created a complicated security situation in Europe. The current situation is particularly challenging due to the confronting interests and expectations of the parties of the conflict. It would be in the primary interests of Russia to continue the destabilization of eastern Ukraine, because “lasting longer” than Ukraine would give Russia tactical advantage in terms of conflict outcome and regional power balance. The EU and its allies would, however, like both to help Ukraine to achieve positive outcome of regional economic stand of with Russia. Long-term scenario with sanctions implemented longer than years, causing economic stagnation to Russia, but unable to force Russia to return Crimea and liberate East-Ukrainian territories, will not satisfy neither the western countries nor Ukraine. Current study is not only aiming to analyse which side has longer prospects to survive the effects of conflict and sanctions, but aims to map and analyse the Russian-Ukrainian conflict in the light of the game theory strategies and to suggest measures, which could be used to stabilize the situation in Ukraine. Additionally, the current study aims to deliver new insights to the discussion by exploring the possibilities and thereby making suggestions how the conflict could be potentially resolved using the game theory tools. Thus, the game theory models that best describe the policy choices of the parties to the conflict will be discussed and analysed in the context of strategic interests of the players. In detail, the study describes “gains” and “losses” of both influential parties to the conflict, identifies the time horizon of the resolu-
tion of the conflict and makes some suggestions on further measures which should be used to resolve the conflict.

Methodologically, current study uses comparative method with analytical descriptive approach. The authors combine qualitative approach with quantitative analysis of the main macroeconomic indicators for Ukraine and Russia. As regards the contribution of the current study to the debate, the article gives a new insight to the discussion by making suggestions how the conflict could be potentially resolved using game theory tools. As the authors see it, earlier studies on this topic such as Cowen (2014) and Ericson & Zeager (2015) rather focus on the most likely scenario during the conflict, but not on the measures, which contribute to the resolution of the conflict.

2. The sanctions and countermeasures of opposing sides

The political tensions between Russia and Ukraine in 2013 have culminated in the violation of territorial integrity of Ukraine and the annexation of Crimea in March 2014 and military conflicts in the eastern part of Ukraine forced by Russia from 2014 on. To force the conflict towards peaceful solution, the EU and its partners have decided in March 2014 to use targeted sanctions to put pressure on Russia. The scope of individuals and entities subject to the Western sanctions has been widened in April (Council of the European Union 2014a), May (Council of the European Union 2014b; Council of the European Union 2014c) and July 2014 (Council of the European Union 2014d; Council of the European Union 2014e). Russia responded with introducing retaliatory measures against high-ranked officials of the EU, USA and Canada in March 2014. On 30 July, 2014, the EU announced new sector-specific sanctions against Russian military industry and its financial and energy sector (Council of the European Union 2014f), which restricted country’s access to the international capital markets and placed an embargo on trade of arms and sector-related materials and technologies. As a countermeasure, on 6th August, 2014 the Russian president Vladimir Putin signed a decree “On the use of specific economic measures”, which mandated the one-year embargo on the large number of agricultural products from the Western countries. The ordinance of the Russian government was adopted and published with immediate effect, which specified the banned items like fruits, vegetables, meat, fish, milk products and dairy products. Also, the countries of provenance were specified in the decree, such as the United States, the EU, Norway, Canada and Australia (Government of Russia 2014a; Government of Russia 2014b). In September 2014, the leaders of the EU and the US have agreed on additional sanctions, forbidding state-controlled Russian oil and defence companies from raising money in European capital markets and cutting off foreign investments (Council of the European Union 2014g). Further additions to the list of persons, organizations and companies under sanctions have been made in November 2014 (Council of the European Union 2014h; Council of the European Union 2014i). On 22 June, 2015, the EU Council extended economic sanctions against Russia until 31 January, 2016. This decision followed the agreement reached at the European Council in March 2015 that the sanctions against Russia should be directly linked to the complete implementation of the Minsk agreements, which is foreseen by 31 December 2015 (Council of the European Union 2015b). The Council of the European Union also stressed that the EU remains ready to reverse its decisions and re-engage with Russia when the country starts to contribute to the solution of the Ukrainian crisis actively and without any ambiguities. Russia responded with additional sanctions in 24 June 2015 and with additional legal and economic measures to integrate Crimea on 15th July 2015 (President of Russia 2015). In July 2015, both the leaders of the European Union and the US have agreed on additional sector-specific sanctions against Russia (Council of the European Union 2015c). In terms of expected policy change and criteria the sides have been less precise. The EU and its allies have stressed the importance to fulfil Sevastopol and Minsk treaties and respect Ukrainian territorial integrity, while Russia has stressed that countermeasures are there because of anti-Russian sanctions and can be ended when the sanctions are lifted. While the sanctions have had changing aims especially from the EU side, current study evaluates the success based on three scenarios. First, western sanctions can be rated effective when Russia will respect Minsk and Sevastopol treaties, will withdraw from East-Ukrainian territories and will respect the Ukrainian territorial integrity. Russian approach can be rated successful both in cases when Crimea and Eastern Ukraine will not be returned under Ukrainian governance or when Ukrainian economy will completely collapse by causing public riots and political instability. Accordingly, when Ukraine and the EU need for success actual change in terms of territorial integrity, Russia can also be satisfied with existing status quo.
3. The “sanctioning war” in the framework of game theory and strategic thinking

In theory, the outcome of mutual sanctions or sanctions answered with countermeasures imposed during the current Ukrainian-Russian conflict could be associated with strategic behaviour and game theory scenarios. In the economic theory, game theory is applied to discuss the strategic behaviour of individuals. However, it also focuses on individuals' expectations, distribution of information, design of economic institutions, and the balance between equilibrium and efficiency (Roth 1991, 107). The early modern game theory dates back to the 1920s and 1940s, when John von Neumann and Oskar Morgenstern published their works focusing on zero-sum games with two players. However, the more recent research on strategic thinking such as the works of the Nobel prize winner John F. Nash and his followers from 1950s on, and the more recent research by also Nobel prize winners Robert E Lucas Jr, John C Harsanyi, Erik S Maskin and others, have broadened the scope of game theory by introducing various game theory models dealing with dynamic interactions, incomplete information and non-zero-sum games (Turocy & von Stengel, 2002).

Related to Ukrainian-Russian conflict the discussion is focused on the question, what would be the most likely scenario during the conflict and what would be the expected best scenario. Cowen (2014) analyses the strategic logic of threats and the credibility in the context of the current conflict. The article discusses the conflict in the framework of theoretical debates over deterrence both as regards the theoretical “nuclear deterrence debate” and the “market deterrence”, the different equilibrium levels of the conflict and the issues related to the credibility of the parties to the conflict. He concludes that it is unlikely that Russia will reverse the political course. Ericson and Zeager (2015) use the theory of moves (Willson 1998) to derive policy alternatives and equilibrium states under various assumptions. Based on the game theory models, they suggest that the short-term equilibrium for most of the scenarios is the situation where “Russia destabilizes Ukraine, creating a “frozen conflict” while the West settles into a stable configuration of ongoing sanctions against Russia” (Ericson & Zeager 2015, 153–154). In the long-term, the EU and its partners “return to business as usual with Russia”. It is also an option that Russia has deliberately provoked conflicts because the country either believes that it will lead to concrete gains that could never be realised through negotiations, or the adversarial clash with the West is the goal in itself.

However, the current study aims to deliver new insights to the discussion by exploring the possibilities and thereby making suggestions how the conflict could be potentially resolved using the game theory tools. Two game theory models, the chicken model and the dollar auction game, have been selected and combined in the model proffered. The choice is based upon the assumption that theoretical models should reflect the current conflict where “players” with relatively equal power are involved and the solution is not pre-determined by dominance. In the initial phase of the Russian-Ukrainian conflict, neither Russia nor the EU and its partners did know each other’s strategies. Thus, the conflict has initially followed the so-called chicken dilemma where opponents do not know each other’s strategic preferences and none of them is influential enough to resolve the situation. However, during the escalation of the crisis both parties to the conflict could observe the strategy of the other player which makes the situation similar to the dollar auction game model, where game is repeated over a number of periods and players can observe the strategies of other players before making their own moves.

Intriguingly, there is a fundamental weakness of the game theory: assuming that all the “actors” in the international arena hold complete information on the other participants’ preferences and make rational choices, sanctions should be never imposed according to the game theory. The risk that sanctions might be imposed is already sufficient to prompt the target country to change its behaviour, and the sanctioning country would never impose sanctions without being sure that the sanctions will change the behaviour of the target country (Lacy & Nioou 2004, 27). However, in real terms the opponents might not know each other’s moves and strategies or are not influential enough to resolve the situation, which makes the outcome of sanctions highly questionable. The complexity of a situation is described in the chicken game model where, figuratively speaking, two players are driving straight towards each other. At a certain moment, both players simultaneously have to decide whether to yield to the other or to swerve out of the way, whereas the decision is irrevocable and must be made in ignorance of the other player’s decision (Poundstone 1992, 198). If one of the players or both players decide to swerve out of the way to avoid the crash, their costs are relatively marginal, because the only cost is related to the risk that the player will be labelled “the chicken”, whereas the costs caused by the crash would be rather fatal for both
players. Thus, both opponents assume that it would be rational for the other to swerve out of the way.

Furthermore, it would be mutually beneficial for both players to choose the opposite strategies, whereas even for the one who swerves out of the way and “loses the game”, the final outcome will be a far better choice as it would be the outcome of crashing to each other (Harrington 2008, 89–116). Under these circumstances, the chicken game has two Nash-equilibrium points or strategies where one of the players swerves and the other drives straight forward (Poundstone 1992; Stone 2001). Therefore, as regards mutual sanctions, it would be rational and still beneficial for both sides if one of the players would lift the sanctions against the other player, in comparison to the situation where both players continue to use sanctions which drive both players to ruin. The outcome becomes more unpredictable if game is played over a number of periods and they know each other’s strategies. Among the various game theory models, the dollar auction game is particularly interesting as regards the Russian-Ukrainian conflict. In the model, the auctioneer auctions off a dollar bill which goes to a highest bidder with the understanding that both the highest bidder and the second-highest bidder have to pay the amount of their last bids. Whereas the highest bidder wins the game and gets the dollar bill, the second-highest bidder gets nothing in return, but still has to pay (see Shubik 2003, 109–110). Under purely rational circumstances (such as there exists a potential profit and players are not forced to make a bid), the outcome of the game could turn out to be completely “irrational”. The critical zone for the auctioneer occurs if one of the players bids 55 cents, since despite further biddings the auctioneer receives profit as the sum of the two highest bids is larger than a dollar bill. The critical zone for the bidders occurs if one of the players has bid one dollar. Assuming that the game has no specific termination point, beyond this point both players will be ultimately losing, but are still motivated to raise the bid rather that to lose money with certainty. In practice, the game could lead to the completely irrational bids where in total between 3 and 5 dollars will be paid for a dollar bill (Shubik 2003, 11; Poundstone 1992, 1). As stipulated by Shubik (2003, 111), “there is no neat game theoretic solution to apply to the dynamics of the Dollar Auctions, or to the escalation between two nations in abstracto”. In a particular context, Poundstone (1992, 1) has suggested that the problem might stem from the difficulties in drawing a line between a rational bid and an irrational one. Thus, if the choice is between losing everything or raising the bid, irrational choices are likely to be expected. The same logic applies to the abovementioned chicken game model in a situation if one of the players with less negotiating power is still strongly motivated to “drive straight forward”, whereas the more influential player is less motivated to win. The rational choice would be to cooperate and to find a solution which partially satisfies both parties of the conflict. However, in practice the non-cooperative behaviour which follows the dollar auction model is highly likely under these circumstances.

To sum up, based on the chicken dilemma, it would be rational and still beneficial for both sides of the conflict if one of the players would lift sanctions against the other player, in comparison to the situation where both players continue to use sanctions which drive both players to ruin. However, questions remain whether either Russia or the EU are willing to “swerve out of the way” in real terms, which leads us to the question whether the conflict has already reached that certain moment in time where it is too costly for both parties to pull back. The understanding of the “gains” and “losses” of both parties to the conflict could help to answer the question whether either Russia or the EU is potentially going to be a “chicken”. The identification of the circumstances when “the bid becomes irrational” could contribute to the further discussion on what is the time horizon to find a solution to the conflict.

4. Who will fall first? Analysing the strategic choices of the parties to the conflict

The Russian-Ukrainian conflict and the “sanctioning war” constitute the chicken dilemma in many aspects. If the opponents would decide to “drive straight forward” such as Russia to continue the destabilization of the situation in eastern Ukraine, and the EU to further extend or to strengthen sanctions against Russia, both parties to the conflict are risking with serious consequences. On the one hand, the ongoing political destabilization of Ukraine could potentially lead to the economic collapse of the country, which is both sharing the common border with EU member states and is clearly interested in the EU-membership perspective. On the other hand, the extension or strengthening of international sanctions against Russia combined with the global economic developments could seriously hamper the economic outlook for Russia for years, but this would not be in the interest of the Russian political elite, since economic recession could exacerbate social problems in Russia.
What makes the current situation unpredictable is the collision of interests of conflicting parties. The persistency of the Russia’s military pressure in eastern Ukraine substantially increases the risk that Ukraine is close to the economic collapse. However, it would be in the primary interests of Russia to continue the destabilization of eastern Ukraine since “lasting longer” than Ukraine would give Russia a tactical advantage to get a “better deal” in the “negotiations” with the EU. The EU and its allies would, however, like both to help Ukraine as quickly as possible and to prevent future violations of territorial integrity of sovereign states by Russia. Since Ukraine is currently on the brink of the economic collapse, it would be in the interest of the EU and its allies if Russia would be unable to adapt to the international pressure in the short-term, but not to fall into the chaos, as it would destabilize the overall security situation in Europe.

In this light one might ask what could be the motives for both parties to the conflict to “swerve out of the way” such as for the EU to lift sanctions against Russia, and for Russia to stop the destabilization of the eastern part of Ukraine. For the EU, lifting sanctions against Russia could constitute an alternative solution to the current situation. Today, the EU-sanctions against Russia have not produced the desired results in eastern Ukraine and the country is still facing both military conflicts in the eastern Ukraine and risking with the economic collapse in the future. However, although the impact of the Russian sanctions on the growth perspective of the EU and euro zone has been estimated as rather limited (Vanden Houte 2014, 1). The legitimate question is whether other measures and international resources should be mobilized which support the Ukraine’s own abilities to resolve the conflict. Drawing hereby historical parallels, sanctions imposed to alter military activities and to force the target country to withdraw its troops from border skirmishes have not been successful. Measures used after the World War II, in 1970–1980s particularly as regards the Turkish invasion to Cyprus in 1974 and Soviet occupation of Afghanistan in 1980s, and more recent sanctions against Syria serve as good examples of that. The view that the outcome of sanctions is unclear and highly case specific is supported also by a large number of theoretical studies (Groves 2007; Kamper & Lowenberg, 2007).

For Russia, the strategy of “swerving out of the way” could be driven by the country’s wish to avoid the loss of competitiveness in the international arena. Russian economy is stagnating due to the permanent structural problems, weak investment climate and international sanctions. It is also difficult to imagine what benefit the collapse of the Russian economy could bring to the EU, as the country’s economic degradation would create threats to the stability in Europe in many ways. The risks are mainly stemming from the economic relations that could backfire on the EU member states, but Russia’s economic collapse would also threaten the European energy security, make the immigration situation more strained and so on. In the broader context, it would also send a signal to the international community that both the partnership and cooperation agreements concluded between Russia and the EU, and the EU Eastern Partnership have failed in ensuring security and safety in the region.

Thus both influential parties to the conflict could assume that to some extent it would be rational for the other party to “swerve out of the way”. At this stage of the conflict, intriguingly nothing more or less is demanded from Russia than to stop supporting separatists in Donetsk and Lugansk, since sanctions against Russia are to a large extent associated with the full implementation of the Minsk agreement (see Merkel in RT 2015, 1). Russia’s power elite has despite the ample evidence to the contrary consistently stipulated that Russia is not involved in the conflict, but only the “guarantor” of the Minsk agreement. Thus, “swerving out of the way” means for Russia that Russia formally needs to do nothing, but just in real terms to stop sending military forces to eastern Ukraine. For the EU, lifting the sanctions against Russia would be nothing new compared to the union’s previous practice. The EU has been often ready to ease sanctions after the target has taken some credible steps towards satisfying the demands of the EU (Biersteker & Portela 2015, 3). Furthermore, compared to the Russian-Georgian conflict in 2008 where the EU preferred to take the role of the neutral mediator and not to impose sanctions against Russia, during the Russian-Ukrainian conflict in 2015 the EU has already shown to its partners that the union has done more of what could have been expected based on the previous experience. It could be intriguingly argued that “swerving out of the way” would mean for both parties to the conflict also a loss of credibility in the international arena, but as the authors of the current article see it, harm has already been done with Russia’s decision to violate the territorial integrity of sovereign national states, and the EU’s decision to give a relatively weak response to the Russia’s actions in 2008 and in 2015.
5. How close is the conflict to a moment, where “bid becomes irrational”? 

However, the question remains which factors limit the willingness of either Russia or the EU to “drive straight forward” or to “swerve out of the way” in real terms. In the view of the authors, the potential solution to the conflict should be discussed in extremely limited timeframe. The comparison of macroeconomic indicators for Russia and Ukraine (see Figures 1(a)-1(f) in Appendix 1) clearly indicates that the pressure on the international community to find a solution to the conflict derives from the risk that Ukraine’s economy could collapse in the coming months which makes “further bids irrational” at least from the perspective of the EU. The comparison of the GDP annual growth rates for Russia and Ukraine (see Figure 1(a) in Appendix 1) indicates that Ukraine has lost one fifth of its economic size since the beginning of the crisis in the first quarter of 2014, whilst Russia has showed only minor negative growth rates from the first quarter of 2015 on. Ukraine has for already 1.5 years faces an economic recession which is comparable to the deepest recession period during the recent economic crisis from the first to the third quarter of 2009, when the Ukraine’s economy contracted by 19.6%, 17.3% and 15.7% (Ukraine GDP… 2015, 1). The current economic decline in Russia has been -2.2% in the first quarter of 2015 (y-o-y basis; Russia GDP… 2015, 1). According to the most recent forecasts of the IMF and the OECD, the country is expected to be in the recession also in 2015 (decline by -3.4 percent according to the forecast of the IMF and -3 percent according to the estimations of the OECD) and to face modest annual economic growth in 2016 (projected growth rate is less than 1 percent according to the estimations of the OECD forecast)(OECD 2015; IMF 2015a). However, the current economic recession in Russia is still not comparable with the economic recession during the recent global financial crisis, when Russia’s economy declined by almost 10%. However, the medium-term growth projections of the Russia’s economy (IMF 2015,1) are still significantly below the pre-crisis level.

As regards the value of the national currencies, the Ukrainian national currency – hryvnia – has lost approximately 60% of its value since the escalation of the conflict from July 2014, which is twice higher than the loss of the value of Russian rouble (see Figure 1(b) in Appendix 1). In the beginning of the conflict, the exchange rate of the Ukrainian currency was 15 UAH/EUR, the hryvnia reached its lowest level in February 2015 with 37UAH/EUR and stabilized at 24/UAH/EUR in the second quarter of 2015. The exchange rate of the Russian rouble jumped from 46 RUB/EUR in December 2014 to the level of 85 RUB/EUR but stabilized again at the level of 60RUB/EUR in July 2015 having lost roughly one third of its value in Euro within one year. The weakening of the currencies has caused high inflation both in Russia and in Ukraine. Inflation remained within single digits in Russia in 2014, but picked up substantially from the beginning of 2015. Since then, prices have stayed at a level of around 15–16 percent, compared to a year earlier. At the beginning of the year 2015, the prices for food have increased for almost 30% in Russia. However, this is not particularly high compared to the inflation that Ukraine has experienced during the conflict, such as 60.9% in April 2015 and close to 60% in May and June 2015 (see Figure 1(c) in Appendix 1). The Russian Central Bank had to spend remarkable amounts of national reserves in support of the rouble which have helped to somewhat stabilize the inflation in Russia since April 2015 (see Figure 1(d) in Appendix 1).

The inflationary environment may be still more harmful to Russia as it may seem at the first sight. According to the opinion poll conducted in Russia in summer 2014, 59% of the respondents described high inflation in Russia as the most serious concern the country is facing (Ostroukh 2014, 1), and at that stage of the conflict, inflation in Russia did not reach even its peak which arrived in March 2015. Although in Russia, the overall inflationary pressure has eased somewhat in recent months and the Russian Central Bank has stated that inflation is slowing “faster than expected” (Bloomberg 2015, 1), the inflation remains substantially higher than central bank’s mid-term inflation-target which is 4% for 2017. Paradoxically, as the increase in food prices in Russia is directly associated with the countersanctions imposed on the agricultural and food products originating from the Western countries and that Russians consider high inflation as the most dangerous problem for the country’s economy, one could expect that local pressure is put on the Russian political elite to lift countersanctions. Logically, if Russia decides to extend the sanctions on import of agricultural and food products from the Western countries, inflation should increase even further which in turn should increase the dissatisfaction of Russians with the current situation. The comparison of the Consumer Confidence data for Russia from July 2014 and July 2015 indicates that the number of respondents who assess their situation as poor and expect it to become worse has quadrupled (Russia Consumer… 2015, 1). In theory, depreciation of the domestic currency should
also create indirect stimulus to domestic producers while imported products shall be relatively more expensive and domestic goods more price-competitive. Russia’s trade has been in surplus already for decades and the situation has not remarkably changed during the Russian-Ukrainian conflict (see Figure 1(e) in Appendix 1). The surplus has somewhat narrowed in September 2014, but increased again from October 2014 onwards. On the contrast, Ukraine has faced trade deficit during the first stage of the Russian-Ukrainian contact, but deficit for goods has narrowed from the beginning of 2015 on, following the considerable depreciation of the Ukrainian hryvnia and the decline in the trade volumes between Russia and Ukraine. However, despite the current political conflict between Russia and Ukraine, Russia is still the largest individual trading partner of Ukraine which makes it difficult for Ukraine to move away from the Russian sphere of influence.

The political instability in eastern Ukraine and the “sanctioning war” combined with recent global macroeconomic imbalances such as the fall in oil prices (Crude Oil WTI from 110$ in July 2015 to 56$ in July 2015) are reflected in the low confidence of international financial and capital markets towards Russia. The country has experienced dramatic capital outflow in 2014, as the capital and financial account deficit approximately doubled in 2014 (see Figure 1(f) in Appendix 1). The FDI stopped to come to Russia from the second half of 2014 (see Figure 1(g) in Appendix 1). The FDI outflow from Russia has been directly associated with the targeted EU-sanctions and economic imbalances in Russia, which provoked justified mistrust among the international investors as regards Russia’s economic outlook and affected all economic sectors from the agriculture to the oil and gas sector. Dramatic capital outflow from Russia has been associated with the growth of dollar deposits, conversion of roubles to foreign currencies and the repayment of foreign debts by Russia’s private sector (Kuchma 2015, 1). However, even during the economic recession, Russia continued to increase its official gold reserves (see Figure 1(h) in Appendix 1). In Ukraine, the net foreign direct investment was negative in the first half of 2014, but from then on positive flow has been reinstalled. The main reason for the FDI outflow in the first half of 2014 was the tendency that Russia has withdrawn about 31% of all Russian investments in Ukraine, accompanied with the outflow of investments coming from the Russian offshore companies operating under jurisdiction of British Virgin Islands and Cyprus or outflow of investment of western companies which had previously close economic relations with so-called inner circle of former Ukrainian president Yanukovych (Foreign Direct... 2014, 1).

To sum up, in the beginning of the crisis from April to October 2014, the impact of international sanctions on Russia was rather modest due to the oil prices, which stayed at historically high levels. From October 2014 till the end of the year, the country experienced high economic turbulences due to the combined effect of international sanctions and the overall international pressure on Russia. The instability was related to the escalation of the military conflict in eastern Ukraine, the drastic global fall in oil prices, and country-specific factors such as lack of structural reforms in Russia, monetary developments, budgetary imbalances and stock market turbulence. However, the economic recession in Russia from October 2014 on cannot be compared with the economic recession the country has faced during the recent global financial crisis from the second quarter of 2008 to the second quarter of 2009. The pressure from international sanctions and the shrinkage of the private sector in Russia have been also largely redressed by the federal budget. Russia’s foreign exchange reserves have decreased steadily from the pre-sanctions level of 510 billion dollars to 350 billion dollars. However, its pace has slowed down now and for at least a year or two there does not seem to be problems with the collateral in Russia. From January 2015 on, the inflation and the exchange rate of the Russian rouble and the global oil prices have stabilised, however, at different levels compared to the earlier periods. Thus, even in combination with the dramatic fall of oil prices and substantial macroeconomic turbulences in Russia, the “pain” for Russia has been relatively mild and has partly appeared only a year after sanctions against Russia have been imposed. Russia succeeded to avoid substantial economic losses in the short-term and the most recent developments refer to some sort of “new normality” in the Russian economy, where after turbulent times at the end of the year 2014 both the internal factors and external factors have stabilised again, however exchange rate and oil prices at the lower level and inflation rate at the higher level than in the past. In contrast, Ukraine has lost one fifth of its economic size during the conflict and at this stage, the country is basically functioning only with the support of the international community, including, inter alia, training programs and non-lethal equipment for the Ukrainian army provided by the USA and Canada, humanitarian aid to Ukraine provided by some EU member states, and the IMF’s recent bailout packages. Thus, the time window for finding a solution to the current “chicken game” is extremely narrow and directly depends of the economic outlook for Ukraine in the short-term.
6. Undesired outcomes of the Russian-Ukrainian conflict in terms of the dollar auction game.

The current section focuses on the long-term perspective of the Russian-Ukrainian conflict by identifying the situations what both conflicting parties would like to avoid. The following discussion is based on the assumption that at a certain moment in time the conflict becomes too costly for both parties since they will lose everything that has hitherto been achieved. In this sense, the understanding of what are the “breaking points” would give us some hints about the extension and the intensity of the conflict. Thus, the authors are open for further discussions as regards at what stage the Russian-Ukrainian conflict reaches the point where “the second-highest bidder gets nothing in return, but still has to pay”.

As the authors of the article see it, the “breaking points” for the Russian government would be either the moment when the Russia’s ruling elite has lost the public support or when the country is forced to give up the ambitions to restore the former Soviet Union and to lose its sphere of influence in the region. For the EU, the “bid becomes irrational” from the moment on when Ukraine has collapsed economically or returned to the area of Russian political influence. However, for the EU the undesired outcome would be also a situation where no consensus is preserved in the EU anymore and some of the EU member states officially express their disagreement as regards the sanctions against Russia. Thus, any measures and activities, which pull Ukraine apart from the Russian sphere of influence or decrease the public support in Russia to the Russia's political elite should, potentially, increase the probability that Russia would “swerve out of the way”. Any signs of the de-unification of the EU member states as regards the sanctions against Russia should be rather avoided. The conviction that any measure which helps to pull Ukraine apart from the Russian sphere of influence supports the conflict resolution in Ukraine is based on the geopolitical argument. In the recent years Russia has made significant efforts to integrate Russia, Belarus, and Kazakhstan in the form of the Eurasian Economic Union. At the same time, some of the former Soviet Union republics such as Georgia and Ukraine have been gravitating away from the Russia’s sphere of influence. Thus, it could be argued that on the one hand, the persistence or the escalation of the conflict in the eastern Ukraine decreases the chances for the EU-membership of Ukraine. On the other hand, Russian sanctions against the EU basically constitute another tool for jeopardizing the position of the EU in the eyes of the former Soviet Union countries like Ukraine, Belarus, Moldova and Georgia.

Based on previous analysis authors are suggest following developments for the EU. Firstly, despite the current Russian-Ukrainian conflict, the EU-accession perspective should be left open for Ukraine. The importance of the clear roadmap to the EU-accession has been also stressed by the Ukrainian political elite (Reuters 2015, 1). However, in the most recent EU Eastern Partnership Summit in Riga in May 2015, the leaders of the EU have stressed the “solidarity” with Ukraine, but remained relatively vague as regards the EU-membership perspective for Ukraine. Hereby, citing the President of the European Commission, Jean-Claude Junker, “They are not ready. We are not ready, but the process is under way” (Kaža & Norman, 2015, 1). Contrary to Russia’s expectations violent conflicts in Ukraine have tended to increase country’s support for the European values. As the authors see it, the EU cannot afford any vague statements as regards Ukraine’s EU-accession perspective in the current stage of the conflict, without the risk to lose support of the Ukrainians.

Secondly, ongoing financial support should be provided to Ukraine by the EU, the IMF and the partners to avoid the economic collapse of the country and to build greater trust to the intentions of the EU to integrate Ukraine to be Western region. However, the bailout-packages and other financial resources should be directly linked to the progress in implementing reforms in Ukraine during the limited time frame. In this light, the authors suggest that the positive conditionality model of the EU should be used more widely which has proved to be a valuable method of partnership in different areas from the EU development cooperation to the EU neighbourhood policy and pre-accession strategy (see Veebel 2009, 1). The activities should be focused on the further promotion of institutional reforms and the modernization process in the society, fight against corruption, and other critical factors. Particular attention should be paid to the activities to secure the eastern border of Ukraine and the financial support to Ukraine should be directly linked to the results that have been achieved particularly in this area. Thirdly, the economic stabilization of Ukraine should be achieved, by any available means. The focus should be on the macro-economic stabilisation measures, tightening of the economic contacts between the EU and Ukraine, improving the business and investment climate in Ukraine, finding solution to the Russian-
Ukrainian gas disputes and convincing international capital and financial markets that Ukraine is following the path towards sustainable stability. The study conducted by the Vienna Institute for International Economic Studies (Adarov et al. 2015, 1–5) makes several policy recommendations from introducing more stable exchange rate regime, implementing balanced changes in the structure of government spending, subsidising energy-saving investments, attracting FDI, to introducing labour market reforms and taking much clearer focus on the possibility of maintaining a preferential trade regime within the CIS free trade agreement signed between Russia, Ukraine, Belarus, Moldova, Armenia, Uzbekistan, Kazakhstan and Kyrgyzstan in 2011. The IMF (2015b, 1) has stressed the critical importance of maintaining an appropriate tight monetary policy and building up official foreign exchange reserves. The organisation has also outlined the necessity of the restoration of a sound banking system as a key for economic recovery in Ukraine.

The authors’ conviction that measures which decrease the public support to the Russia’s ruling elite should contribute to the resolution of the conflict is based on the intuitive logic. Despite the contracting economy, high inflation, exchange rate turbulences, capital and investment outflows, and global fall in oil prices, the Russia’s political elite has still managed to keep its power. The key to success has been the overwhelming public support to the Russia’s ruling elite. According to the recent surveys from May and July 2015 of the WCIOM, the public opinion research center in Russia, 86 percent of the survey respondents approve the activities of the Russian President Vladimir Putin, 71 percent of the survey respondents are satisfied with the political situation in Russia, and 92 percent of the survey respondent “don’t care about the sanctions against Russia” (Russian Public… 2015, 1). According to the opinion poll from August 2014, 47% of the Russians believed that the main purpose of the Russian President has been to achieve peace in Donbass and Ukraine, 36% of the respondents are convinced that Putin is trying to prevent the NATO forces entering the Ukrainian territory, and 33% say that Russian president is defending the rights of the Russian speakers in eastern part of Ukraine. 13% of the respondents mentioned that the Russian-Ukrainian crisis prevents the entry of Ukraine into the EU (Poll… 2014, 1).

However, the current Russian government is taking care of the additional pressure by itself by destroying hundreds of tons of food products initially originating from the EU countries and being illegally imported to Russia by Russian companies. These demonstrative actions of the Russian government have deserved the indignation of several hundred thousand people in Russia, who have signed the petition suggesting to give the banned products to the vulnerable groups in the Russian society (Gessen 2015, 1). Also, despite the statements that majority of the WCIOM survey respondents “don’t care about the sanctions”, only 46 percent of the respondents are satisfied with the economic situation in the country (Russian Public… 2015, 1). Finally, the importance of maintaining the unity in the European Union as regards the sanctions against Russia should not be underestimated next to the activities targeted to support Ukraine or to put pressure on Russia. Different views of the EU member states as regards the sanctions against Russia seriously distort the image of the EU as the guarantor of the security in the region. According to the theory, sanctions cause behavioural change after being imposed, if the target country has initially underestimated the impact of sanctions, miscalculated the sanctioning country’s determination to impose them, or wrongly believed that sanctions will be imposed and maintained whether it yields or not, and if target’s misperceptions are corrected after sanctions are imposed (Hovi et al. 2005). However, the “sanctioning war” between the Western countries and Russia has backfired on some of the EU member states which has created the internal pressure within the EU to lift sanctions or, at least, not to strengthen them. This tendency has even wider background in the EU. According to Leenders (2014, 9), it is difficult to impose EU-sanctions against other countries due to the insufficient solidarity in the EU combined with the individual interests of the EU member states, the tensions between „realist“ and „idealist“ needs, uncooperative international actors, and other factors.

Conclusions

Current study focused on the possibilities of resolution of the Russian-Ukrainian conflict by analysing the conflict in the light of game theory strategies, proffering a general model of comprehending the logical stages and the underlying premises of the conflict, recommending analytic strategies and suggesting measures, which could be used to stabilize the situation in Ukraine in the nearest future. In particular, the study described the “gains” and “losses” of both influential parties to the conflict such as Russia and the EU, identified the time horizon of the conflict and made suggestions on further measures and activities which should be used to resolve the conflict.
According to the authors’ view the Russian-Ukrainian conflict has initially followed the so-called chicken dilemma where opponents do not know each other strategic preferences and none of them is influential enough to resolve the situation, but as the conflict escalated, both parties to the conflict could observe the strategy of the opponent which makes the situation similar to the dollar auction game model. Both parties to the conflict could be theoretically motivated to “swerve out of the way” such as for the EU to lift sanctions against Russia, and for Russia to stop the destabilization of the eastern part of Ukraine. For the EU, lifting sanctions against Russia could be considered as to some extent a “rational” choice, since the EU-sanctions against Russia have not produced the desired results in eastern Ukraine and the country is still facing both military conflicts in the eastern Ukraine and risking with the economic collapse in the future. From positive perspective the EU sanctions may also have impact to stop Russia for further initiatives in East-Ukraine. For Russia, the strategy of “swerving out of the way” could be driven by the country’s wish to avoid the loss of competitiveness in the international arena. In addition, both parties to the conflict could to assume that, to some extent, it would be rational for the opponent to “swerve out of the way”. At this stage of the conflict, “swerving out of the way” means for Russia that the country formally needs to do nothing, but just in real terms to stop sending military forces to eastern Ukraine.

However, the question remains, which factors limit the willingness of either Russia or the EU to “drive straight forward” or to “swerve out of the way” in real terms. As the authors see it, the understanding about the “breaking points in the auction game” in the form of the identification of situation that both parties to the conflict would like to avoid, gives us further hints about the extension and the intensity of the conflict. The analysis of the “breaking points” is based on geopolitical arguments and intuitive logic, which makes the discussion hypothetical. However, the authors are convinced that concrete suggestions made on the basis of the analysis could elicit the situation and thereby possibly contribute to the solvency of the crisis. As the authors see it, any measures and activities which pull Ukraine apart from the Russian sphere of influence or decrease the public support in Russia to its political elite should, potentially, increase the probability that Russia would “swerve out of the way”. Any signs of the de-unification of the EU member states as regards the sanctions against Russia should be avoided.

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Appendix 1: Macroeconomic indicators for Russia and for Ukraine

Figure 1(a): GDP annual growth rates (y-o-y, quarterly data)

Russia GDP annual growth rate (quarterly)

Ukraine GDP annual growth rate (quarterly)

Source: TradingEconomics, www.tradingeconomics.com

Figure 1(b): Exchange rate dynamics EUR/RUB and EUR/UAH (daily data)

Source: TradingEconomics, www.tradingeconomics.com
Figure 1c: Inflation rate and Food inflation (y-o-y, %, monthly data)

Source: TradingEconomics, www.tradingeconomics.com

Figure 1d: Foreign Exchange Reserves (million USD)

Source: TradingEconomics, www.tradingeconomics.com
Figure 1(e): Balance of trade (million USD; quarterly data)

Source: TradingEconomics, www.tradingeconomics.com

Figure 1(f): Capital flows (capital and financial account surplus or deficit; million USD)

Source: TradingEconomics, www.tradingeconomics.com
Figure 1(g): FDI net flows (million USD, quarterly data)

Source: TradingEconomics, www.tradingeconomics.com

Figure 1(h): Gold reserves (tonnes, quarterly data)

Source: TradingEconomics, www.tradingeconomics.com

Viljar VEEBEL is Associate Professor at Estonian National Defence College; Chair of Strategic Studies Riia 12, 51013 Tartu, Estonia

Raul MARKUS is doctoral student at Tallinn Technological University, Akadeemia 5, Tallinn 19086, Estonia
Security and Hindrance at Airports

Jindřich Ploch¹, Zdeněk Žihla²

¹,²Air Transport Department, University College of Business in Prague, Spálená 76/14, Prague, Czech Republic

E-mails: ¹ploch@vso-praha.eu, ²zihla@vso-praha.eu

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Abstract. The significant growth of the economy in a number of countries, together with the liberalisation of civil air transport now represents a significant impulse for the development of tourism, practically-oriented almost in all countries of the world. This trend is confirmed by the world WTO, ICAO and IATA statistics. The growth of air transport brings the need to ensure the fast and comfortable passenger and their baggage check-in with high security level fulfilment. In the checking process, with permanently growing volume of passengers, a critical place appears for which an optimal solution is currently intensively being searched at different levels. In this article there are analyzed options of selected types of contemporary and prospective technical equipment which are used during security checks, in the process of passengers check-in at the airport. The aim of this discussion is focusing on the choice of technology, suitable for the analysis of passengers’ behaviour, and evaluating options for the detection of potential dangerous security risks.

Key words: New tourism markets and destinations, tourism by air, security check, security control, facility

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JEL Classification: R4

1. Introduction

Together with the significant growth of the economy, the air transportation system has opened up new destinations and at the same time has formed new forms of tourism, such as travel to long distances (Bieger & Wittmer, 2006), etc. It was just the air transport, which has influenced the passengers in the selection and planning their routes, with respect to the time possibilities when overcoming large distances for relaxing or exploring new knowledge. Today aviation plays a central role in supporting tourism, which in its turn affects economic development of a country (Beifert, 2016). Over 52% of international tourists is now travelling by air (Aviation benefits, 2013). Tourism is particularly important in many developing countries, where it represents a key part of economic development strategies. Tourism continues to increase by the help of improved transport and communications facilities (Chew, 1987). Air transport in the world is currently being provided by around 1,700 airlines with approximately 27,000 planes on more than 3,700 airports. They produce the performance around 30 million of scheduled flights, by which more than 3.3 billion passengers can be transported (ICAO Annual Report, 2014). It is a fact, that for the vast majority of flights Airbus and Boeing planes are used.

The ICAO annual overview reports that there was a 5.8% growth of scheduled passenger air traffic observed in 2014, compared to the 5.5% growth in 2013. Described situation corresponds to the slight improvement of world real gross domestic product (GDP), from 2.5% growth in 2013 to 2.6% in 2014 (ICAO Annual Report, 2014). The continued strong international air traffic expansion was especially observed in the United Arab
Emirates and China, and a strong growth was experienced in domestic traffic in both the Russian Federation and India. In the Middle East area there was a growth of 11.2% and the total growth in the world air traffic reached 9%.

The significant information for aircraft manufacturers and air traffic operators are predictions about scheduled passenger and freight traffic growth in over the next 20 years, i.e. by 2034 (ICAO Outlook 2013 Forecast, 2013), considerably different growth of air traffic in different areas of the world is expected. For the group of countries with developing economies, and the current number of 6.3 billion population it is expected a yearly RKP (Revenue Passenger Kilometre) growth of around 5.8%, while at the same time for economically advanced countries with a population of 1 billion, a yearly RKP growth is expected to be just 3.8% (Leahy, 2015).

2. The growth of air transport volume and airport check-in process quality

From the point of the current and prospective growth of the air transport volume it is of great importance for travellers to secure the minimum possible time spent on the way and to secure trouble free check-in process at the airport. Nowadays there is no problem to meet the need of speed of the flight for modern aircrafts, which corresponds to the first defined requirement. However, increasing density of the air traffic can become a source for undesirable delay of flights formation. Delay value suppression is enabled by using the application of air traffic flow management (ATM Lieuwen, 2012) and by appropriate implementation of the digitalized processes of take-offs and landing phases of aircrafts (AMAN, DMAN, 2010). The sustainable development of air transport requires uncompromised commitment to safety and security maintaining, as well as facilitation of all processes which take place at airports. Aviation is focused on global safety and security, and the approved safety and security standards are generally valid worldwide. In present days the air transport is making an effort to meet the needs of the security-driven requirements at airports (20th Session of UNWTO General Assembly).

Due to the large number of transported passengers, modern high capacity aircrafts together with the frequency of their movements at the airports require high demands on the check-in process. The classical method of manual or semi-automatic check-in procedure was a prerequisite for creating long queues in front of the check-in desks. These types of check-in procedures require a certain amount of time and demand traveller’s movement and their manipulation with baggage in the narrow and slow-moving queue. The introduction of electronic tickets (Crosby, 2015) with the possibility of individual (Atkinson, 2015) and baggage (Ghee, 2011) check-in process brought a necessary solution. An e-ticket offers many advantages for both travellers and airlines, including security, flexibility, cost and convenience. At the same time, e-tickets also provide the standard assurances like the traditional paper ticket, such is seating choice, travel time options and other possibilities.

The mandatory introduction of machine-readable passports with personal biometric data (ICAO Doc 9303) plus implementation of biometric authentication technology at airports (ACI, 2005) give the possibility for quick passenger’s identification. The probability rate of risk definition for individual passengers can be defined by using digital records from a specific airline database about passengers and their way PNR (Passenger Name Record). Increasing rate of risk probability definition can be obtained by using additional information about passengers ADI (Additional Passenger Information) from their personal or other documents (Council Directive No 82/2004EC), or from the police sources. Based on this assessment then the required level of security checks for individual travellers can be defined.

Described process of possible risks rate evaluation, with the subsequent definition of the desired degree of security checks for individual passengers has led to the idea of creating a concept of several ways of fully automated security checks system defined as “Checkpoint of the Future”. In addition to the requirement to achieve a higher degree of safety, the main objective of the suggested solution is better utilization of existing technologies together with the introduction of new technologies with advanced capabilities to increase operational efficiency. Such a solution is able to fulfil requirements for quicker and simpler checking process (IATA Executive Summary, 2012). The fact that safety inspection itself is focused on technologies for the identification of dangerous objects has a significantly negative impact on its effectiveness. The lack of this narrow orientation is the fact that for a
well-trained terrorist the object of the searching may not be the thing for committing an illegal act (Ploch, 2015).

Therefore for meeting the stated goals, besides high-quality of technical equipment and organization of the security checks at airports, the important element is the professional level of personnel dealing with security checks. The process of formulating the reliability model for the evaluation of risks in the activities of the operator (Savič 1998, 2003) or the safety management (Bojanc, 2013) is being developed for the area of activities of security staff at the airports within the project. The concepts are based on the principle of profiling passengers, the main principle is the analysis of their behaviour (behavioural analysis), which may take place before the beginning of security check. A wide range of publications is dedicated to the issue of behavioural analysis (for example a multidisciplinary Journal of the American Association of psychologists Behavior Analysis: Research and Practice).

3. Technology for behavioural analysis during the security check

Some of the functions of the human body, which suggest some non-standard behaviour, can be sensually suppressed, or adapted (for example, heart rate). For the maximum effectiveness of the behavioural analysis in security checks it is therefore necessary to implement monitoring of such functions, which cannot be effected by the any type of training. These symptoms are referred to as extrasensory ones. A number of scientific projects deals with the development and subsequent application of technologies for the analysis of the behaviour of passengers at the airport.

The Israeli company WeCU Technologies Ltd. is developing technologies, which are oriented to the field of psychology, intended for the detection of terrorists at airports (Carmon, 2010). The requirement on company the WeCU technologies is to be able to evaluate reactions to specific images which indicate that someone is a potential threat. The technology involves a short projecting of subliminal visual perception that only a terrorist would recognize.

The FAST technology (Future Attribute Screening Technology), on the development of which the American Draper Laboratory and Technology Square Cambridge participated, represents a set of technical facilities with joined and communicating elements. They are used for the non-contact collection of selected physical and nonverbal reactions of the passenger’s bodies, which reflect the state of their minds. On this basis the scientific theory, named Malitent, describing the rated phenomena can be confirmed or disproved (Middledton, 2011). The controlled person is either asked to answer a few questions, or watching the images presented on the monitor. During this process the physiological responses of the controlled person are scanned without any contact with the person.

In 2013 the company Fujitsu Laboratories published the people’s heart rate measurement technology RTPM (Real Time Pulse Monitor), based on the detection of changes in face lightness, caused by changing of blood flow in a face (Fujitsu, 2013). During the measurement the absorption of the green light by haemoglobin is evaluated. The system having no contact with the person automatically evaluates the data, which is influenced by the movements of the face, or the entire body. A standard digital camera can be used for recording.

Another modern technical method for security evaluation is the technology of voice analysis, which is being developed by the Israeli company Nemesysco (Nemesysco, 2012). The company is engaged in the research and development of technologies for the analysis of the voice, with the purpose to detect emotions, to prevent frauds, to manage stress and other Layered Voice Analysis LION. The aim of the analysis is not the content of the speech, but the elements and the flow of human speech abnormalities, which are characteristic for different situations. The method is therefore not dependent on the language, which the assessed person speaks.

One of the modern means for the security with restrictions of the influence of the human factor and saving costs of the operation is using the intelligent video analysis of the camera shot. For the purposes of securing the protection of civil aviation against illegal acts for example the heat mapping can be used. Through the connection of cameras and analytical software it is possible to obtain the graphical monitoring of people’s movement on
the scene. For example, it is also possible to obtain the analysis of abnormal movement of the individual person through the monitored scene including the analysis of the trajectory of his movement (Active Allert, 2009).

4. Multi-criteria analysis

As indicated above, a possible way how to speed up the flow of passengers in the process of security checks at the airport, with reducing of the demands on the passengers’ behaviour, is using behavioural analysis technology. For the practical implementation it is, however, necessary to determine which technology may be the most appropriate one for this purpose. A possible way, when it is given a definitive set of \( m \) (discrete) variants, which are evaluated by the \( n \) criteria, is the multi-criteria analysis variant. The aim is to make a decision, which variant is according to the given criteria assessed best. The multi-criteria decision making is a marketing tool for the mathematical calculation of the correct marketing strategy on the basis of predetermined criteria and assigning weights to these criteria.

In the framework of the scientific research project at the University of Business in Prague in cooperation with Prague Airport, and other partner institutions, there were established ten criteria (K1 to the K10), which can significantly affect the efficiency of the process required safety checks, when using behavioural analysis. Their overview is given in table 1.

<table>
<thead>
<tr>
<th>K1</th>
<th>Analysis time</th>
</tr>
</thead>
<tbody>
<tr>
<td>K2</td>
<td>reliability</td>
</tr>
<tr>
<td>K3</td>
<td>medical harmlessness</td>
</tr>
<tr>
<td>K4</td>
<td>method applicable to the disabled</td>
</tr>
<tr>
<td>K5</td>
<td>transparency from the passenger’s side</td>
</tr>
<tr>
<td>K6</td>
<td>Ethical Code</td>
</tr>
<tr>
<td>K7</td>
<td>time for analysis evaluation</td>
</tr>
<tr>
<td>K8</td>
<td>complexity of operation</td>
</tr>
<tr>
<td>K9</td>
<td>possibility to be reflective</td>
</tr>
<tr>
<td>K10</td>
<td>influence of human factor</td>
</tr>
</tbody>
</table>

*Source: Authors*

The real values for the individual criteria Kj described above according to the behavioural analysis technology variants are listed in table 2.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unit</th>
<th>WeCu</th>
<th>Voice</th>
<th>Malintent</th>
<th>RTPM</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>sec.</td>
<td>60</td>
<td>30</td>
<td>20</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>K2</td>
<td>%</td>
<td>80</td>
<td>80</td>
<td>99</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>K3</td>
<td>zero</td>
<td>zero</td>
<td>low</td>
<td>zero</td>
<td>zero</td>
<td>zero</td>
</tr>
<tr>
<td>K4</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>K5</td>
<td>high</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>high</td>
<td></td>
</tr>
<tr>
<td>K6</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>K7</td>
<td>sec.</td>
<td>10</td>
<td>5</td>
<td>60</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>K8</td>
<td>low</td>
<td>middle</td>
<td>high</td>
<td>low</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>K9</td>
<td>low</td>
<td>high</td>
<td>high</td>
<td>middle</td>
<td>high</td>
<td></td>
</tr>
<tr>
<td>K10</td>
<td>zero</td>
<td>zero</td>
<td>middle</td>
<td>low</td>
<td>low</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Authors*
Looking at the individual defined criteria, it is obvious that, in the process of making decisions on the choice of technology for behavioural analysis, all criteria have not got the same weight. When the analysis is carried out to set the correct choice of the variant it is necessary to determine the weight of the individual coefficients. According to the 10-point scale, where 1 indicates the smallest and 10 the highest priority, there was set the weight of coefficients for each of the criteria in collaboration with experts from the field of security controls. The chosen value of weight coefficient $v^j$ is growing with the importance of the considered criteria in the behavioural analysis system.

<table>
<thead>
<tr>
<th>Points</th>
<th>K1</th>
<th>K2</th>
<th>K3</th>
<th>K4</th>
<th>K5</th>
<th>K6</th>
<th>K7</th>
<th>K8</th>
<th>K9</th>
<th>K10</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>v^j</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>3</td>
<td>10</td>
<td>9</td>
<td>75</td>
</tr>
</tbody>
</table>

**Table 3. Weight coefficients for individual criteria**

In the moment when the variants evaluation according to the criteria is quantified, the data for the evaluation of the correct variant of behavioural analysis, determined by the linear partial functions, can be organized into a criteria matrix. The elements of this matrix express the i-th variant according to the j-th criteria. Lines correspond to variants, the columns correspond to criteria. For calculation of the linear partial utility functions $h^j_i$ the following relation was used

$$h^j_i = \frac{x^j_i - x^0_j}{x^*_i - x^0_j}$$

where $x^j_i$ is the criteria value, $x^0_j$ the worst criteria value and $x^*_j$ is the best criteria value.

**Table 4. The criteria matrix of the correct variants of behavioural analysis**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Units</th>
<th>$v^j$</th>
<th>$X^0$</th>
<th>$X^*$</th>
<th>WeCu</th>
<th>Voice</th>
<th>Malintent</th>
<th>RTPM</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>sec</td>
<td>0,120</td>
<td>60</td>
<td>10</td>
<td>0,000</td>
<td>0,600</td>
<td>0,800</td>
<td>0,800</td>
<td>1,100</td>
</tr>
<tr>
<td>K2</td>
<td>%</td>
<td>0,133</td>
<td>30</td>
<td>99</td>
<td>0,725</td>
<td>0,725</td>
<td>1,000</td>
<td>0,000</td>
<td>0,870</td>
</tr>
<tr>
<td>K3</td>
<td>0</td>
<td>0,120</td>
<td>0</td>
<td>1</td>
<td>0,000</td>
<td>0,000</td>
<td>0,000</td>
<td>0,250</td>
<td>0,000</td>
</tr>
<tr>
<td>K4</td>
<td>0</td>
<td>0,027</td>
<td>0</td>
<td>1</td>
<td>1,000</td>
<td>1,000</td>
<td>0,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>K5</td>
<td>0</td>
<td>0,107</td>
<td>0</td>
<td>1</td>
<td>0,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>K6</td>
<td>0</td>
<td>0,093</td>
<td>0</td>
<td>1</td>
<td>1,000</td>
<td>1,000</td>
<td>0,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>K7</td>
<td>sec</td>
<td>0,107</td>
<td>60</td>
<td>5</td>
<td>0,909</td>
<td>1,000</td>
<td>0,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>K8</td>
<td>0</td>
<td>0,040</td>
<td>0</td>
<td>1</td>
<td>1,000</td>
<td>0,500</td>
<td>0,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>K9</td>
<td>0</td>
<td>0,133</td>
<td>0</td>
<td>1</td>
<td>0,000</td>
<td>1,000</td>
<td>0,500</td>
<td>0,500</td>
<td>1,000</td>
</tr>
<tr>
<td>K10</td>
<td>0</td>
<td>0,120</td>
<td>0</td>
<td>1</td>
<td>1,000</td>
<td>1,000</td>
<td>0,500</td>
<td>0,250</td>
<td>0,250</td>
</tr>
</tbody>
</table>

**Source: Authors**

The resulting degree of conformity $s_i$ of individual's technology with established criteria K can be expressed by relation

**Table 5. The value of the resulting degree of conformity**

<table>
<thead>
<tr>
<th>Technology</th>
<th>WeCu</th>
<th>Voice</th>
<th>Malintent</th>
<th>RTPM</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>$s_i$</td>
<td>0,474</td>
<td>0,775</td>
<td>0,623</td>
<td>0,596</td>
<td>0,785</td>
</tr>
</tbody>
</table>

**Source: Authors**
The higher the number $S_i$ expressing the value of conformity is, the more the given technology matches the selected criteria. The results of conducted multicriteria analysis show, that the most appropriate technology for behavioural analysis in the security control procedure of the passengers flow at the airport appears to be the possibility of using signals, which are recorded by digital video cameras. Using of the thermal camera appears to be very effective for monitoring the temperature in the area of the face using the methods developed by Fujitsu Company. The advantage of the method is the higher speed when performing security checks and at the same time the possibility to divide passengers for their own inspection process according to given degree of risk.

5. Optimizing system of security checks at the airport

When we search the conditions which are necessary for the implementation of optimized system of security checks at the airport, it is necessary to take into account the following factors: sensitivity of the system, which indicates the possibilities of system failure when it is in contact with non-standard situations, request for a quick and for passengers non conflict pass through security check system, optimized costs necessary for implementation of corresponding technical means necessary for security checks, high moral and professional preparedness of the security check personnel for a trouble-free implementation of the tasks.

Non-standard situation is represented by a failure or breakdown of technology designed for the security check implementation, human error, or a combination of both phenomena. Security check system should therefore be designed in the way to be able to handle difficult situations – e.g. a failure of any technology, or a mistake caused by the human factor – in these cases it should affect it just in the short term slowdown of the flow of passengers trough security check, not on the effectiveness of its implementation. The solution of this problem is a consistent backup, allowing operability of the system without reducing its effectiveness. A possible way is a backup in the form of “staff-technology-staff”.

![Diagram of security check process](source: Arranged by Authors)
Conclusions

Nowadays one of the most important means of transport in tourism is the air transport. Air transport and tourism are more or less interlinked today. Tourism is also a key factor, and in some cases a stimulator of changes in the air transport. It was, above all, tourism which brought for the air transport the development of new business models, such as e.g. charter airlines. Air transport in particular has brought economic benefit to the Asia-Pacific region from economically stronger American and European partners, and this region is predicted to become the boom area for tourism by the year 2020. This trend could be reduced by different travel restrictions or the threat of terrorism. Air operators, aware of this fact, are spending vast sources on the purchase of powerful, comfortable and reliable aircrafts, for airports modernization and perfect air traffic services implementation. The intensive security checks not only prolong the time required for check-in, but at the same time they can be in many cases stressful for passengers and in some cases could be inefficient, too.

The results of conducted analysis of security check systems can serve as a support for the implementation of appropriate construction and organizational adjustments of workplace for security checks. Alternatively it can also serve as a basis for the adjustment of training of security check personnel with the aim to obtain required optimal solution of security control process at airports. The result of presented discussion is then a definite orientation to the methods, suitable for detecting potential risks according to emotions and behaviour of passenger’s analysis, before starting the actual check-in process. For optimizing of that process is, however, necessary to build a program that will be able, on the basis of inputs about the nature of the individual elements and their share in the operability of the system, to determine if there appears a failure or breakdown, percentage of uptime of the system. On this basis we can then provide the ideal failed elements backup so that the probability of failure of the system was maintained at the required level.

A major problem for optimizing the process of security checks is currently a question of the costs which are needed for implementing the appropriate level of technology to ensure reliable operation of the system security checks with a high degree of sensitivity. The decisive criterion in this matter is the relationship between the necessary level of acquisition costs corresponding to the safety control devices and the real possibilities of the airport.

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STRATEGY OF SUSTAINABLE COMPETITIVENESS: METHODOLOGY OF REAL-TIME CUSTOMERS’ SEGMENTATION FOR RETAIL SHOPS

Sergej Vojtovič¹, Valentinas Navickas², Valentas Gruzauskas³

¹Faculty of Social and Economic Relations, Alexander Dubcek University of Trencin, Študentská 3, 911 50 Trencín, Slovakia
²³School of Economics and Business, Kaunas University of Technology, K. Donelačio g. 73, Kaunas, Lithuania

E-mails: ¹ sergej.vojtovic@tuni.sk; ² valentinas.navickas@ktu.lt; ³ valentas.gruzauskas@ktu.lt

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Abstract. The objective of this article is to develop a methodology in order to implement real-time customers segmentation analysis in the decision making process of the enterprise. A review of big data usage in retail stores was conducted along with a document-based descriptive analysis of secondary data and further critical literature analysis. Decision making strategies and flow charts were used for the development of competitiveness methodology by referring to a case of a supermarket chain. Customer segmentation researchers analyse mainly the algorithms or behaviour pattern behind the clustering process; however, neither of them offers a proper strategy for implementing a real-time customer segmentation process inside the enterprise. Sustainable competitiveness advantage may be achieved by implementing the segmentation theory with concepts of data mining and internet of things (IoT). The process of developed data mining shows many ways for the enterprise to maximize competitiveness. However, time and large investments may be required to develop proper methods for unique solutions. A concrete case study of the selected retail store should be analysed before implementing the real-time customer segmentation methodology inside the enterprise. There is a multicultural population in every market that has different culture, beliefs, preferences and shopping patterns; therefore, constant analysis is essential for efficient usage of customer segmentation. Practically none of the prior research results carried out by other authors offered a concrete methodology how to implement real-time customer’s segmentation inside the enterprise. The authors created such a methodology that can provide sustainable long-term competitiveness advantage.

Keywords: big data concept, customer segmentation, marketing, retail sales, competitiveness.


JEL Classifications: L81, C81, M31.

1. Introduction

Due to globalization processes, present-day enterprises have a variety of customers that come from a lot of different societies, religions or ethical groups. The problem now is even more of a concern for companies that want their marketing to be effective (Randall & Seth, 2001). The concept of consumers behaviour and segmentation has been developed from the 19th century (Simkin, 2005). The general segmentation consists of consumer’s characteristics like social, demographic and geographic issues. One of the first segmentations has been made regarding the consumer’s buying preferences (Eliashberg & Jehoshua, 1980). This work overviews the general aspect of the consumer behaviour and makes an empirical substantiation. Other authors indicate that practice in the market segmentation is often applied rather crudely and does not go beyond analysing geography and shopping habits (Segal & Giacobbe, 1994). Newer publications regarding the customer segmentation process have been
published because of changed customer behaviour. Mangaraj and Senauer made a detail customer segmentation of shoppers in the USA grocery stores. Their work identified the main three customer segments: (i) time-pressed convenience seekers, (ii) sophisticates and (iii) middle Americans. They offered strategies how to better provide customer service regarding the segments (Senauer & Mangaraj, 2001). Another research studied the relationship between product loyalty and visit & spending pattern. Another work developed to a loyalty scheme for customer segmentation that can be used for competitiveness advantage achievement (West et al., 2005).

Similar research was done by Mukibbi & Bukenya and Mostenska & Bilan, they segmented the customers by considering the social responsibility concept and other customer behaviour. They distinguished three segments: typical customers, back to natural and convenience shoppers (Mukibbi & Bukenya, 2008; Mostenska and Bilan, 2015). These all researchers’ statistical analysis results indicate the importance of customer segmentation concept. Due to the migration and multicultural environment it is important to conduct the customer segmentation process constantly, however neither of the researchers provide detail steps of a real-time customer segmentation strategy implementation (Krajňáková, et. al., 2015). On the basis of this problem the competitiveness advantage strategies need to be developed.

However, in today’s world the customers change rapidly and their behaviour differ depending on race, religion or social group. Regarding this problem the research has been made that analyses the computerization process of the customer’s segmentation. These algorithms are called clustering algorithms, can group data by different criteria, depending on the quantity and data type. Research that analysed the textile manufacturing industry has been made. The study identified segments by using the LRfM method, consisting of four dimensions: relation length (L), recent transaction time (R), buying frequency (F), and monetary (M), to carry out customer clusters. The results have been achieved by using the wards method to determine the cluster quantity and the k-mean method to group the customers to particular segments (Der-Chiang, et al, 2011). A similar study has been conducted on the online fashion business, segmenting the customers by means of data mining techniques and a subgrouping algorithm. The results helped to identify 49 rules that can be implemented in the development process of the competitiveness strategy at the enterprise (Brito et al., 2015). This research identified the customer trends and behaviour and can be used for the development of competitiveness strategy (Kozubiková, et. al., 2015; Bilan, 2013; Haviernikova et al. 2015, Tvaronavičienė at al. 2015). However, large customer numbers and a variety of behaviour need to be taken into consideration while developing the competitiveness strategy.

Therefore, the novelty of the paper is a developed implementation methodology of a real-time customer segmentation process. The majority of the studies mainly analyse the algorithms or behaviour pattern behind the clustering process (Havierniková, et al. 2015); however, neither of them offers a strategy to implement a real-time customers’ segmentation process inside the enterprise activities. The creation of this methodology is essential for retail stores, otherwise due to the migration and multicultural environment customer segmentation strategies will not be effective. The methodology created by the authors can provide sustainable competitiveness advantage for a multicultural market.

Therefore, the main goal of our study is to develop a methodology that shows how to implement real-time customers segmentation analysis of the decision making process for sustainable competitiveness advantage. The methodology consists of secondary material research and a case of a supermarket chain. However, due to commercial secrets, no legal names will be mentioned in the article. The secondary material analysis was conducted on new innovative technologies. The first arising industry is big data. The big data industry consists of data mining methods used for understanding information regarding the enterprise’s customers. The second industry is Internet of Things (IoT). This concept is used to convert information from the surrounding environment to the computer language. By combining these two concepts a competitiveness advantage methodology was created for retail stores. In order to explain the methodology, a deeper understanding of the problem is presented in the upcoming chapters. Therefore, the detailed objectives of the study are:

– to overview the customer segmentation possibilities and offer a strategy for customer segmentation of retail stores,
– to analyse the Big data and Internet of Things concepts usage inside the retail stores,
– to create a competitiveness advantage methodology for real-time retail stores customer’s segmentation.
2. Customer Segmentation Possibilities

The concept of the customer behaviour and spending pattern analysis is essential in order to efficiently use marketing and distribution strategies (Laužikas et al. 2015). Only subsequently, it is possible to provide value added products or services. Value can be interpreted differently depending on the customer’s beliefs and social group. Cuadros and Dominguezs analysed the importance of segmentation to the enterprise competitiveness strategies. Their research offered a customer segmentation model based on value generation. The research identified 9 segments based on the customer’s spending pattern, loyalty level and recommended for the enterprise to focus on the segment that may bring the largest profit (Domínguez & Cuadros, 2014). The segmentation possibilities vary from one enterprise to another, and different industries may require different insights regarding their customers; however, there is a theoretical concept about the customer’s behaviour and segments. The main parts of the segment can be identified by three criteria: geographical, demographical and individual attributes (Denise, 2012). The geographical criteria mainly is relative to service providers or classic shops, because many customers tend to choose and buy what is near them. For example, to repair a car, not many people would consider driving or transporting the car to another city, because the expenses would increase dramatically. Internet shops also need to consider the geographical criteria, however, while outsourcing distribution services this criteria’s might be unimportant (Schwarzl and Grabowska, 2015). Regardless, proper segmentation based on geography could optimize the distribution cost.

The research that analysed this aspect and a fuzzy clustering algorithm that grouped the customers and offered a cost effective logistic network model were conducted. The developed algorithm can be readily implemented in practice to help the logistics operators reduce operational costs and improve customer satisfaction levels (Wang, Xiaolei, Xiaolei, Xiaolei, 2014). Other aspect of the segmentation is demographical issue. This part consists of various aspects mainly related to the person’s status (age, gender, race, etc.). This concept is often used for promotions and packing design, simultaneously these criteria can be used for segmentation purpose. The geographical and demographical criteria have been used for a long period and they can be used for competitiveness advantage achievement. A number of companies distribute their products based on different positioning strategies and highlight the right products for the right customers’ segments. However, new technologies (e.g., data mining) had been developed and by gathering large amounts of data a more detailed segmentation concept can be developed. This segmentation is based on individual attributes of the customer.

The customers today are multi-cultural which separates them from each other due to their lifestyle, social group or beliefs. Therefore, the segmentation process is much more complex if all the issues are considered. The customers’ attributes can be of various types: the pattern of spending or visiting the shop, bought products or even the sequence how the products were bought. They could also be more social based attributes like profession, education level, income, marital status and similar issues. This kind of segmentation has been done in a research paper that described a method how to assign customers to a lifestyle segment based on their purchase history (Miguéis, Camanho, Camanho, 2012). This particular research identified the possibilities of different customer behaviour. The point is that customers like to shop differently and depending on their behaviour, better services and products can be offered. The main aim of the marketing is to provide the right product, to the right person, at the right time. By using a more complex customer behaviour segmentation method, this can be achieved more efficiently (Marques and Almeida, 2013). However, real-time customers’ segmentation process is necessary, because customers often change and new customers need to be quickly assigned to segments.

In general, a variety of customers behaviour is identified (Figure 1). Price oriented customers tend to look for the lowest price, and they are usually the customers who search the web and the newspaper for possible discounts. Easy going shoppers are behaving differently: they just go the shop, walk around and buy what they like and what they want, and often buy much more then they need. The quality oriented shoppers tend to spend more money, however, they may choose better brands for higher quality or prestige. Smart shoppers compose a new concept, called professional consumers or prosumers. This type of customers tend to buy products that provide additional benefits, usually this is done through multi-level marketing scheme, however, some traditional shops also promote recommendations, and eventually they offer customers more discounts, money or other additional
services for their work (Cova, 2012; Csigéné Nagypál et al., 2015). Time oriented shoppers tend to stick to regular brands and try to finish shopping as fast as possible. The last types of shoppers are those who tend to move from one brand to another often and try innovative and new products. They have a strong personality, want to stay unique and are called early-adopters. Understanding this concept, proper marketing strategies can be formed; however, before the history of customer shopping needs to be analysed.

![Diagram of customer buying behaviour segments](image)

Fig.1. Customer buying behaviour segments, own study

Many companies identify the benefits of combining customer segmentation, big data and Internet of Things concepts. One of the leading developers of statistical software is forecasting that small and medium size enterprises will start using Big data in their enterprise activities, and it will create a new industry that will be worth over 14.5 billion dollars (SAS company’s report, 2012). What kind of possibilities can these industries provide regarding the customer segmentation process? The main possibilities could be to use data mining for product recommendations, to evaluate the probability of customer loyalty level and to offer sustainable competitiveness strategies in order to hold the loyalty at a particular level. In addition, the data mining can be used to offer proper discounts regarding the history of customers. These possibilities will be reviewed in the next chapter.

3. Use of Big Data and Internet of Things in Retailing

The next section of the article will overview the big data possibilities. The Big data concept can be described by three elements. The first element is the quantity. The data of the enterprise have increased dramatically in the last decades. The same can be said about the customers. Retail stores collect information regarding customers. Large databases of shopping history require new servers and cloud computing is started to be used in retail stores (Gupta et al, 2013). Another problem is that not enough information that could be used for data mining is collected. This problem mainly arises because customers are afraid that their information will be manipulated; however, at the same time additional information could be used to provide better services. The point is that not only large information is necessary for proper data mining, but qualitative information is needed as well (Hajduová, et. al., 2014). If enterprises have particular information about their customer’s profession, hobbies and other life styles, they can analyse and provide personal services and products for them. This type of analysis is necessary even more in today’s world, because social media has reached new heights, therefore data variety is also crucial for the Big data concept (Stubbs, 2014).

The reason is that not only large quantities of information can be achieved, but the type of data also differs. The data type can be structured and unstructured. The unstructured data analysis is commonly found in social me-
A research has been done that created a warning system for adverse drug reaction. The authors conducted a text filtering system that would identify wrong recommendations of drug in forums and other social media channels (Yang, Kiang, Sheang, 2015). This kind of similar process also could be implemented in the retail sector for better customer service. Concept of Big data evolves in this area- velocity. For example, social media comments can appear fast when a problem acquires. Therefore, an automated data mining algorithm should be implemented to identify the possible risks faster and more efficient. The next aspect of Big data is comprised by insights that can be applied for competitiveness strategy development.

Figure 2 indicates the main principles of sustainable competitiveness strategy by using Big data concept. Descriptive analytics applies data mining algorithms to past information and describes the reasons behind success or failure. Predictive analytics uses history of customers and tries to predict their behaviour. This method can be used for creating better marketing strategies. Prescriptive analytics methods take advantage of the results of descriptive models and the hypothesis’s substantiation of predictive models and develops a strategy for every possible case (Oracle Corporation, 2012). The understanding of these concepts is essential for proper Big data implementation in the enterprises. The methods used to analyse and provide insight can be combined by three steps. The first step is data gathering. The second step is data mining and the third step is the interpretation of the results. In order to properly gather the information several methods can be used, firstly the information should be gather from the ordering and history of customer purchase.

This sometimes can be a difficult task, because the enterprise may have millions of customers and large servers’ needs to be bought in order to properly use the gathered information. The other aspect is gathering information from none standard sources. The concept of Internet of Things here is important. The methods used in this concept are developing rapidly. They consist of various things, the basic ones are radio frequency identification (RFID) and barcodes. Barcodes are used in retail stores and they gather important shopping history information, however this is not enough for proper customer understanding. RFID could be used for customer route tracking or other information, that could be used for data mining algorithms development (Yan, Zhang, Zhang, 2008). In addition, smart mobile phones also can gather much information from the environment. A report of London’s universities analyses the future of retail environments - “The use of ambient sensors, interactive tailored media, digital object memories, and Bluetooth Low Energy to name but a few technologies, in networked shopping environments provides potentially benefits for retailers, consumers and thus the entire retail economy” (Hudson, Jode, Barthel, 2014).

The research identifies the upcoming technology that can be used in the retail sector and by combining it with Big data concept, competitiveness advantage can be achieved. The second step of Big data analysis is the data mining process. This process consists of various algorithms that can be used to discover insights about retail store’s customers. SQL server data mining add-in can be used for this goal. This particular tool can be used in enterprise quite cheaply, because many enterprise have Microsoft Excel and uses databases. Depending on the database, they may use a different software, because many developers have similar possibilities like SAP, Oracle etc.
Table 1. Data mining algorithms’ overview (Winston, 2014)

<table>
<thead>
<tr>
<th>Algorithm</th>
<th>Method’s principles</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naïve Bayes</td>
<td>Evaluations the probability of the event by using logistic regression analysis.</td>
<td>- Assigns a new customer to a particular segment.</td>
</tr>
<tr>
<td></td>
<td>- Assigns a new customer to a particular segment.</td>
<td>- Automated evaluation of discount efficiency.</td>
</tr>
<tr>
<td>Decision tree</td>
<td>Constructs a decision tree based on regression analysis between the input data and secondary data.</td>
<td>- Forecasts the customer behaviour.</td>
</tr>
<tr>
<td></td>
<td>- Forecasts the customer behaviour.</td>
<td>- Helps to make better decisions.</td>
</tr>
<tr>
<td>Logistic Regression</td>
<td>Describes the dependency between the input data and secondary data and forms a regression model.</td>
<td>- Forecasts retail sales of particular discount offer.</td>
</tr>
<tr>
<td></td>
<td>- Forecasts retail sales of particular discount offer.</td>
<td>- Evaluates the important factors.</td>
</tr>
<tr>
<td>Linear Regression</td>
<td>Describes the dependency between the input data and secondary data and forms a regression model.</td>
<td>- Evaluates the important factors.</td>
</tr>
<tr>
<td></td>
<td>- Forecasts retail sales of particular discount offer.</td>
<td>- Evaluates the important factors.</td>
</tr>
<tr>
<td>Time Series</td>
<td>Statistical dependency is evaluated between the input data and secondary data.</td>
<td>- Customer segmentation for marketing channel identification.</td>
</tr>
<tr>
<td>Clustering</td>
<td>Data is grouped by calculating distances or evaluating probabilities for different groups.</td>
<td>- Enterprise structure adjustment to the identified segments.</td>
</tr>
<tr>
<td></td>
<td>- Customer segmentation for marketing channel identification.</td>
<td>- Enterprise structure adjustment to the identified segments.</td>
</tr>
<tr>
<td>Sequence clustering</td>
<td>The same principle as the clustering algorithm is applied. In addition, the probability of an event to occur and the sequence is taken into consideration.</td>
<td>- Identifies the customer behaviour by their shopping history.</td>
</tr>
<tr>
<td>Association Rules</td>
<td>Identifies data combinations and probabilities for them to happen.</td>
<td>- Used for shopping basket analysis.</td>
</tr>
<tr>
<td>Neural Networks</td>
<td>Method takes input data and calculates possible combinations. Then the calculated data are again analysed for possible combinations.</td>
<td>- Forecasts customer behaviour.</td>
</tr>
<tr>
<td></td>
<td>- Forecasts customer behaviour.</td>
<td>- Better decision making.</td>
</tr>
<tr>
<td></td>
<td>- Labels customers to a particular segment.</td>
<td>- Labels customers to a particular segment.</td>
</tr>
</tbody>
</table>

Table 1 indicates the main algorithms that can be used for retail store customer segmentation and behaviour modelling. Naïve Bayes may be used to optimize the segmentation process and new appearing customers may be assigned to a particular segment regarding the past shopping history. Decision tree algorithm can be used to offer new products to customers based on probability that they will buy. By having more detail information about them proper products could be offered. For example, if the products are bought once per 20 years, then regarding the age of the customers discounts could be offered to new customers at that particular age. Time series could be used to forecasting discount possibilities and to choose the best discounts that could provide the most profit. Clustering algorithms can be used to determine the best marketing channels for exactly the right customers. By combining association rules and clustering algorithms, products may be recommended that are fitted for the right customer. The last part of the analysis process is insight. It is not enough just to provide information and use mining models, the results need to be interpreted and optimize for best usage. Therefore, it is important to understand how the algorithms work in order to develop a competitiveness advantage strategy.

4. Methodological Assumptions for Real-Time Customer Clustering Process

The next section of the article is a case study of a retail store. During this case study a methodology for real-time segmentation and behaviour forecasting process will be developed. The selected enterprise is a retail store with various products from construction to food products; it is a large super market, however for commercial reasons the names of the company will not be mentioned. The goal of this case study is to show how data mining concept can be implemented inside a sale store for sustainable competitiveness strategy development. The first step is to gather the required information for proper segmentation. The general information about the customers can be used from their loyalty cards, that usually all retail stores has for planning purpose. Specific customer information is beneficial in order to create accurate models. Therefore, the enterprise needs to evaluate the possibilities of event organization for specific information gathering. This step is crucial for all others steps. Moreover, the concept should be explained to the customers that this will not only benefit the enterprise, but also will provide better services for them. When the necessary information is gathered, methods for proper customer service can be developed.

Figure 3 indicates sustainable competitiveness strategy that can be implemented inside the enterprise. As mentioned before the first step is proper information variety and quantity. Then the information is analysed using descriptive analytics and goals are made. To achieve the goals model types are selected. There can be three
types of the model. The first one is the direct model that is used to forecast whether a customer will purchase a specific product. Constant types of models are used regularly to evaluate the loyalty level, analyse shopping basket and analyse the customer behaviour. Moreover, the last type of a model is used when the model does not exist and a new one needs to be created. After the development of a new model it is important to evaluate its effectiveness, therefore there are various methods for validation purpose. The point is that the model is thought by the history, then when new customers appear by using mining algorithms and previous history, decisions can be made. Validation algorithms are essential in order to approve correct decisions. Different algorithms may work better depending on different attributes and population size. Therefore, the validation process is essential in order to choose the best algorithm.

![Diagram](image)

**Fig.3.** Sustainable competitiveness strategy implementation process, own study
The validation can be used to forecast the possible profit or just verify errors that may appear. In addition, many of the integrated methods may require modifications; therefore, it is possible to conduct them inside the server or using specific software. One of the software language is developing rapidly and is called a statistical language – R code. This is an open source language that can help to create and validate specific data mining models (Chapman, 2015). Then, if the model is approved it needs to be archived, described and optimized. Later, when a similar problem occurs, the model can be retrieved and reused. It is also important to mention that the model will work regarding the previous history; therefore, the customer behaviour may differ depending on the country or continent. It is unlikely that the model created in Europe will work in Asia or the United States. In the future, the whole process should just run between Big data analysis, model usage and result usage. Nevertheless constant analysis and goal setting are essential to develop a proper competitiveness advantage.

5. Real-Time Customer Clustering Process: A Case Study

It is essential to understand the possibilities of data mining process. The first example can be made by using customer segmentation process. For example, by identifying spending patterns for specific product categories and by assigning customers to different segments, specific commercial and marketing strategies could be applied. By segmenting customers on the basis of different product categories we can get regular customers who buys specific product categories; then when discounts are made, the information via email or via mobile phones can be send precisely to them. By this case, the cost of marketing can lower and profit increase, because the enterprise will have more satisfied customers.

The same segmentation process can be conducted by using sequence clustering algorithm, providing a possibility to identify specific product groups. By using this segmentation method, multiple products can be offered. These are not simply recommendations that an enterprise developed, but statistically approved decisions. In addition, this kind of recommendations can be developed also for the long-term products. After completing the data mining process, specific age groups that buy specific products can be identified. This means that if in Europe couples usually get married at the age of 24 and leave home, they tend to buy specific products like furniture, kitchen equipment and so on. However, if a customer bought these products he/she may not need them again for a specific time, therefore by using the previous history the products can be offered to new customers that have the same specific characteristics or discounts may be provided to old customers who want to renew their equipment. In this step, specific forecasting methods can be used. It is possible to predict the probability whether the customer will buy a specific product (see table 2).

<table>
<thead>
<tr>
<th>Loyalty cards No.</th>
<th>Age</th>
<th>Gender</th>
<th>PC1</th>
<th>PC3</th>
<th>PC4</th>
<th>PC6</th>
<th>PC7</th>
<th>PC8</th>
<th>Segment</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>006F6908</td>
<td>49</td>
<td>Male</td>
<td>0.6</td>
<td>67.65</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>26.94</td>
<td>Cluster 3</td>
<td>0.687</td>
</tr>
<tr>
<td>006F6909</td>
<td>53</td>
<td>Male</td>
<td>4.14</td>
<td>17.35</td>
<td>0</td>
<td>18.62</td>
<td>4.55</td>
<td>0</td>
<td>Cluster 6</td>
<td>0.585</td>
</tr>
<tr>
<td>006F6910</td>
<td>42</td>
<td>Female</td>
<td>0</td>
<td>16.12</td>
<td>24</td>
<td>0</td>
<td>0.26</td>
<td>0</td>
<td>Cluster 4</td>
<td>0.756</td>
</tr>
</tbody>
</table>

Own calculations based on supermarket chain’s data

Table 2 shows probability that a certain customer will spend more in a concrete product category. In this particular case several customers were identified in which product group they would spend more depending on their certain characteristics age, gender, hobbies, marital status etc. When a new customer provides this kind of information, it can be forecasting what products he/she might buy. Depending on the forecasting, exactly the right products can be offered to the customers, based on buying history of other customers. By using decision tree and regressions algorithms the main customers can be identified and the marketing strategies will be used more efficiently and it will provide better value to the customers. If the retail store uses properly social media, then the unstructured data can also be gathered. New data mining models can even help to analyse random comments, videos and other information that can be found in forums or social media. By using this information, algorithms can be made to identify the loyalty level of the customer. A specific shopping pattern can be predicted that shows, whether the customer starts to buy products at the competitors. Evaluating the probabilities for a customer to be
assigned to a segment “regular shopper” or “irregular shopper” proper marketing strategies can be used.

Using the data mining process described above sustainable competitiveness advantage can be achieved. Other studies regarding the segmentation process have been done, however practically none of them offered methods for real-time customer’s segmentation possibilities.

Conclusions

The analysis of the segmentation process identified new trends and possibilities for the enterprise to conduct marketing strategies. By implementing the segmentation theory with data mining and Internet of Things concept sustainable competitiveness advantage may be acquired. The developed data mining process shows many ways for the enterprise to maximize competitiveness. However, time and large investments may be required to develop proper methods for unique solutions. Other researchers has conducted concrete analysis of customer segmentation based on different patterns, however practically none of them offered a methodology how to implement the real-time analysis process inside the enterprise. By using the authors developed segmentation process real-time customer’s segmentation analysis could be used inside a retail shop. This particular finding and recommendation provides a solution and solves the limitation problem of other researchers, who only analysis a concrete situation and does not offer steps how to use the segmentation process regularly in retail shops. These findings are beneficial for developed strategies based on customer segmentation process, because the customers change rapidly and are from various cultures. One of the best examples by combining data mining, customer segmentation and Internet of Things concepts could be a specific mobile application. An enterprise could create their own mobile application with an integrated mining model. The main idea would be for a customer, before entering a shop, to login to this application. Choose specific products that they desire. Receive recommendations specifically for them. Then he would choose his buying behaviour: time saver, quality seeker, etc. Depending on the criteria, different products could be offered for him. After the selection of specific products, the minimal way for him to travel in the retail store would be calculated. Then when he chooses the products via the mobile phone. He can select if he wants those products to be send via distributor, be prepared by the staff or he wants himself to take the products and buy at the self-service cashier. This kind of method would provide excellent customer service, however the technology is still being developed and large investments will be required.

In order, to determine the implementation of the data mining models inside an enterprise a more detail case analysis must be done. This research identified the possibilities to use real-time customers segmentation, however to adapt the model to SMEs customer behaviour patterns need to be forecasted. The main limitation is, that this methodology works for enterprise with a successful history and for new enterprise this methodologies implementation will not provide necessary economic efficiency. In the future, a case study of customer behaviour pattern forecasting will be done. In future research the main limitation will be analysed: can social media provide necessary information for customer behaviour pattern determination? The answer to this question would provide necessary customer segmentation information for the implementation of the authors developed methodology to newly established retail stores.

References


PRECONDITION OF SUSTAINABLE SECURITY: GENESIS OF THE LITHUANIAN AVIATION INSTITUTIONS

Valius Urbonas¹, Arūnas Alonderis²

¹Helicopter Squadron, Military Air Force Aviation Base, Lakūnų st.3, LT-77103, Šiauliai, Lithuania

²The General Jonas Žemaitis Military Academy of Lithuania, Šilo st. 5a, Vilnius, LT-10322, Lithuania

E-mails: ¹valius.urbonas@mil.lt; ²arunas.alonderis@mil.lt

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Abstract. The article deals with the inter-war Lithuanian aviation in the period of 1919-1940. By using all available historical and literature resources, the author aims to analyze the inter-war aviation cooperation and perform historical analysis of aviation institutions. Having reviewed the historical development of these institutions, it can be concluded that since their establishment the main purpose has been the country’s defence in case of armed attack. Military aviation has become the core of aviation. The cooperation of the aviation institutions during the Soviet occupation is not analyzed. The authors claim that processes of development of strengthening of Lithuanian aviation institutions are intertwined to sustainable security phenomenon.

Keywords: sustainable security; Lithuanian Armed Forces, inter-war aviation, Lithuanian Aero Club

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1. Introduction

Since the ancient times, all big successes and achievements in various fields were based on cooperation policy and joint coordination. All great military, scientific and social successes were achieved using shared experience and coordinated actions. Security of a country is a complex phenomenon, comprised of a set of constituents (Balkytė, Tvaronavičienė 2010; Vosylius et. al. 2013; Vasilienaitė 2014). Undoubtedly one of constituents is aviation, hence indepth analysis of Lithuanian aviation intitutions formation allows to ground and suggest se-quent further policy implications in this particular area.

The Lithuanian Armed Forces started developing after the World War I. Military aviation became an integral part of the armed forces. The Engineering Company led by Juozas Narakas was established on 30 January 1919. The company also involved an aviation squad. When the independent state of Lithuania was restored, the military air force started developing (Lieikis 1999, p. 9).
The Lithuanian Aero Club (LAC) was founded on 28 April 1927. Since then, it has very closely and willingly cooperated with military aviation institutions regarding any defence issues, hosting competitions or pilot training. Military aviation representatives were considered the founders of the LAC. In case of a military attack or war, a close cooperation and coordinated plan of actions were developed within the country’s defence policies. Another example of cooperation was a new branch of aviation, i.e. the Riflemen’s Aviation Union. This patriotic union was founded under the 6th Anti-aircraft Protection Riflemen’s Company together with the Gliding Section. The Riflemen’s Aviation Union cooperated closely with military aviation institutions and LAC. The purpose of the union was to prepare parachutists and train reserve pilots.

The article starts with the analysis of the inter-war Lithuanian aviation institutions’ cooperation, i.e. an overview of the inter-war Lithuanian aviation units’ importance to the country’s defence policy during this period. The activities of aviation authorities and aviation-related institutions (Riflemen’s Aviation Union and LAC) and their support for national security and defence are investigated as well. When military functions were restored, creation and expansion of existing aviation capacity and aviation industry started.

The article deals with the initial stage of cooperation among aviation institutions as separate units. It also presents a brief overview of the Lithuanian aviation development and cooperation among institutions since 30 January 1919 when the aviation part was founded; aviation importance and discussion about the aviation authorities of those days; a comparison of institutional functions and areas of responsibilities.

Research object: a review of the inter-war Lithuanian aviation authorities’ inter-agency cooperation.

Research objective: a review of the Lithuanian aviation inter-war institutions and their collaboration.

Research tasks:
1) To discuss the aviation capacities in the inter-war Lithuania;
2) To review the historical evolution of aviation institutions;
3) To investigate the reasons and means of collaboration among Lithuanian aviation bodies.

Research methodologies: critical review of scientific literature, historical review and retrospective methods of military aviation, analysis of case studies.

2. Historical Review of the Lithuanian Inter-war Aviation

Before analyzing the evolution and development of the Lithuanian aviation functions, it is important to mention that aviation as a separate means of transportation and as a new thing came into use in ancient times already. It can be illustrated by Leonardo da Vinci’s projects and the following inventions: parachute by Fausto Veranzio, aircraft by Fernando Lanos and bird by George Borel. These projects evidence that a desire to fly, facilitate and expand human capabilities has existed for centuries. ‘The interest in conquering space has been and still is a human desire with changing reign of the realm and limitations’ (Lieks 1999, p. 9). Conquering the space has become no longer unachievable. Montgolfier brothers and Robertas Adolfas Chodasevičius showed the world the power of air balloons and started a new way of the aviation development. These inventions laid solid foundations for other instructors’ fruits of creativity. The Lithuanian pioneer of rocketry Kazimieras Semenavičius described multistage rockets in his book *The Great Art of Artillery*, while the first air balloon flight was demonstrated in Lithuania in 1809 by J. Kuparentka (Lieks 1999, p. 9). It proves that Lithuania was not out of step with the aviation progress.

The author of the first Lithuanian airplane project Zemaitis garlekys was Aleksandras Griškevičius. An interesting fact was that Steponas Vilkaitis received his piloting license from Orville Wright. Juozas Kraucevičius was the first pilot of Lithuanian origin who became a qualified pilot after graduating in Tsarist Russia. In 1919, he started leading the Lithuanian Air Force of the restored Lithuania putting the steering wheel of the air force into reliable and experienced hands. The Lithuanian officers Jurgis Dobkevičius and Antanas Gustaitis contrib-
uted to the development of the Lithuanian Air Force and Lithuanian aircraft by their flawless service. These Lithuanians can be considered as national heroes because they proved to the world that Lithuania can create and advance the development of aviation. In 1919, Europe began developing commercial and passenger aviation, since a lot of military pilots became unemployed and there was a demand for technological development. Lithuania was still in full swing of military conflict when Europe started thinking about the development of commercial aviation. As military aviation laid the foundations for commercial aviation, there was a split in aviation followed by division of certain functions. A conclusion can be drawn that cooperation and common interests are important and inseparable. In 1921, the Lithuanian Armed Forces started delivering military mail to various places in Lithuania. It is possible to draw a conclusion that the functions of aviation and collaboration started expanding not only through military actions but also through execution of tasks during peacetime. A new route Kaliningrad–Moscow (yielding to Kaunas) was opened in 1922. Thus, a young state, the Republic of Lithuania, did not stay aside but closely cooperated with foreign countries with regard to civil aviation matters. Jurgis Dobkevičius created the first aircraft design referring to global media about aviation improvements and achievements. The analysis of pilots’ notes and documents proved that countries, including Lithuania, collaborated consistently especially when engines, assemblies and individual parts were purchased as the Lithuanian industry were not producing them at the time. ‘The aviation workshops in addition to routine repairs began producing aircrafts, copying existing German structures. The acquired German aero engines and other aircraft parts and devices were used, while wings, fuselages, plane tails were manufactured’ (Ašmenskas 2007, p. 30). Steponas Darius was the first pilot who mentioned the necessity for civil aviation. He knew how the USA dealt with it and had the knowledge of aero clubs in other countries. He was aware of the International Federation of Aeronautics encouraging sportive aviation activities. Other pilots also spoke about them. S. Darius’ idea was backed by the pilots Antanas Gustaitis, Juozas Narakas, etc. An aero club was necessary for promoting aviation and attracting interest and people. Military aviation was not able to do it due to restrictions of military discipline, subordination and confidentiality. It is possible to state that both sides aimed to cooperate but due to the mentioned reasons functions and scope of activities were divided. Today we consider that aviation includes both fields, only activities differ.

The Lithuanian Aero Club (LAC) was established in 1927. Its tasks and functions are defined bellow, while the objectives were to prepare aviation specialists of various fields, improve their training, foster air sports and stimulate public interest in aeronautics. These objectives show that collaboration among Lithuanian aviation institutions with regard to defence issues included society’s introduction to self-defence through air attacks and preparation of the club members for country’s defence. It indicates that national defence policy played a great role in civil aviation. The LAC was responsible for civil aviation pilots and transport aviation pilots’ training. It was also in charge of air mail deliveries and passenger air transportation. It is possible to state that functional separation among aviation authorities and close cooperation aiming at achieving best results were very important. The Honorary Chairman of the LAC President Antanas Smetona said: ‘The stronger the nation’s aviation, the more advanced the nation is’. Followed by the close cooperation between the Lithuanian Air Force and LAC, the anti-aircraft protection laws were adopted, the Air Service Office was established and air service line Kaunas–Palanga was opened. It suggests that these aerial structures had close cooperation ties due to which the functions and scope of activities of these institutions were determined. The foundation of the LAC encouraged active cooperation with foreign clubs and international organizations regarding aviation matters. During the general meeting of the LAC in 1935, it was decided that civil aviation pilots carry out military pilots’ functions in case of war. This topic was addressed by the LAC authorities when cooperating with military aviation. It is important to emphasize that the founders of the LAC and the majority of club members were Lithuanian officers. Thus, the collaboration became closer and more effective. The military aviation supplied the LAC with planes and was engaged in pilot training.

Encouraged by the president of the LAC, the Riflemen’s Aviation Detachment was established in 1936. The main reasons for establishing this union were to take better care of access by air when training parachutists and reserve pilots so that they do not lose their skills. Other objectives, i.e. fulfilling intelligence and communication tasks, emerged during the war and led to strong relationships among all three aviation institutions in the
inter-war Lithuania. All the structures linked tasks and objectives related to national defence policy and pilot training. The cooperation increased aviation pace and development in Lithuania. Another example of close cooperation between the Riflemen’s Aviation Union and LAC was the fact that the Union used the LAC’s aircraft hangars and entire aviation assets. Also, we should not forget the Air Scout Society was established in 1939 just before the Soviet occupation. However, the scouts had only one meeting during which a couple of young people were trained how to fly and passed the exams.

The Air Scout Society was created on the basis of the Riflemen’s Aviation Union. Scouts were intended to form a branch of the Union and teach young people how to fly and attract them to aviation. The main purpose, again, was the cooperation with the military forces for the country’s defence. During peacetime, the Society had to promote aviation and its traditions. The Ministry of Transport of the Republic of Lithuania was established in 1918. It was in charge of railways, navy, civil aviation, road transportation, mail and landline and had to provide all the mentioned institutions with the guidelines for their activities. The role of civil aviation increased globally during the WWI. The extended military aviation was quickly adapted for civil use. The ministries of civil aviation were in charge of civil aviation matters in many European countries. The Ministry of Transport was assigned to coordinate civil aviation in Lithuania. Initially, it was in charge of mail, landline and telegraph as the Ministry of Civil Aviation was not existent until 1936. All the aviation-related issues were coordinated by military aviation. In order to regulate air connections on an international basis, the International Convention was signed in 1919. The main principle of the Convention was the recognition of each country’s airspace sovereignty; however, Lithuania neither joined nor signed it presumably because it was not ready to cooperate with other European countries in the field of civil aviation. Apparently, Lithuania did not have many expectations for civil aviation at that time; however, it would not be possible to function without it in the future. Another assumption can be made that there was a lack of international cooperation experience even though internal cooperation among aviation institutions was very close. It should be remembered that this was a relatively early stage for a young state to start life from scratch during the years of recession. The Board of Post, Telegraph and Landline started administering civil aviation in 1921 with later recognition. Civil aviation was formed in 1934 marking the beginning of rapporteur’s position at the Board. Civil aviation had to become a separate institution. The Lithuanian Air Force and Ministry of Transport were closely cooperating regarding this question. It is visible that the existing aviation forces had great impact over developing new aviation authorities in Lithuania. The Ministry of Air Inspectorate was established in 1936 under the Ministry of Transport. It became the cornerstone of current civil aviation in Lithuania. In 1940, the Inspection of Air Transport was reorganized into the Directorate of Air Transport. Considerable effort was put into civil aviation and other Lithuanian authorities contributed to it. A lot of issues were resolved as a result of cooperation among the Lithuanian aviation institutions. The initial objectives of the Inspection of Air Transport were as follows: to check pilots’ qualifications, to monitor technical condition of aircrafts, to organize and regulate aircraft marking and to perform the maintenance of airfields. It was not a separate aviation branch with its own fleet, structure and pilots. It was assigned to control military air force and Riflemen’s Aviation Union. The Ministry of Air Transport was assigned to collaborate with other Lithuanian aviation institutions. In 1936, the Air Transport Directorate of Civil Aviation started its activities. Officer Jonas Špokevičius was appointed the first inspector of this institution. He worked closely with the Lithuanian Air Force on purchasing new fighter aircrafts from Great Britain and Czechoslovakia.

During the inter-war period the Board of Air Transport collaborated with the Riflemen’s Aviation Union and the Union of Air Sports. When the aviation institutions were split into civil and military ones, the distribution of functions and operational fields were divided as well. The cooperation started in various fields, including the acquisition of aircrafts and licensing and training personnel. The Air Transport Inspectorate took care of international communication through global management and regulation, thus cooperating with foreign countries and domestic aeronautical institutions. Nevertheless, international planes landed irregularly in Lithuania due to poor condition of aerodromes and inadequate infrastructure of airfields, not because of poor cooperation. Only in 1930 the Ministry of Defence extended Kaunas airfield in collaboration with the Ministry of Transport. Kaunas became an international air connection node. The activities of the Air Transport Inspection grew stronger when the LAC started supporting them. Since the establishment of these institutions, their activities increased and inter-agency cooperation relations expanded. All the Lithuanian institutions engaged closely in
aviation areas and cooperated willingly with each other because they were united by common interests and had similar activities. Transport aviation used widely the military aerodrome in Kaunas. The airfield was divided into two parts. The northern part was designed for transport aircraft, including a hangar with a 1 kW radio station. Military officers took care of the aerodrome along with the storage and transportation of aviation airfield, hangar and land area belonging to civil aviation. The collaboration concerning not only aerial issues but also infrastructure and security division of the area was evident. Even future planning of a new civilian airfield construction was scheduled for the purpose of military use ‘since those aerodromes will be publicly used and without doubt will benefit from military aviation’ (Algimantas Liekis, Science of Lithuania. Vilnius 1999, p. 370). The military aviation chief A. Gustaitis supported the integrated aeronautical development of the state by promoting model aircraft, gliding, parachuting and sports transport aviation. He stated that these were the same aviation components that could accelerate the progress of the country and its defence-related affairs. This shows that the aviation authorities had close ties regarding various issues. The most important objectives were as follows: to defend the country’s sovereignty, to develop joint activities and to distribute tasks and activities by areas. A. Gustaitis stated that institutional cooperation must be as concise as possible and the country’s defence should have enough trained specialists to perform necessary tasks. ‘The more young people are lit with enthusiasm, the better aviation personnel can be selected and used for defence, the higher the quality of our aviation weapons’ (Liekis, 1999, p. 372).

In 1938, the Ministry of Transport ordered two passenger airplanes Percival from England. However, they were missing a ‘pitot’ tube (aircraft position in space tool) heating. This caused problems when using routes to other countries, so military support was requested once again. However, the respond was negative. ‘I have the honour to request you, Dear General, if possible, to lend the Ministry 2 heated ‘pitot’ tubes, 4 leather fur jackets and 4 pairs of warm shoes till the Ministry purchases them’ (Liekis, 1999, p. 375). After reviewing, it is possible to say that the cooperation existed not only for borrowing aviation parts or transfer issues; the inter-agency cooperation enabled the Ministry to borrow material assets or transmission issues. The Union of Air Sports was established in 1939. An officer was appointed to mentor it for closer and more responsible cooperation among the institutions. The Union of Air Sports maintained close relationship with military aviation and had big ambitions for the Union of Air Sports to take charge over the LAC and Riflemen’s Aviation Union and other organizations in the future. It leads to a conclusion that when the number of aircraft structures in Lithuania increased, more attempts were made to combine them into a single system and to identify their areas of expertise. The main function of all the organizations was to defend Lithuania in case of war.

Conclusions

Since the ancient times, all the big successes and achievements in various fields were based on cooperation policy and joint coordination success. All the great military, scientific and social successes have been achieved on the basis of the experience of others and coordinating their actions.

The article deals with the inter-war Lithuanian aviation in 1919-1940. By using all available historical and literature resources, the author aims to analyze the inter-war aviation department cooperation and perform historical analysis of aviation authorities.

Lithuanian military forces started developing after WWI and military aviation has become an integral part of the army. An engineering company has been established in the army of Lithuania on the 30th January, 1919. It was being led by Juozas Narako. There was also an aviation squad in the company. Once the independent state of Lithuania was restored, military air forces started developing (Liekis, 1999, p. 86 – 139).

In case of attack or war, a close cooperation and coordinated plan of actions has been considered within the country’s defence policies. Another example of cooperation within the young state of Lithuania was the new branch of aviation – the riflemen aviation unit. This patriotic organization was founded near the 6th anti-aircraft protection riflemen company. The gliding section has also been founded in Lithuania then. The purpose of Riflemen Union has been preparing parachutists and developing reserve pilots.
After reviewing the historical development of these institutions, it can be concluded that since the foundation of the aviation authorities the main purpose has been the defence of the country should an armed attack occur. Military aviation has become the core of aviation.

To conclude, it is possible to state that the Lithuanian aviation was relatively strong and developed compared to other European countries during the inter-war period. Military aviation and airfields became ‘the mother and cradle’ to other aviation agencies in Lithuania, such as the Lithuanian Aero Club, Riflemen’s Aviation Union, civil aviation and air scouts.

Many Lithuanian aircrafts could have been compared to the European ones of adequate classes in terms of technical and tactical characteristics. Lithuanian gliders and aviation modellers were considered as one of the best worldwide.

President Antanas Smetona once said: “The stronger the nation’s aviation, the better the people”. Having analyzed the historical collaboration of the Lithuanian aviation institutions, it can be concluded that until the Soviet occupation the aviation development was of a relatively high level. During those times the overall objective of the Lithuanian aviation institutions was to defend the state in case of war. It is apparent that although the nature of activities was different, the main objective of the aviation institutions (Riflemen’s Aviation Union, air scouts, civil aviation and LAC) was the protection of national airspace.

To summarize, it can be said that all the Lithuanian inter-war aviation branches and agencies were aiming for a common goal, i.e. to defend the country should an armed attack occur. Aviation institutions are perceived as one of the major pillars of security; sustainable development of aviation institutions would lead towards more sustainable security, therefore has to be sequently supported and fostered by state.

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Towards Economic Security through Diversification: Case of Kazakhstan

Petrenko Elena¹, Shevyakova Anna², Zhartay Zhanibek³, Oleg Olefirenko⁴

¹ Chamber of entrepreneurs of the Karaganda region; Department of Human Capital, Bukhar-Zhyrau Av, 49, Karagandy 100000, Kazakhstan
²,³ The Academician Ye.A. Buketov Karaganda State University, Department of Economics and International Business; Universitetskaya str., Karaganda city, Republic of Kazakhstan, University Str, 28, Karagandy 100000, Kazakhstan
⁴ Sumy State University, Department of Marketing and Management of Innovation Activity, Ryms'koho-Korsakova Str, 2, Sumy 40000, Ukraine

E-mails: ¹petrenko_yelena@bk.ru, ²shevyakova.anna@gmail.com ³zhanibek862010@mail.ru; ⁴oolefirenko@turbomash.sumy.ua

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Abstract. In this article assumption is being made that economic structure of economy affects economic security of a country. The main exported goods of Kazakhstan for the period 2000-2015 is the commodity group “Mineral products”, which accounts for no less than 65.8% of total exports of Kazakhstan. And in Kazakhstan’s economy is currently experiencing a clear decline due to the instability and decline in world oil prices. One solution to the government of Kazakhstan has chosen the conduct of the national currency devaluation in February 2014 and August 2015. Down conjuncture of oil prices since 2014 has ceased to be favorable, and in Kazakhstan, only 5% of the oil sold in the domestic market and almost all the oil produced in Kazakhstan is exported at a rate of 95%. In the presented paper authors consider the problem of diversification of the Kazakhstani economy, which actually depends on raw industry. The analysis of the current situation and recommendations for further reforming of economy are provided.

Keywords: economic security, Kazakhstan, economy, oil and gas sector, diversification, prices for energy resources


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JEL Classification: P47

1. Introduction

Economic sustainability and economic security of a country is affected by variety of factors which are amply analyzed in contemporary literature: state of transport (Beifert 2016); ability to innovate (Branten, Purju 2015; Rezk et al. 2015; Tvaronavičienė et al. 2015); energy security (Vosylius et al. 2013), cybersecurity (Grubicka, Matuska 2015) etc. Among array of factors affecting economic sustainability and security important role plays economic structure (Shatrevich, Strautmane 2015; Tvaronavičienė 2014; Travkina, Tvaronavičienė 2015).

In this paper the authors focus on economic structure and do not analyze other factors impacting economic security of the country.
Hence, assumption is being made that diversification of economy implies diversification of its structure. This approach was caused by specifics of Kazakhstan: the Republic of Kazakhstan is obliged by today’s progress in social and economic development and attraction of foreign investments to such basic factors of competitiveness as security with natural resources, the favorable macroeconomic environment and political stability (Dezellus et al. 2015). The economy of the Republic of Kazakhstan can lose competitiveness and appear in «a trap of average earnings». Republic of Kazakhstan will need to realize structural changes in economy for preserving high rates of economic growth, necessary for transition to a new stage of development. In this regard diversification of economy is represented actual for Kazakhstan.

One of the major features of development of economy of Kazakhstan still remains a dominant position of oil and gas and raw sectors through weakening of the position of the Kazakhstani light processing industry, and also replacement from structure of consumption of domestic products by import goods. The main reason of the repeating economic crises is raw nature of the Kazakhstani economy, its weak diversification because forming of the budget of the country depends on the prices of energy resources. According to Committee of the statistics of the Ministry of national economy of the Republic of Kazakhstan, the share of the mining industry in structure of GDP of the country tends to growth from 2000 to 2014. It increased by 3,4% and make 16,4% in 2014, at the same time the share of light processing industry is reduced in 2014. It fell to 5,0% in comparison with 2000 and make 11,5%. Provision aggravates the direction of financial resources. Inflow of the direct foreign investments (DFI) to national economy from 2000 to 2014 make more than 1 billion US dollars. Thus more than 2/3 of such investments went to mining industries (32,6% of a gross inflow of DFI) and activities for carrying out geological investigation and researches (37,0%), 8,8% of all DFI went to light processing industry, 0,1% of DFI went on a share of agricultural industry. For the considered period the raw orientation of the Kazakhstani economy didn’t decrease, and its dependence on the external economic environment amplified.

Raw nature of structure of industrial production of Kazakhstan provided forward development of national economy until recently, but also is the most reliable source of its growth soon. However, as showed a world economic crisis, domination of raw industries in structure of national economy brings to instability of economic growth and long stagnation. Therefore, the strategic importance for Kazakhstan purchases need of carrying out a purposeful state policy of diversification and modernization of economy for the purpose of increase of its competitiveness, overcoming of a raw orientation and ensuring sustained economic growth of the country and certain regions. Object of research in this article is the economy of the Republic of Kazakhstan, a subject of research – competitiveness, which is precondition of economic security of economy of the Republic of Kazakhstan.

2. Economic analysis of Kazakhstan

Kazakhstan has a vast experience of reforming of economy: it was necessary to overcome many difficulties, to correct errors, to eliminate defects, to review some initial installations.

Certain positive results of economic reforms are received: high growth rates of production are reached, the population standard of living increased. Influence of factors of braking remains: the industry structure of economy needs enhancement, unsatisfactory level of cost efficiency of production. The leading role in reforming belongs to institutional transformations, including real providing the property rights, the efficient antitrust law and control of its implementation, banking supervision, insurance of bank deposits, etc. Their absence forms «system vacuum», directly leading to criminalization of economic life, growth of a clan and shadow economy, growth of non-payments.

Steady high dynamics of economic growth and profitable environment in the world market allowed Kazakhstan to put and solve certain problems on giving of domestic economy of innovative and socially oriented nature till 2015. However, decrease in export receipts in 2015 can make $39 billion in absolute calculation. As a result Kazakhstani export will return to the level of 2007. Quantitative reduction of rates of export receipts risks to be replaced by serious high-quality changes because non receipt of the income reduces opportunities for investments into production and all types of infrastructure - from transport to social. It beats on competitiveness of
the country and weakens its economic opportunities. The sharp devaluation of tenge which began since August 20, 2015 «retouched» this problem. It can solve only diversification of economy, such measures as creation of essentially new sources of generation of export revenue. Obvious disproportions in structure of economy are followed by growth of the real currency rate in the country and surge in inflation. In Kazakhstan is expected recurrence of «the Dutch illness» which can turn back inflation growth. But the above-standard growth of inflation and a rise in price of consumer services is result of growth of the real national currency rate.

Super income in raw industries and corresponding demand for their production really blocks a free modulation of the equity in the processing sector. Especially destructive were consequences of the accelerated dismantle of state-owned property for the industries and productions referred to real economy. Economic development of Kazakhstan can be characterized as depending on oil-and gas and mining export sector and the high real exchange rate. Therefore, exposure of economy to world price fluctuations of top sectors is high. Position of the highly profitable companies monopolists in raw industries - not interested in development of the processing sector, except for small projects on improvement of technological indicators within production of raw materials or raw repartition. The purchasing policy of large raw holdings is aimed at foreign partners, their head companies which deliver the necessary equipment, spare parts, chemical reagents that doesn’t promote forming of domestic small and medium business in the industry. Now this business in the country is oriented generally to the retail consumer sphere. Domination of raw industries is a basic obstacle for ensuring long-term economic growth, does the country dependent on an environment of the world markets.

The strategic task of the state on modernization of economy of Kazakhstan shall be followed by GDP growth of the country and the corresponding growth of welfare of house farms. In general, since 2000, GDP in real terms increased on average by 10%. GDP growth is caused by the world prices for primary groups of export goods for Kazakhstan: oil, gas, metals, grain, etc. The analysis of dependence between GDP and production of crude oil in Kazakhstan confirms with availability of close connection between two indicators. The correlation coefficient characterizing equal orientation degree in dynamics of changes is equal 0,95. Growth in production of oil is reflected in tendencies of change of GDP, 70% in structure of export are the share of hydrocarbons raw materials. Relevance is confirmed by the analysis of the major qualitative indexes. So, in structure of GDP of Kazakhstan the essential share is the share of raw industries (a fuel and energy complex and metallurgy). This provision is reflected in structure of the Kazakhstan export.

The structure of import of the Republic of Kazakhstan is provided by such groups of goods as machine and equipment, finished products from metal and other types of the industrial processed products. This situation is explained by underdevelopment of the processing industry capable to product goods with a high value added. So exported crude oil returns to our country in the form of products with deep conversion and a high value added. Positive dynamics of indicators created conditions for a population welfare growth. High growth rates of oil and gas extraction can break macroeconomic balance, promote development of “the Dutch illness” and inflation growth. Besides, it can be reflected in an ecological situation and lead to fast depletion of oil richness of the country. The branch structure of the Kazakhstan economy in 2014 is provided by production with specific weight of 44%, including 16% of mining industry, 11,6% of processing industry, 5,5% of agricultural industry. The analysis of dynamics of specific weight of industries shows smooth decrease of the share of the mining industry for benefit of growth of processing industry.

Fixing of Kazakhstan in the status of the oil state bears big problems: underinvestment of the overworking economy sectors, instability of growth rates owing to dependence on an external environment, reducing workplaces and, certainly, strengthening of social and economic stratification of the population. Actually, the sharp increase in a foreign exchange inflow to the country already led to development of symptoms of “the Dutch illness”. Increase and strengthening of negative manifestations in economy of Kazakhstan, including devaluation, speak about an entrance to a final stage of economic and political model, which foundation were laid in the second half of the 90th years and which gained the development and fixing in recent years. It based on oil export, crude uranium, ferrous and non-ferrous metals for satisfaction of the consumer demand. This model in Kazakhstan developed raw export, and also a transport, trade and financial infrastructure for delivery and
distribution about the country of final foreign goods. Quantitative and chronological disposition of these two determining parties of the built economic model is shown in Figure 1.

![Diagram of export and import of Kazakhstan](image)

**Fig. 1. Ratio of raw export and commodity import of Kazakhstan**

*Source:* authors

Volumes of an export currency earnings, especially from the beginning of “zero years” and before crisis of 2007-2008, grew repeatedly. It could become base for the accelerated social and economic national development based on industrialization and an innovation of non raw internal productions. The essential part of the export and raw income was cut before an entrance to economy of Kazakhstan, accumulating in gold and foreign exchange reserves of National bank and currency accumulating of National fund, actually – in foreign debt obligations. The most part of the got export currency earnings to national economy went for the growing import of manufactured and consumer goods to Kazakhstan. As a result the economy of Kazakhstan got to the export and raw and commodity and import external dependences blocking any attempts of development of import-substituting productions within the country. The welfare of the population which really significantly grew for the last one and a half decades was almost completely tied on world exchange prices, demand for the Kazakhstan raw materials and for the cost of imported goods.

World crisis of 2007-2008 showed all danger of “collapse” of such economic model that is well visible on the given figure. The policy of “quantitative mitigation” beginning US Federal Reserve System brings to fast recovery of an exchange price environment, growth of an export-import fork in Kazakhstan proceeded with big speed, and crisis seemed to the overcome. In the presidential Message to the people for 2013 it was declared early accomplishment of Strategy “Kazakhstan-2030” and is pushed the “Kazakhstan-2050” Program. However, 2014 was critical for all world economy, and geopolitics. The refinanced economies of developed countries finally ceased to react to the offer of the free new credits positively. Recession or growth rates, similar to recession, became normal for the states of the European Union and the USA. Saturation money of economies ceased to raise the prices in the consumer market – everything left on inflating of financial bubbles. On economy of Kazakhstan it affected transition from growth of the main indicators of an export-import cycle to their decrease. So, dynamics of gross domestic product directed down, data are provided in Figure 2.
Specifically, if GDP reached $231.8 billion in 2013, in the report for 2014 appear only $212.2 billion. Fall for 8.46% in dollar expression — more than significantly. The carried-out “adjustment” of a rate of tenge in February of last year anticipated and compensated general negative results, but couldn’t neutralize them. In the devaluated tenge GDP for 2014 grew up, however it decorates the reporting, but not an actual affairs of state.

The expected results for 2015 are shown on our figure by extrapolation of the published statistical data for the first half of the year. The actual recession in the objective – dollar calculation will be more – because of August devaluation. Together with fall of GDP the revenues of the government budget of Kazakhstan were slow and declined.

In February, 2014 was declared adjustment of a rate of tenge, and in November, in the next President’s Message was undertaken the Program “Nurly Zhol”. Sources of financing of objects became the inventories of National Funds – the accumulative period in the Kazakhstan economic cycle was replaced expendable (Figure 3).
Critical moments in accumulating of currency reserves of Kazakhstan

In November, 2014 accumulations of National fund together with gold and foreign exchange reserves of National bank reached a historical maximum – $105,38 billion, and before August devaluation, 2015 decreased to $97,16 billion. It is total minus $8,22 billion in six months. Issue of tenge in “free swimming” temporarily interrupted the expendable mode: several exchange days after August 20 were enough for replenishment of foreign currency reserves for $700 million, however the reporting for September showed a decrease directly for $1,74 billion. Transfer of National fund from accumulative to expendable mode appeared the only way of compensation of decrease in an export currency earnings and maintenance of economic activity in the country, with the national currency rate. Therefore November, 2014 we rightfully can consider critical in the history of all Kazakhstan economic cycle.

The foreign economic and political conjuncture develops growth rates of world economy, and consumption of production of the Kazakhstan export will be slowed down. Also it isn’t expected increases of world oil prices and metals — there can be their further decrease. Negative assessments are given by world experts on prospect of the next two-three years. Specifically, long ago postponed, but inevitable increase of a discount rate of FRS and relative rise in price of dollar will affect delay of growth rates of world economy, reduction in cost of energy and metallurgical raw materials and devaluation of “raw” currencies. If oil, ferrous and non-ferrous metals are in demand in the world market, then to break negative tendencies through quantitative building-up of production of export-oriented productions. However, since 1992 the transferred productions of bauxites and chromites to private property grew by only 1,4 time, zinc is by 1,2 times, copper remained exactly in the Soviet amounts, coal production make 0,9 against former, iron ore - 0,8, and lead - 0,3. Production of natural uranium grew from essential articles of export – by 6,3 times. However high-technology production of fuel tablets on UMZ and the got uranium raw materials in the form of a yellow metal cake or protoxide oxide completely stopped, goes only for export. Uranium production isn’t performed NAC Kazatomprom, and made by the Canadian, French, Chinese and Russian joint businesses. Production of oil and gas condensate grew by 3,1 times. It isn’t only the multiple growth of the world oil prices, but also trebling of amounts of oil production, also gave general blossoming export raw to a cycle. And same “oil” circumstance — lowering of the world prices, determines the “withering” tendency of the Kazakhstan economic cycle. But after 2013 physical amounts and all other export and raw productions too decline. We have complex negative effect: on lowering of the world raw prices is imposed also decrease in physical amounts of the raw materials for export.

In Kazakhstan is observed lack of national credit and investment emission. The national bank of Kazakhstan performs money emission by one method – through purchase or sale of foreign currency or tenge as the closing
player at the currency exchange. Cash inflow to economy of Kazakhstan is performed by a projection of an external paying balance. Monetization of economy of Kazakhstan isn’t sufficient for the organization of national investment process, servicing of the current non-cash and cash turnovers - is excessive. The reason in our opinion that the excessive tenges broadcasting dollar excess of an external paying balance, emitted by National bank in exchange for replenishment of the gold and foreign exchange reserves get to internal economy through raw exporters, their suppliers and contractors, funds of compensation, tax and other schemes, including corruption, these additional money supplies disperse not on raw economy and national groups. They create sources of investment of raw sector, networks on trade in import, the raised inflation background in economy. Investment process in Kazakhstan is provided with three sources equally on amounts (but not in the directions): budget, own means of the entities and foreign investments. The budget doesn’t develop any more that is confirmed by the arisen problems with its planning for 2016. The entities capable to invest itself are concentrated only in raw sector.

So, a situation when resources for the current activities of the Kazakhstan economic model are reduced, and investment resources are blocked, and not improving prospect is predicted for the years ahead, at the authorities of Kazakhstan doesn’t remain other instrument of maintenance of economy, except devaluation. Temporary intervals of recent devaluation cycles are sharply reduced. If from devaluation of tenge on April 1, 1999 before devaluation on February 4, 2009 passed ten years, and from devaluation of 2009 before „adjustment“ of a rate of tenge on February 11 last year passed five years, to the present August passed one and a half years and it is possible to predict further weakening of tenge with confidence. An end of this history was put by the world crisis of 2007-2008 recognized cyclic, actually – the first stage of systematic crises. Respectively, the devaluation of tenge which is carried out at the beginning of 2009 got on the recovery of an exchange price environment fed by policy of „quantitative mitigation“ of FRS.

2014 was critical for the Kazakhstan and all global model. Capability of economies of developed countries positively to perceive free cash injections was reduced to zero. Recession or recessionary growth rates became universal, the refinanced consumption and production don’t grow, new money inflates not consumer prices, but financial bubbles. Inevitable increase of a discount rate and cost of world currency promises not an exit from current stagnation, and gives aggravation of problems of stability of global finance. “Unexpected” devaluation of tenge in 2014 appeared “transcendental object” — its effect which isn’t supported with a positive price trend at the world exchanges was settled in only a few months. Response of tenge to course changes of ruble played a role, but a role not decisive. Russia as the trading partner of Kazakhstan, neither the unique, nor the main factor of our external paying balance which condition determines the national currency rate. The Kazakhstan economy in the current status has no allowances for liquidation of deficit of currency and maintenance of a rate of tenge through quantitative building-up of raw export. Some opportunities for this purpose consist only in the beginning of production on Kashagan and expansion of production of “TengizShevrOil”, but they leave for prospect of the next recession years.

The rate on foreign investments, the budget investment with tied on the raw income and investment from means of the export entities led to strengthening and fixing of export and raw orientation of the Kazakhstan economy. In a present crisis situation the investment model loses resources for continuation, because of increase of cycles of devaluation of national currency. Reflection of an export and raw orientation in Kazakhstan developed and fixed the delivery economy to the country and trade in not made manufactured and consumer goods. She received the considerable share of investment – in the form of transportation and distribution networks and a financial infrastructure. This part of economy consuming a big share of export revenue, suffering from shortage of foreign currency and devaluation of national currency doesn’t facilitate, aggravates a general crisis situation. The deadlock final of economic model in Kazakhstan is put in its initial genesis – sovereign embedding into the world market. In “independent” option Kazakhstan is necessary to system of world job specialization as the territory of the reduced production of energy and mineral resources on export, and also for sales of products of industrial developed economies, for the external monetary providing supplementing export non renewable natural resources, also with export of the most part of financial incomes. The addition of simple extraction of oil, ferrous and non-ferrous metals, their deep conversion and release of finished high-technology goods declared and planned the last 15 years didn’t turn out from insufficient professionalism and excessive corruption of
executive bodies. Basic reasons are basic uselessness of all “industrial and innovative” initiatives of Kazakhstan to the world market.

The multinational company occupied with oil refining, production of uranium and metallurgical raw materials isn’t interested to let the Kazakhstan participant in the foreign productions. They haven’t interest to place the refinery capacities in Kazakhstan. Basic reasons: enormous and badly populated territory, sharply continental climate, insufficient productive and purchasing potential of the population. They will try to reduce currency and commodity dependence on import. Its main part (about 43%) is constituted by machines, the equipment and vehicles which adjustment of alternative production exceeds not only financial and investment, but also general opportunities of Kazakhstan. There is chemical production (about 8%), including rubbers and plastic – here possibilities of replacement are limited. Food dependence of Kazakhstan can be liquidated — but it makes rather small (about 10%) share of all imported goods. Each deadlock has the exit, and any crisis keep testing and opportunities. The economic model and sources of its development approach exhaustion, are necessary other model and other sources. There are two main approaches to enhancement of structure of economy.

**The first (horizontal measures)** provides creation of steady institutes for functioning of economic agents, forming of the favorable investment climate, reducing intervention of the state in economy, maintenance of the competition in the markets. These measures are directed on improvement of a provision of all economic agents. Direct intervention of the state in the relations of economic agents is allowed only for maintenance and stimulation of the competition.

**The second approach (vertical measures)** assumes carrying out an active state policy on change of structure of economy, its enhancement on the basis of stimulation, including financial, of separate industries and the entities. The specified measures put one groups of economic agents in more favorable conditions in comparison with others. The specified approaches doesn’t solve a problem of diversification of structure of economy. Horizontal measures don’t allow to change relative shares of sectors in GDP in medium-term prospect: they equally influence non-oil and raw sectors. Raw industries in the long term become less attractive in case of the high level of withdrawal of a natural rent. Problem definition of the accelerated diversification requires more active intervention of the state in economy. In Kazakhstan this intervention is high. Adequate use of mechanisms of intervention within market economy is capable to diversify economy by the accelerated development of non raw sectors, without breaking a competitive environment. Here is concentrated the majority of risks of policy of active diversification.

**Conclusions and recommendations**

Secure economic development of Kazakhstan could be achieved only through diversification of the country’s economy in order to diminish its dependency on raw industries.

In our opinion, the main mechanisms capable to make the noticeable stimulating impact on development of non-oil productions:
- enhancement of tax and customs mechanisms of removal of a natural rent;
- creation of system of support of export;
- development of agricultural production;
- support of small business.

Now the level of removal of an absolute natural rent is high because direct increase of a tax on production of natural resources can lead to production reduction, expression from the market of the entities with the worst conditions of production. Need of increase in rent removal at the companies with best conditions of production is obvious. It is a question not only increases in financial receipts in the budget, but also equalizations of regulation of return on the assets in raw and non-oil industries. Competent use of fiscal mechanisms stimulating investments into high-tech industries, will promote change of structure of external investments, but also asset diversification of the companies of raw industries on types of activity. Mechanisms of removal of a natural rent can turn on tax and customs tariff mechanisms.
The high share of energy resources in export volume (70%) testifies to big dependence of the export income of Kazakhstan from an environment of the world prices for primary goods. Ensuring stability of the export income in case of implementation of measures for support of export needs to be oriented to increase of a share of high-technology production in export.

The agricultural industry feels a severe need of investment resources for updating and modernization of fixed assets. Today the government is engaged in creation of the most favorable conditions for permission of the market relations in agricultural sector, increases of competitiveness of domestic agricultural production and import substitution and export growth of this production.

The exclusive part is assigned to stimulation and support of a private entrepreneurial initiative in diversification of structure of economy. The entities of small and medium business bear huge innovative potential. Dynamic development was gained by the contractual relations between large and small business providing achievement of synergy effect from joint activities. The infrastructure of the Kazakhstan economy will develop with the minimum participation of the state which should be limited to creation of the conditions for fast and profitable projects implementation aimed at the development of infrastructure of a market section, legislative support of initiatives of its development.

Problems of the Kazakhstan economy in the conditions of openness and integration in world are actual, require search of efficient state and economic mechanisms for deduction of relative economic stability and social development. Research showed that the realization of benefits by the country from the international economic cooperation isn’t enabled automatically. The economy of Kazakhstan shall possess the certain characteristics in the conditions of strengthening of world crisis constituting its competitiveness, and the state was able to influence and help those subjects who create possibilities of stable development to the Kazakhstan economy.

Development of economy of Kazakhstan in market conditions revealed the competitive advantages of economic capacity of the country, their shortcomings connected with various opportunities of adaptation to the market. It led to considerable recession and curtailment of productions in separate industries of non-oil sector, aggravation of a disproportion of industries of real production sector towards development of industries of a raw orientation at the beginning of a stage of development of Kazakhstan.

Entry of Kazakhstan into world economic system restrains narrow specialization of Kazakhstan in world and regional job specialization, remoteness from the main world goods markets.

So, strategy of economic development of Kazakhstan shall promote ensuring deduction of national economy at the stable level on the basis of diversification of economy and creation of conditions by the state for production of competitive types of production and growth of non-oil export, and also to creation of conditions for prevalence of private initiatives and equal competitive conditions for all subjects of the market.

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ASSESSING THE OPTIMAL TAXATION OF THE CAPITAL INCOME: A CASE OF CORPORATE BOND MARKET

Ieva Astrauskaitė¹, Arvydas Paškevičius²

Vilnius University, Faculty of Economics, Department of Finance, Saulėtekio av. 9, LT-10222 Vilnius, Lithuania
E-mail: ¹ ieva.astrauskaite@ef.vu.lt; ² arvydas@paskevicius.com;

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Abstract. Often taxation is considered as a restriction to any market development, lessening the willingness to effective actions or raising the opportunity costs. Therefore lots of investigations are dedicated to identification of optimal measures in order to satisfy the fiscal needs still encouraging market performance. The purpose of this paper is to identify the impact of capital income taxation on corporate bond market development by using the Laffer curve and tax burden measurements and methods. While theoretical investigations proposed an application of tax exempt to corporate bond transactions, empirical results stated no significant arguments for corporate bond market stagnation to taxation.

Key words: optimal tax rate, corporate bond, tax burden, Laffer curve.

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1. Introduction

The taxation of capital revenues, which include corporate bond interest income, is examined by many theories, whose authors chose the different sections of perception. While ones optimize the state revenue collected by picking different tax rates, others add a measure of time for measuring the taxpayer welfare. There is also a view of capital taxation differences in open and closed economies as well as geographically. However, earliest debates are noticed on labor, capital and consumption taxation allocation.

Deducing the examination of capital income taxation for the context of supply and demand, the formation of it can be interpreted by different tax entities: when capital income is earned and tax paid by natural and legal persons, as in the case of corporate bonds, where the transaction yield (the difference between the acquisition price and the amount received on its maturity date by zero coupon bonds or coupon rate) is taxable.

Often taxation is considered as a restriction to any market development, lessening the willingness to effective actions or raising the opportunity costs. Therefore lots of investigations are dedicated to identification of optimal measures in order to satisfy the fiscal needs still encouraging market performance.

The purpose of this paper is to identify the impact of capital income taxation on corporate bond market development by analyzing natural and legal person optimal tax rates and tax burden. Corporate bond yield and the tax revenues generated by it are defined as the objects of the analysis.
The paper contains of five sections. By the first section getting introduced to the topic and revealing its motivation, one can be acknowledged with the core capital taxation literature analysis in the second section of this paper. Third section contributes to identification of optimal tax rate on corporate bond yield in Lithuania and United States while the fourth section measures the tax burden on natural and legal persons participating in corporate bond transactions in both countries. The paper concludes with the main remarks of the impact of capital income taxation on corporate bond market development.

2. Literature review

The evolution of scientific literature is corresponding to optimal zero rate capital taxation mention, which is supportive in the stable state model (when the balance of population and production development dominates, resources are effectively allocated and rationally used) (Ramsey, 1927; Atkinson ir Stiglitz 1976; Judd, 1985; Chamley, 1986; Mankiw, 2000; Golosov et al, 2003; Fahri, 2010; Piketty and Saez, 2012; Gross, 2014). Fundamental theories of capital taxation are considered to be:

1. Ramsey (1927) who identified that the optimal taxable object must be taxed in inverse proportion to its elasticity. This model was applied to the taxation of goods and raw materials, but now often is used for the capital market interpretation. If the corporate bond instrument store goods in the capital market, then, according to Ramsey, the interest income of this instrument should be taxed inversely proportionally to its demand. As in US and Lithuanian examples, the conclusion of a lower capital tax rate (or total relief) in the US comparing to Lithuania according to market activity data is made. On the other hand, such a differentiation may be contrary to the main taxing principles of social justice and solidarity.

2. Diamond and Mirrlees (1971) examined optimality of the taxation in the context of acquisition, purchase and earning of the tax object. The authors argued that all taxpayers are heterogeneous, which means they have different opportunities to earn taxable income. State tax differentiation in a way that would be more taxing those who can make money, they will lose the desire to work and earn. It was presented in a standardized and uniform taxation concept as an opposition to the Ramsey proposed differentiation. In the relation with this paper object it acquires a double dimension:
   2.1. Uniform taxation of labor and capital;
   2.2. Identical taxation of corporate bond counterparties (natural and legal persons).

3. The theory of Atkinson and Stiglitz (1976) investigated collaboration of labor and capital income taxation, searching the optimal points of contact and the possibility of substitution, when the labor taxation concession gaps are being filled with higher capital income tax rate or vice versa. The authors argued that consumer preferences for current and future consumption in respect with the leisure are quite weak, therefore the capital taxation does not eliminate distortions caused by taxable labor income (evaluating the existing and future period), and determines its own. As a result, the capital income taxation (the differential taxation of consumption) is more expensive and therefore less optimal than progressive taxation of labor income. Atkinson and Stiglitz (1976) theory partly denies Ramsey rule for differential taxation of consumption, but promotes a differentiated tax for the labor income of the population, and thus does not support Diamond and Mirrlees unified taxation insights. Atkinson and Stiglitz (1976) theory propose the interest of corporate bonds and other such transactions to be exempted from tax and thus potentially influencing the greater development of a corporate bond market by reinvestments of unpaid taxes.

4. Chamley (1986) and Judd (1985) have shown that the optimal tax system to cover the cost of government is such a system where the long-term capital is not taxable and the collection of revenues is based on labor income tax. Thus Ramsey (1927) and Atkinson and Stiglitz (1976) theories were maintained for differential taxation of capital and labor, but there were no standardization with Diamond and Mirrlees (1971). According to this theory, the corporate bond transactions are subject to small, probably differentiate taxes which implicit measure (average) in the long-run would be close to zero.

11 Since 2010 US corporate bond market is nominally growing every year at 1090-1410 billion USD in new corporate bond issues (SIFMA 2014). Whereas Lithuanian corporate bond market at the same time nominally grows at 190 to 400 million EUR in new corporate bond issues (ECB, 2014).
It should be noted that the scientific literature of the twentieth century was dominated not only by the capital and labor taxation allocations, however, offering several kinds of tax rates-systems: flat (Ramsey, 1927; Diamond and Mirrlees, 1971) and progressive (Atkinson and Stiglitz, 1976) tax rates.

By following twenty-first century investigations of economists as well as their distribution in favor of labor or capital taxation was closely related to the primer theories (See Fig. 1).

![Diagram](image)

**Figure 1.** The allocation of capital taxation theories in the 21st century

*Source: compiled by authors*

Capital taxation was opposed by Reis (2011). Using Ramsey theory, author called for a different labor and capital taxation and only not being able to distinguish between capital and labor entrepreneurs return (stating that even the company’s profit is determined by the CEO labor and capital return), both quantities are subject to corporate tax, and brings the income to the state budget. On the other hand, more efficient in the meaning of greater benefits to the state budget, taxes are from labor income. Therefore, equal labor and capital income taxation will stimulate the economy deviations (Reis, 2011). Such an argument would be contrary to the Diamond and Mirrlees approach. The author’s opinion is close to many countries (e.g. United States, the Netherlands, Poland, the Czech Republic, the United Kingdom, Latvia, Sweden and others) applicable tax systems in practice.

As seen in the spending saving theory for the taxation of capital and labor from the expenditure side, Mankiw (2000) also adjusts the Ramsey model. In order to net income maximization, most spenders will ignore the minority of savers (such an assumption is made in the model), and the optimal capital tax rate will be equal to zero. It is a case of the capital supply being very elastic and when taxing capital income encourages race to the bottom, triggering lower the actual labor remuneration. This effect is so great that the capital tax is not desired even by those who do not have any capital income (Mankiw, 2000).

Besides the relation with the labor taxation and the tax rate itself, capital tax collection was examined as a part of the state budget revenues. Capital income tax cyclicality was monitored by Fahri (2010), who argued that after a negative increment in revenues from capital taxes, the growth trend begins. In this way, the long-run capital tax rate is close to zero, this being supported by Gross (2014). These authors developed the theory of Atkinson and Stiglitz, adapting it to the closed and open economy models, thereby acknowledging the findings of predecessors.
On the other hand, the optimal capital taxation was not always equal to zero. This was also the conclusion of the labor market theorists, looking for the balance of the labor market (employed and unemployed employees and their welfare maximization in the equilibrium of labor supply and demand). They seek capital taxation (assuming the tax rate to be not equal to zero) (Arseneau and Chugh, 2006) or exempt labor income from taxation (tax rate equal to zero), looking for other sources of state budget revenues (e.g. income from capital taxation), allowing certain deductions (reducing tax rates) and to say so do not distort the market (Abel, 2007). It is the fundamental contradiction between those and Atkinson and Stiglitz theory which argues that capital taxation does not result the prevention of labor market distortions.

The vast majority of authors standing against capital taxation, rare market economy countries do not apply the tax to capital (alike labor) (e.g.: United Arab Emirates, Qatar, Oman, the Cayman Islands, etc.). Practice gap is interpreted by several arguments:

- First of all, people do not live in stable states (Mankiw, 2000), that are mentioned in the theories of Ramsey (1927), Atkinson ir Stiglitz (1976), Judd (1985), Chamley (1986).
- Another reason becomes a period and individual preferences (Mankiw, 2000; Golosov et al, 2003; Piketty and Saez, 2012). In the short run residents consume more, therefore tolerate capital taxation despite its serious consequences in the long run (Mankiw, 2000). Selecting present and future consumption by the given random information, individuals are faced with consumption anomalies, and these distortions are caused by positive capital taxes (Golosov et al, 2003). And being able to distribute taxable objects, consumers rather choose lower taxation in the long-run than higher taxation in the short-run, examining inheritance and capital taxation samples (Piketty and Saez, 2012).

One of the theory and practice gap consequences is the international competition for the capital raising and attraction of foreign investments. Devereux and Griffith (2002) proved that the capital tax rates determine the location of businesses as well as investment decisions. Therefore, the supply of tax havens (or countries applying smaller or not applying the capital or labor taxes at all) exists, being generated by the demand created.

According to all theories analyzed, despite their contact to corporate bond market and its development mentioned, an exceptional tax impact on corporate capital structure is a further subject of the investigation. Groppa (2002) and Alworth and Arachi (2001) argue that corporate debt-equity ratios are determined by the tax, giving a higher preference to loan than the equity. Greater tax rates on assets and the income it generates than those on the leveraged capital increases the debentures, as a source of funds for investment activities (Groppa, 2002). Increased property taxation is interpreted by double taxation on companies’ profits: corporate income tax for profits and corporate income tax for dividends. Meanwhile, the debentures paid interest (the coupon or redemption spread only) is a subject to the so-called single once applicable rate. On the other hand, Alworth and Arachi (2001) measured the economic effects of tax to debt obligations and provided with more specific findings that significant tax effects were seen on bank loans, slightly lower - on corporate bonds, other companies’ obligations were not affected by taxes. Thus, the tax effect on capital or asset class related financial instruments and their balance sheet exposures are primarily determined by the tax diversification, and then by the instrument sensitivity to tax rate. If the instruments are taxed differently, investors choose lower tax position of what was justified by Diamond and Mirrlees theory, but in order to optimize the state revenue collected, a measurement of sensitivity to tax rate (elasticity) applicable to Ramsey theory is introduced.

Liu et al (2007) identified another tax mediated corporate bond market imperfection (distortion) that is yield differences. The authors argued that of the same investment credit rating corporate bond issues may have different yields in order of different taxation depending on issuers’ residency or country of emission circulation. It is empirically proven that taxes explains 60% of the AA rated corporate bond yield, 50% - A rated corporate bond yield and 37% - BBB rated corporate bond yield (Liu et al, 2007). It follows that the higher the rating, less risky corporate bonds are and their yields are more explainable by tax differences between different countries or transaction sides. We can also relate corporate bond risk and taxation: less risky corporate bonds being more influenced by the taxation than more risky ones.
Even though the standard optimal taxation theory describes the main purpose of the tax system as the magnification of social welfare function with certain set of restrictions (Mankiw et al, 2009), the optimal capital taxation could be summarized by several different character traits and some theories and assumptions they have been determined by (See Table 5).

<table>
<thead>
<tr>
<th>No.</th>
<th>Feature</th>
<th>Complying with the theory</th>
<th>Assumption or motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Efficient capital tax rate is close to zero</td>
<td>Chamley (1986) ir Judd (1985) Fahri (2010), Gross (2014).</td>
<td>Effective tax rate is a ratio of nominal rate and state budget revenues caused by it or a ratio of a tax burden.</td>
</tr>
<tr>
<td>2.</td>
<td>Differential taxation of labor and capital, in favor of capital</td>
<td>Atkinson ir Stiglitz (1976)</td>
<td>In case of divergence between labor and capital taxation, lower tax rates, narrower base or more exceptions (exemptions, tax credits or other forms) should be applicable to capital.</td>
</tr>
<tr>
<td>3.</td>
<td>The taxation of financial instruments of asset and capital class should be differentiated according to their elasticity for demand</td>
<td>Ramsey (1927), Mankiw (2000), Alworth and Arachi (2001), Gropp (2002), Reis (2011).</td>
<td>Market competition condition with partial insight into corporate capital structure adjustment (adjusting the debt-equity ratio, according to the debt indicators and potential risks).</td>
</tr>
<tr>
<td>4.</td>
<td>Unified taxation of corporate bond counterparties (if the owner of the instrument is a natural or legal person)</td>
<td>Diamond and Mirrlees (1971)</td>
<td>Standardization of taxation, without distorting the market for the establishment of new institutes.</td>
</tr>
</tbody>
</table>

Source: compiled by authors

To sum up the given features, it should be noted that there are no conclusions about determining the optimum size of the nominal tax rate (provided by law), and the effective rate analysis is performed in the long run. Hence, all investigated theories do not contradict to the short-run capital taxation. Capital which generates investment opportunities by possibilities to reinvest should be encouraged more than labor force by the differentiation of fiscal policy. The same differentiation is proposed to taxation of several market instruments in the levels of administrative costs of the tax system. However, tax burden for different counterparties regardless their legal status should be equalized. This practice is not widespread - dominated by different businesses and individuals of the same transaction tax experience, in contrast to e.g.: Lithuania or Estonia, where both businesses and individuals are taxed at the same 15 and 21 percent income tax rates, respectively (European, 2014).

In the analysis of taxation of corporate bonds, theoretical considerations to tax exempt or to differentiation by the holder or the risk are concluded by an exhaustive tax administration and market distortions arguments. Corporate bonds varying by accrued interest amounts (zero coupon bonds, coupon bonds and etc.), price (discounted, denominated or at a premium), the date of acquisition and retention by the deadline, differentiated taxation administration of the instrument is complicated. If the cost of tax collection is notable for its revenues being generated, the application of this tax is inexpedient. It is also not intended to distort the behavior of the investor when acquiring, selling or at the redemption of the instrument.

Taking into account the theoretical ideas of capital gains exemption from taxation (as promoting development) and with the assumption that the corporate bond transactions are taking not the highest part of the state budget income, and the behavior of the participants in the transactions is sensitive to taxation (elastic demand), the authors of this paper supports the idea of the interest of corporate bond transactions (and similar capital gains) exemption from any taxation as is defaulted by the state fiscal target, however, preventing stagnation of market instrument development.

In order to assess the validity of the assumptions and a theoretical application, the analysis of the United States and Lithuania cases is introduced. There are given brief overviews of relevant taxation of corporate bond yields in these countries and assessment of its optimality (in terms of effectiveness, See Table 5) is made as well as tax burden is measured.
While the interest gained on US sovereign bonds is tax-free, municipal bonds are taxed at the local level corporate bonds are the subject to federal and state tax rates. Their taxation is differentiated by:
- Taxpayers: a natural or legal;
- The taxpayer’s country of residence: a resident or non-resident.

In the USA, there are corporate bond interest (the coupon rate or yield at maturity) and capital gains (sale of an instrument on the secondary market) earned by individuals taxed. A progressive personal income tax rates are applicable which vary from 10 percent up to 39.6 percent depending on the marital status. Meanwhile, income from corporate financial transactions is represented in the income (loss) statements and is a subject to corporate income tax rate (applicable to the overall operating profit), which is ranging from 0 to 12 per cent depending on the state, and up to 40 percent of federal tax rate which is applicable to more than 18 million USD profits. Non-resident corporations are taxed at 30 percent rate on interest earned from US corporate bonds (IRS, 2014).

From year 2014 Lithuania has expanded the personal income tax base by adding interest of financial transactions. This expansion includes the interest of corporate bonds. For individuals, the tax rate of 15 percent is applicable with several exceptions of tax exempts in the case of bonds redemption starting no earlier than 366 days from the date of issuance (the longer term - over the years) as well as the sum of € 3,000 of interest earned is not the subject to the taxation. Meanwhile the legal institutes are taxed at 15 percent tax rate on the interest or yields gained in financial activities with other companies bonds (VMI, 2014).

Tax environment in the US and Lithuania differs not only by tariff, but the tax base and the scope or application of tax exemptions. It should be noted that in both the US and Lithuania there exist double taxation evasion cross-border contracts, which are reducing the tax burden on non-residents and attracting foreign investments to the country.

In order to assess if the yield of corporate bond transactions is a subject to the optimal tax rate, the Laffer curve and the tax burden index calculation methods were chosen.

3. The optimal taxation of corporate bonds

While examining the fiscal environment in the context of the state regulation, state budget tax revenues collected from corporate bond and these revenue maximization opportunities is being assessed (Laffer curve). Laffer curve, named after the American economist Arthur Betz Laffer, describes the relationship between tax rates and state budget tax revenue collected. Curve evaluates the two-way effect on taxation: arithmetic and economic. Arithmetic effect occurs by increasing the rate and getting higher tax revenues. Meanwhile, the economic effect notes reluctance to pay higher taxes, alternative costs, due to the decreasing tax revenues at excessively high rates (Laffer, 2004). Although the Laffer curve author notes that the curve does not indicate the exact tax rates and their relations to tax revenues collected, it is widely used in personal income (Heijman and Ophem, 2005; Laroque, 2005; Trabandt and Uhlig, 2009; Laužikas et. al. 20215), corporate income (Brill and Hassett, 2007; Edwards, 2007; Loretz, 2008; Girūnas, Mackevičius 2014; ), consumption (Matews, 2003; Emran and Stiglitz, 2005; Carbonnier, 2005; Ginevičius and Tvaronavičienė, 2001) taxation characteristics. The inherent purpose of the Laffer curve is to measure the fiscal effect of personal income tax. However, Loretz (2008) lists the arguments of application of the method to capital taxation: the corporate income tax rate creates an international competitiveness, when the rate is an incentive for the legal person to migrate between countries, as well as lower capital than labor income taxation encouraging persons to start up the business at lower taxes than working as individuals. Different kind of migration initiated by suboptimal tax rate was described by Heijman and Ophem (2005), who motivated Laffer curve calculation by legal and illegal activity (otherwise the shadow economy) proportions difference: depending on the size of tax rate the business migrate between legal activities and tax return or tax evasion.

According to Matthews (2003), the prevalence of the use of Laffer curve was formed by the formation of fiscal policy guidelines. It was also noted by Edwards (2007), who argued that the tax rate reduction is compensated by broadening the tax base in order to meet the state budget plan targets of tax revenue collected. Trabandt and
Uhlig (2009) explained the implementation of the budget tax revenue goals by reducing the tax rate and the each other tax revenue compensations, which affects one in tax revenue decreasing as incentive effects of the other growth. In this way, the reduction of personal or corporate income tax rate decreases direct tax revenues of the state budget, however, increases the consumption tax revenues collected. On the other hand, such refinancing of the state budget that has arisen due to one of the tax rate reduction was explained only by increase of another tax rate by Emran and Stiglitz (2005).

Brill and Hassett (2007) by observing the changes in optimal corporate income tax rate state that the Laffer curve is not a static data measurement, adapting to changes in the national economies.

It is noted that most of the authors (Mattews, 2003; Heijman and Ophem, 2005; Emran and Stiglitz, 2005; Edwards, 2007; Loretz, 2008) were using the Laffer curve calculations in order to identify the tax rate reduction opportunities. Proponents of higher tax rates, as Laroque (2005) and Carbonnier (2005), argued that maximization of budget tax revenues will ensure the social welfare due to the increase in social benefits (Laroque, 2005) or explained the tax rate increase in the asymmetry effect of the supply that considers fixed costs to be more responsive to increased than reduced tax rate (Carbonnier, 2005).

According to the instrument motivation being listed by the other authors and objective of the paper of the optimal tax rate to assess, the existing available data was used in order to model the Laffer curve for the US and Lithuania cases. As the corporate bond yields are subject either to personal or corporate income tax base, the model does not confine itself to including just the personal income tax rate by adding the corporate income tax rate as well.

Simulated tax revenues of the corporate bond yield as a part of the countries’ GDP were selected as the dependent variable of the model. Laffer curve is mapping a period of 2000-2013.

In the absence of reliable statistics that brings a classification which differentiates tax revenues generated by corporate bond transactions, Laffer curve calculation was carried out with the assumption that in one case all the tax revenues are generated by natural persons only (See Figure 2 for the US case or Figure 3 for case of Lithuania), otherwise - legal (See Figure 4 for the US case or Figure 5 for the case of Lithuanian). Due to the assumptions made curves would be named as hypothetical. The analysis was simplified by excluding the evaluation of non-taxable income amounts. It was performed by using the second degree polynomial regression equations. Reliability of conclusions was checked by Student and Fisher (t, F) statistics as well as p-value (applicable for the linear transformation of variables and parameters of the linear relationship (Quinn and Keough 2002; Gujarati and Porter, 2009)).

Figure 2. Hypothetical Laffer curve for corporate bond tax revenue collected and personal income tax rate in the USA, in percent

Source: compiled by authors, based on authors’ calculations
As can be seen from Fig. 2, the formed Laffer curve offers an optimal 35 percent personal income tax rate which should be applicable to US natural persons who receive interest from corporate bonds. Currently there is a progressive tax rate in force which is estimated as less efficient and equal to 26.5 percent. Almost 9 percentage point increase in the rate applicable to the instrument should not adversely affect the tax revenue collected by the state. Notably lower than 21 percent rate and higher than 49 percent rate causes negative state budget revenues in GDP. This impact could be interpreted as the possible economic effect of the rate when a higher rate reduces the corporate bond market capitalization, and the lower rate is of loss-making for state by administrative costs. The elastic dependency of the Laffer curve and the economic cycle should be noted. It was one of the factors of corporate bond transactions interest - taxable base – to form. Optimal tax rate estimate is not confirmed by F and t statistics ($F_{\text{computed}} < F_{k,n-k-1}$, 2.29 < 3.98; $|t_{\text{computed}}| < t_{n-k-1}$, i.e., $|0.38| < 2.20$ and $|-0.31| < 2.20$; $p > 0.05$, i.e., 0.71 > 0.05 and 0.76 > 0.05), and the coefficient of determination ($R^2$) explains just 30 percent of tax revenue to GDP ratio average diffusion caused by changes in the tax rate.

Figure 3. Hypothetical Laffer curve for corporate bond tax revenue collected and personal income tax rate in Lithuania, in percent

Source: compiled by authors, based on authors’ calculations

Figure 3 shows the Lithuanian case, where the Laffer curve proposes an optimal tax rate of 16-17 percent, which generates a uniform maximum of state tax revenue of corporate bond interest from individual counterparties collected. Personal income tax rate is currently 15 percent in the country. Presumably 1-2 percentage points increase in tax rate would increase the state tax revenue collected without reducing the current market activity (at ceteris paribus). On the other hand, the Lithuanian case Laffer curve shows the negative relationship between corporate bond interest rate and the tax revenue collected that could be caused by administration of tax expenses extension to the budget made or mismatches in interest income, generated by economic transactions, payouts and fiscal policy upturn and downturn periods, or by other latent factors. Unlike the case of the USA, this model is reliable, conclusions being confirmed by F and t statistics ($F_{\text{computed}} > F_{k,n-k-1}$, 7.01 > 3.98; $|t_{\text{computed}}| > t_{n-k-1}$, i.e., $|3.65| > 2.20$ and $|-3.70| > 2.20$, $p < 0.05$, i.e., 0.004 < 0.05). The coefficient of determination ($R^2$) is acknowledged around 50 percent of tax revenue to GDP ratio average diffusion.

While examining the state budget tax revenues from business interest of the corporate bond transactions, the optimization of the tax rate in modified curve does not evoke the inherent Laffer curve shape.
As can be seen from Fig. 4, the US corporate income tax from interest earned from the corporate bond transactions acquires a partial positive slope parabolic form, i.e., when increasing rate, revenue is growing. On the other hand, the positive part of the tax revenue to GDP ratio is only beyond the 39 percent of the rate. Such pattern of cases deviations could be interpreted by the dynamic model of the dependent variable and understated tax-exempt basis, when the tax base is determined by the corresponding period of the economic conditions or by the mismatches of transactions maturity within the state fiscal policy (by changing tax rates).

Variable dependency model is statistically significant that being confirmed by the conclusions of the F and t statistics ($F_{\text{computed}} > F_{k,n-k-1}$, 14.99 > 4.74; $|t_{\text{computed}}| > t_{n-k-1}$, i.e., $|3.87| > 2.18$, p <0.05, i.e., 0.002 < 0.05). The coefficient of determination ($R^2$) is acknowledged for 56 percent of average diffusion of tax revenue to GDP ratio. Therefore the coefficient of independent variable could be interpreted like 1 percentage point increase in the tax rate of 0.03 percent increases corporate bond transactions generated tax revenue share of GDP.

Figure 5 shows the Lithuanian case, where the interest generated by the corporate bond transactions, the tax rate for legal persons and the budget revenue collected in the GDP gain linear dependence. When tax rate increases, the revenue is growing. On the other hand, the positive part of the revenue to GDP ratio is only 14 percent of...
the rate beyond. A similar explanation of latent variables and their values as in the model of the United States is searchable.

The variables of this linear dependence model are statistically significant, being confirmed by the conclusions of the F and t statistics ($F_{\text{computed}} > F_{k, n-k, 1} = 20.15 > 4.74; \mid t_{\text{computed}} \mid > t_{n-k, 1}, \text{i.e., } 4.49 > 2.18, p < 0.05, \text{i.e., } 0.001 < 0.05$). The coefficient of determination is acknowledged as 60 percent of average diffusion of tax revenue to GDP ratio. Therefore the coefficient of independent variable could be interpreted like 1 percentage point increase in the rate of 0.014 percent increases corporate bond transactions generated tax revenue share of GDP.

To sum up the Laffer curves presupposed conclusions to be found in the differences of scales when the changes of PIT rate which is applicable to corporate bond transactions do not exceed any of the state budget income per cent, while a similar corporate tax revenue to the budget creates a much higher share of GDP (e.g. the US case). Explanation is found in the tax rate, being higher for the corporate than individual income in the USA. Comparing different counterparties of the corporate bond transactions, individuals are assessable to be more sensitive to tax rate changes than legal persons (as one can see from the slopes of the curves), concluding to the fare current corporate bond transaction tax base differentiation.

Another distinction in the analyzed cases became evident when the Laffer curve proposed a lower optimal tax rate for corporate bond yield in Lithuania than in the USA. Compared to existing legally enshrined tax rates and those proposed by Laffer curve, Lithuania is considered to be closer to the optimal rate (current 15 per cent, proposed 16-17 per cent rate), while the USA has a rate enhancement potential (~ 9 per cent above) without the fiscal side effects. Comparing the different parameters of the model independent variables and their economic interpretations, conclusions are made, that the lower rate changes result in smaller changes in the collection of the tax revenue. It should be noted that the Laffer curve is more appropriate to describe the corporate bond market in Lithuania than in the US (according to $R^2$ measure).

However, the weaknesses of the Laffer curve method applicability for separate transactions, type of budget income are the absence of equations and models (there is only one statistically significant equation of PIT rate in Lithuania) and the complexity of interpretations of the model for non-full explanation of dependent variable (negative scale deviations, latent factors).

4. Measuring the tax burden on corporate bond transactions

In evaluation of low budget tax revenues generated by corporate bond market, the optimal tax rates had been set. Further investigations for examination of the tax burden indicators, often regarded as a measure of growth (Reed and Rogers, 2005), are being introduced to the adoption of the market development measurements. The tax burden is also analyzed as a measure of effective tax rate. The motivation of the analysis of tax burden to be relevant to corporate bond market development starts and is described by the competition and allocation (Lammersen and Schwager, 2005; Ginevičius and Tvaronavičienė, 2004). A small tax burden attracts new investment into the country or the country increases the competitiveness of the sector in other countries or sectors, that influences the development of the market. In support of the market competitiveness and economic growth as well as placing an emphasis on adaptation to taxation changes and optimization of the tax burden options, Clausing (2007) identified four of the tax burden on capital income indicator assessment dimensions:

- The direct effect of increased tax rate on the tax revenue collected;
- Activity related changes due to the taxable and non-taxable income distribution or the optimization of the tax burden (e.g.: opportunity to change the legal status);
- Corporate activity changes associated with the relocation of activities to tax havens (or country close to them);
- Reduction in business or economic activity with a lower turnover, profit and value-added created (GDP).

The tax burden indicator is based on a small criticism of indicator’ covering information which excludes countries specificity (Reed and Rogers, 2005), as well as does not explain the decrease of tax rate and tax revenue
to GDP ratio growth trends (Mooij and Nicodemus, 2008), which is refused by Devereux et al (2004) and Auerbach (2007) stating that the main reason for tax revenue from capital income to GDP to grow is given by the development of financial markets, generating higher tax revenue at a lower tax rate.

In the context of the corporate bond market development the tax burden is examined as proportion of tax revenues generated by corporate bond transactions in the country’s GDP. As in the Laffer curve calculation case, calculations carried out with the assumptions that in one case all the tax revenue is being generated only by natural persons, otherwise - legal. The dynamics of the indicators of Lithuanian and the US tax burden for corporate bond transactions for the period of 2000-2013 is presented in Figure 6.

![Figure 6](image)

**Figure 6. The tax burden on yield of corporate bond transactions in the USA and Lithuania, in percent, 2000-2013**

*Source: compiled by authors, based on authors' calculations*

Although only in 2008 in the USA the tax burden on corporate bond transactions exceeded 1 percent of GDP, in other cases examined by both the USA and Lithuania, it was not mean (less than 1 per cent of GDP). It should be noted that a higher tax burden is faced by the US corporate bond holders than Lithuanian ones because of different market size and activity data, as well as by business entities than the US population. Meanwhile in Lithuania, the taxation of transaction interest income is equivalent to both corporate and individual counterparties of the transaction.

Notably the higher tax burden amounts are interpreted not only by growing GDP, but also by the volume of interest generated by transactions. Moreover, there is some uniform state policy on taxing business and population (at constant difference between the US taxation curves, almost not differing in Lithuania). As one can see in Fig. 6 the curves of the dynamics equate the periods of the increase of the tax burden in the US and Lithuania (e.g.: the year 2008) except a one-year Lithuanian business tax burden retardation. Meanwhile, the tax burden decrease (e.g.: 2003, 2010, 2012) is the same in both countries of both legal forms of counterparties. As there were no rates or tax base overlap in both countries observed, it must be concluded on taxable interest income (yield) increase.

Uneven dynamics of the tax burden by fluctuations could be explained by different corporate bond periods (when interest is paid and taxed). Variation can also be influenced by the economic cycle (the largest fluctuations coincide with the periods of economic fluctuations: e.g.: on 2008 in USA). As the interest of corporate bonds is fixed (being stable till the maturity of the transaction under any economic fluctuations, but these fluctuations affect the newly issued corporate bonds and their realization in the market opportunities), this variation is to be construed in quantity of transactions while approving the conclusion of the tax burden being affected by corporate bond redemption periods.
The assessment of the tax burden on the dimensions proposed by Clausing (2007) shows that both countries’ (the USA and Lithuania) tax revenue collected from corporate bonds yields is not at the maximum (what could be and had no adverse effects). In Lithuanian case, when the tax burden arising from transactions is at close to 0 percent to GDP, there is no clear presumption of transfer of company activities or taxable income distribution arising from taxation. In the US case the relocation assumption is more favorable. However, the borrowing in the capital market or capital taxation is not to be considered as the cause. It should be noted that the corporate bond interest or yield is charged on the investor side, and application of it depends on the investor and the issuer of corporate bonds acquired residency and existing tax agreements between countries (bilateral agreements).

Conclusions

To conclude the literature review, optimal capital taxation features are characterized as efficient capital tax rate being close to zero, the differentiated taxation of labor and capital, in favor of capital. Furthermore, the taxation of financial instruments of asset and capital classes should be differentiated according to their elasticity for demand and a unified taxation of corporate bond counterparties (natural or legal person) should dominate.

Taking into account the theoretical ideas of capital gains exemption from taxation (as promoting development) and with the assumption that the corporate bond transactions are taking not the highest part of the state budget income, and the behavior of the participants in the transactions is sensitive to taxation (elastic demand), the authors of this paper supports the idea of the interest of corporate bond transactions (and similar capital gains) exemption from any taxation as is defaulted by the state fiscal target, however, preventing stagnation of market instrument development.

Summing up the results of the assessment of the corporate bond taxation, it should be noted that the existing tax rates are lower than the proposed optimal ones. Although significant fluctuations of the tax burden in the long run, they are not large in size. Consequently, there is no corporate bond market stagnation to taxation (jamming market development) arguments. On the other hand, by assessing the incentive of the tax burden or the optimal tax rate on corporate bond transactions it was noticed that the US tax rates remained unchanged throughout all the period of the analysis while Lithuania (in the case of the individuals) applied it only at the beginning of the year 2014, therefore there is not enough data to sustainable conclusions. All the analysis of corporate bond market inertia apparently was looked for the reasons in other factors (economic cycle, administrative costs, etc.) than in the high tax rate high tax burden created.

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Ieva ASTRAUSKAITĖ, PhD is the lecturer of Vilnius University, Faculty of Economics, Finance Department. Research interests: capital market, corporate finance, taxation, fin-technologies.

Arvydas PAŠKEVIČIUS, PhD is the Professor of head of Vilnius University, Faculty of Economics, Finance Department. Research interests: investments, capital markets development problems, foreign Exchange, business valuation.
SUSTAINABLE ECONOMIC DEVELOPMENT OF SLOVAKIA: FACTORS DETERMINING OPTIMAL TAX COLLECTION

Ján Dobrovič1, Anton Korauš2, Lucia Dančišinová3

1 University of Prešov in Prešov, Faculty of Management, Konštantínova 16, 080 01 Prešov, Slovak Republic
2 Paneuropean University in Bratislava, Faculty of Economics and Entrepreneurship, Tomatinská 10, 851 05 Bratislava, Slovak Republic
3 University of Prešov in Prešov, Faculty of Management, Konštantínova 16, 080 01 Prešov, Slovak Republic

E-mails: 1jan.dobrovic@unipo.sk; 3 lucia.dancisinova@unipo.sk

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Abstract. We based our research on existing functional organizational structures and systems of financial administration of Slovakia. We worked on the assumption that improvement of effectiveness of the system of optimal tax collection was necessary for sustainable development of Slovak socio-economic system as such. Based on the current trends analysis we assume that a forthcoming tax and customs administration reform would significantly increase the effectiveness of the system and as a result it would also lead to a more positive view of taxes as socially unpopular obligations. By this process, Slovakia aims at effective tax system, which can lead to increase in efficiency and higher competitiveness of our state among EU countries. Based on the survey in three Slovak regions and by factor analysis we want to analyze the structure of following social factors: collection of contributions and accessibility, competency of tax administration employees, electronization of tax administration, effectiveness of tax collection, labor costs, and administrative burden of tax administration. These are considered to be hidden reasons of mutually correlated variables. The aim is to explain and clarify the observed correlations. It can lead to improvement of the conditions of tax collection for taxpayers when they can use electronic form of their declarations of contributions and taxes (taxes, contributions: social security and health insurance) based on which the state can distribute via a unique identifier the funds to individual institutions.


Key words: Taxes, Tax reform, Tax administration, Efficiency, Process management

JEL Classifications: H02

1. Introduction

One of the basic features of functioning of all economically active subjects in national economies is their contribution to the tax system of a country and their own tax liability. For a complex context of a tax system as a whole, it is important to know the effects and impacts of the accession of the Slovak Republic to the EU as well as tax administrations in its states. Since the beginning of the integration process in the 50ties of the last century, a different level of harmonization in different areas of the economic life of the member countries has been achieved. One of the most sensitive areas is the issue of taxes. Tax revenues of each state create a substantial part of the income of its budget, it is therefore not easy to achieve any form of common steps of all interested in this field. Passing new European legislative in the area of taxes takes incomparably long time and the process
of achieving an agreement is accompanied by numerous difficulties. It is a technically very complicated issue and its harmonization at the level of the European Union has not been finished yet. The biggest progress has been achieved in the area of indirect taxes. The area of direct taxes remains completely in the competence of each individual member country. There are efforts to deepen the integration in the tax area but after monetary policy, the individual countries are not prepared to give up another significant tool to influence the economic development of a country (Dobrovič 2011).

2. Processes of Tax System Origins

From the very beginning (approximately at the time of first state systems), taxes originated as sovereign’s revenue. Later, in the period of antiquity, the sovereign’s revenue merged with state revenue and their later separation was established step by step with an increasing importance of individual state functions and their rising financial needs. Period of tax payment importance suppression followed when taxes were collected only sporadically to finance wars and maintain order. They were in a form of payment in kind and in ancient Greece, they were voluntary, i.e. they were linked to the level of citizen awareness and their sense of belonging to a state and nation. Significant changes occurred with the introduction of a dual system in the period of feudalism. Indirect taxes in the form of so-called excises and direct taxes, i.e. contributions (excises – in Middle Ages taxes per head, from gross revenue, property taxes, etc) were collected by a sovereign. Tax revenues should serve all without any discrimination and represent certain countervalue for state services provided for citizens. However, the first comprehensive view on tax policy, Adam Smith’s “invisible hand of the market”, was introduced in the period of classic English economic theory which considered a freedom leading to natural order as a basis of functional market economy. He also analysed state expense financed by taxes. A state should pay by taxes especially for activities connected with country protection against external threats, law and order maintenance development, and service of such public sector facilities in which no individual is interested as they are not profitable.

The first coherent tax system of direct and indirect taxes came in 1880s. Indirect taxes had a dominant position from which a small number of taxable products yielding to high excise duties was selected. In this period, from among direct taxes, besides property taxes, pension taxes also appeared understood as taxes taking into account personal eligibility of an individual. The introduction of pension taxation was characterized by a period of growth in economic power of monopolies. Pension taxes accepted taxpayer’s conditions, i.e. the application of progressive tax rates. In taxation, the system of tax exemption and relief was used. The question of tax burden and its distribution among different social groups of citizens came into the foreground. In the market economies of many countries of 1980s, tax reforms took place. It was due to the fact that in the period of economic growth, there was a need for public expense growth, therefore tax progressivity was gradually increasing (maximum tax rates increase). This caused a reduction in the pace of growth of tax revenue, which led to its stagnation. A. B. Laffer also tried to find a solution to this problem. His famous Laffer Curve (Figure 1) reflects the dependence of tax revenue on tax rate. He came to the conclusion that economic recovery could occur by reducing maximum tax rates and many developed countries also did so in their tax reforms. According to him, maximum tax rate \( T \) represents a point at which so-called substitution effect of taxes causing a change of preferences of economic subjects starts to manifest itself and additional tax rate increase would result in tax revenue decrease. Higher tax weakens economic performance, increases the tax evasion, causes transfer of capital abroad, and weakens the motivation of people to work and save money.
Don Fullerton gave the curve irregular shape, where the point showing tax rate is shifted beyond 50% and the growth of tax rate is proportional, and the impact of substitution tax effect increases.

On the contrary, tax cuts have two effects according to Laffer:
1. Arithmetic effect associated with the reduction of income of state budget from taxes as a result of tax rates decrease while the same tax basis – short-term, tax cuts cause production growth and that way also of the tax basis.
2. Economic effect – by lowering tax rates, after-tax real income increases what motivates and stimulates economic subjects to work, save and invest; it stimulates production, increases tax basis, state budget tax revenue increases – long-term, it brings economic recovery.

Although experience has proved that behaviour of subjects according to Laffer Curve is not a general rule, this phenomenon cannot be ignored. We can give the events of 1980s in the US as an example, when tax revenue collected from taxpayers subjected to the highest tax rates increased after the tax rate was reduced. This historical example corresponds to Zubaľová’s view, when she states that “the idea of the functioning of the mechanism of tax cuts with consequent increase of tax revenue for the budget can be correct in the case when we use it for taxpayers that are subjected to the highest tax rates” (Zubaľová et al. 2003).

### 3. Optimal Tax System – Scientific Approach

A good tax system should bring sufficient revenues to the state treasury (Šimelytė Antanavičienė 2013) it should not be an administrative burden and have to be sufficiently transparent. Its mission is to balance the tax burden in a homogeneous way. The optimal tax system puts emphasis on two aspects: justice and efficiency. We can compare it to a situation in any company. To increase the efficiency of administrative and production processes in a private company, it is necessary to look for specific knowledge and behaviours (Chromjaková 2016; Laužikas et al. 2015). Taxes have been from its inception to the present day linked to the development of state and political establishment, they have reflected changes in human society, and ideological, administrative and economic maturity of individual countries. The fact is, however, that taxes – in various forms – have existed in the past and will still be there because of their indispensable role in the functioning of the state economy and the state as a whole. Taxes and tax laws are directly, more or less, related to each person and his or her finances. They determine when, to whom and for what we have to pay tax, but they also determine what is exempt from taxation. Their constant development is a living proof that the tax system in no country can be absolutely closed. The main task in creating a tax system is to create such a system, which would make it possible to accumulate sufficient funds necessary to finance the essential functions of a state and its regions, and at the same time leaving sufficient financial resources to economic subjects necessary for their survival and development. The importance of taxation lies especially in the fact that they represent a main source of
state income. They existed even before the most important component of the system of public budgets did, i.e. the state’s budget, which is, together with tax revenue, widely considered a significant tool of government and state policy using it to implement its economic goals and tasks. Tax system corresponds with an economic and political organization of a state, its government, and also with a current political atmosphere. Slovakia is in such a stage of development when it is trying to reach the economic level of the European Union countries and at the same time to create an attractive business environment and successfully compete with them. To meet this objective, it is necessary to ensure appropriate conditions for the business environment, to which ends the tax system of the country significantly contributes. Ključníkov et al. (2016) also point out that for the creation of quality business environment necessary for economic development, social, cultural and other factors besides those economic are important. In this context, Belás et al. (2014) add that optimism of the economic system participants is also substantial for its optimal functioning.

4. Liberal Approach and Principles of Taxation in Optimal System

Even classical economics has been looking for answers to questions concerning the balance of efficiency and justice of tax system. Legitimacy of taxes is justified by the services and benefits provided by a state for its taxpayers. In this context, classical economics defines state functions as securing external and internal protection and public services. For the sake of the national wealth growth in general, there is a tendency for the lowest possible level of state expense so as not to restrict the accumulation and productivity of resources in the private sector. Tax theory development was significantly influenced by the contributions of Adam Smith, David Ricardo and John Stuart Mill. Smith in his theory of value and distribution presented a view that a tax had to be paid from three kinds of income and resources – from labour, land and capital and he observed four sources of inefficiency of tax collection:
1. when tax collection requires the work of too many officials,
2. when taxes prevent business and discourage from certain economic activities,
3. when tax execution can affect a taxpayer so that it destroys him or her economically,
4. when tax collection is connected with bullying and injustice, it is another burden for a taxpayer.

It is these arguments that we are going to study based on the analysis of tax system through macroeconomic indicators, overall tax system, but also financial administration organization.

Determination of direct administrative costs is related to answers to the following questions (Pudil, Vybíhal, Vítek, Pavel et al. 2004):
1. how many resources should be allocated into the system of tax collection,
2. what should be the structure of tax administration expenditure,
3. what should be the timing of allocation of the resources.

While these questions are of normative character, answers to them can be quantified only approximately. According to Dean (1975), additional expenditure of tax administration (growth of administrative costs) is reasonable only to the point at which maximum administrative expenditure is equal to maximum benefit caused by it. However, there is a time shift as a government obtains maximum yield in different time periods (tax increase as a result of better tax collection in a given year, tax revenue increase in the future in connection with implementation of measures to prevent tax evasion, additional tax collection, etc.). Therefore, it would be necessary to discount future tax revenue to current value and only after that compare them to maximum administrative costs.

Nevertheless, determining of the amount of direct administrative costs displays critical and disputable aspects related to the fact that funds meant for financial administration do not produce any products nor services. That is why, according to economists, analogy between company outputs and studying of equation of maximum income and expense is not applicable. In that case “it is possible to use the theory of public choice, or determine the amount of resources on the basis of collective vote in elections or in the parliament” (Pudil, Vybíhal, Vítek, Pavel et al. 2004).

However, for managing the financial administration from the point of view of management, more precisely
quality management, in this paper, principles of private sector managing and their parallel with public sector managing are required.

5. Philosophical and Theoretical Foundations and Theses

Adam Smith (1789), in his already mentioned theory of values and distribution, stated four maxims of taxation valid even today, which also create the basis of current requirements for the effective tax system:

- proportionality – “The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state.“
- transparency – “The tax which each individual is bound to pay ought to be certain, and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person.“
- convenience – “Every tax ought to be levied at the time, or in the manner, in which it is most likely to be convenient for the contributor to pay it.”
- efficiency – “Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of the state” (Smith 1789).

Requirements formulated in this way do not take into account administration and the system of management which are inevitable part of the system’s efficiency. In 1980, Joseph E. Stiglitz summarized desirable characteristics of tax systems into five points on which also the current tax theory is based:

1. economic efficiency – taxes should not prevent effective allocation of resources;
2. administrative simplicity – tax system should be simple and easily observable;
3. flexibility – tax system should promptly and in some cases automatically react to any changes in economic development;
4. transparency – tax system should allow all citizens a clear knowledge of how much and to whom they pay, so that the result would match their preferences;
5. justice – existing tax system should guarantee a fair treatment of different individuals.

The mentioned principles are in many ways similar to the Smith’s criteria, but current experience emphasizes economic effect of taxation due to a significant increase in the volume of taxes. However, the internal concept of principles changed. While Smith emphasized the questions of equality, the main issue of today is a degree of progressivity – the ability to pay. Hogye (1997) defines similar principles: the principle of justice, efficiency, neutrality and the principle of creation of preconditions for the use of stabilizing and growing period fiscal policy. Similarly to other economists dealing with the problem of taxation based on Smith’s teaching, James and Nobes (2002) consider the following to be basic principles of tax system: efficiency, motivation, justice and macroeconomic flexibility. Široký (2003) describes four principles which a tax system should satisfy: the principle of efficiency, administrative simplicity together with the requirement of political transparency and the principle of flexibility and justice (Kubátová 2003).

According to Kubátová (2003), there are five principles of good taxation which, apart from principles according to Široký, contain the principle of positively influencing behaviour of economic subjects, or limitation of negative influences. Therefore, we can define the system of tax administration in general as a relationship between a citizen and a state (Fig. 2), which is an important tool of political power and fiscal policy ensuring competitiveness of the state. From the point of view of political philosophy, this relationship has several levels, each of which aims at defining it on the basis of the ratio between freedom and order in it. In this relationship, a citizen gives up a part of his or her freedom in order for a state to be able to provide optimal free environment, i.e. the environment in which everybody has a right to treatment in accordance with the law.
The first condition of a free state is not a government absolutely determined by a ruler, but a government ruled by fixed legal rules of which the ruler is also a subject. However, the law prevents other individuals to the same extent so that they do not treat others arbitrarily. That is why a state should secure an impartial application of law. Freedom as a basic “self-perception” of a man comes from a Greek word “eleutheria“ and as a point of departure for the issue of tax administration, it will be sufficient to understand freedom objectively as a legal-political term (That town is free, which is not subjected to outside domination. In it, a citizen is free with all rights and obligations). Fundamental freedom is a condition of intellectual knowledge, human thinking, speaking, actions and finding out the truth. Knowledge has in its substance only intermediary function. The essence of freedom is realized and fulfilled in free and responsible action and relationship.

The freedom itself, associated with tax administration, is strictly determined by the law and ultimately related to the stimulation of a state budget and, therefore, a limitation of state freedom is necessary for its further existence. On the other hand, though, a citizen giving up this kind of freedom enjoys state social securities. Thus, we will consider freedom respecting the principle of subsidiarity as a basic condition of functioning of the relationship between a citizen and a state to be the first pillar or a theoretical basis of effective tax system. Rules of the relationship given by the law set inviolable boundaries and paradoxically create a feeling of oppression in citizens which results in unwillingness to take part in this relationship. Effective tax administration should always find a suitable way and space for elimination of such feelings and creation of equivalence. We consider this requirement to be the thesis which realization in practice we will try to confirm, or alternatively propose a suitable solution for its implementation into the tax system of Slovakia.

Justice as a central theme of political philosophy is another theoretical-philosophical pillar. Together with the law, it creates internal as well as external stability of a state, while the basic idea of this approach is the fact that a success of each economy depends on managing the fiscal policy. In the field of present day tax theories, important economists pay attention to broader national economic aspects of taxes and their connection with the problem of monetary policy with social consequences of changes in tax policy concepts and with harmonization processes in the field of taxation. Economists study systematic effects of taxation and justice from the point of view or quantitative characteristics. “Tax justice is achieved if, for each individual, it is true that he or she contributes to the payment of social expenses in the form of taxes in an adequate, fair proportion.” (Kubátová 2003).

This research paper aims at maximizing efficiency of tax administration as a system from the point of view of quality management and in this context, it considers justice to be a merit of people which can help them to provide mutual rights and secure appropriate organization of external manifestation of mutual relations in taxation administration and institutions. Justice as the second pillar of tax administration can be classified into:
- justice of social exchange requiring the law abidance and politeness of each individual; in a relationship of a
citizen – a state, we talk about power ethics;
- legal justice, justicia legalis concerning the context of social group individuals;
- justice of allocation implementing the principle of proportionality securing the willingness of the governing
to allow all citizens participation in common good;

We can find qualitative parallels with this theory also in the system of tax administration. Justice of social ex-
change in the sense of the mentioned power ethics places demands on legislative power of a state. We can add to
this statement a view of economists who classify the principle of justice into horizontal and vertical, while both
have to be in effect at the same time (Kubátová 2003):

- **Horizontal justice** – individuals that are in relevant aspects at the same level should pay the same tax. Setting
the same conditions according to the same advantages can be defined as a beneficial definition of horizontal
justice consisting of two levels:
If, at the absence of taxes, the level of advantages for two individuals is the same, this level should stay the same
also after taxation, taxes should not change the order of advantages – if an individual is at a better economic
level than other individual before taxation, he or she should stay at a better economic level also after taxation.
- **Vertical justice** – an individual that is in relevant aspects at higher level should pay higher tax. Law justice
is closely connected to the mentioned pillar of effective tax administration, and distribution justice provides a
space for participation in the creation of the system also by filling up the state budget for the sake of common
good. Publication of so formulated principles aims at mutual positive picture of tax administration institutions
on one side and public on the other one. We can quantify and consequently verify this pillar by, for example,
macroeconomic indicators, because we assume that in healthy and functioning economy, also justice is healthy
and functioning, what is another thesis of the paper. The third pillar, the executive body of tax administration, is
a hierarchically organized system of tax offices which administratively support, control and manage the taxes.
Submitted hypotheses of efficiency are based on a modern form of bureaucracy based on private sector plat-
tform respecting the limitations and inherent differences in public sector. Within such bureaucratic system, each
official should be so-called public manager and their organization a market subject. Such a behaviour of the
organization would ensure the competitiveness of a state. In this context, we will examine the implementation
of the principles of private sector management in the public sector provided that there is an optimal legislation

6. **Quantitative Analysis of the Research**: (Dobrovič 2015):
- monitored period: 01/12/14 – 31/8/15
- monitored Cities: Prešov, Košice, Žilina, Bratislava
- age structure of respondents: 18 – 60 years old
- employed as: clerks, businessmen, students, some did not disclose their occupation
- representative sample: 1 500
- number of collected questionnaires: 2963

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Cumulative (Frequency)</th>
<th>Relative (Frequency)</th>
<th>Cumulative (Relative Freq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 – 35 years old</td>
<td>369</td>
<td>369</td>
<td>24,60000</td>
<td>24,6000</td>
</tr>
<tr>
<td>36 – 45 years old</td>
<td>359</td>
<td>728</td>
<td>23,93333</td>
<td>48,5333</td>
</tr>
<tr>
<td>46 – 60 years old</td>
<td>388</td>
<td>1116</td>
<td>25,86667</td>
<td>74,4000</td>
</tr>
<tr>
<td>18 – 25 years old</td>
<td>384</td>
<td>1500</td>
<td>25,60000</td>
<td>100,0000</td>
</tr>
<tr>
<td>ChD</td>
<td>0</td>
<td>1500</td>
<td>0,00000</td>
<td>100,0000</td>
</tr>
</tbody>
</table>

*Source: Own research based on the processed questionnaires*
Graphical representation of the age composition of the respondents in the Figure 1 (Dobrovič 2015) [3]:

![Figure 1: Distribution of respondents in terms of their age](image)

(Source: Own research based on the processed questionnaires)

Based on KMO test results, we can state that the reached value 0,895 points out the suitability of using factor analysis by processing the research data. The statistics of Bartlett’s Test of Sphericity acquires the value of 91.564 by the number of degrees of freedom 66. The corresponding p-value is 0,001, so the hypothesis that the realization of selection correlation matrix with 12 considered variables is a unit matrix is rejected on the asymptotic level of significance 0,05. The assumptions of the application of factor analysis have been thus fulfilled and its usage for the data analysis is justified (Dobrovič 2015):

<table>
<thead>
<tr>
<th></th>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</th>
<th>Bartlett’s Test of Sphericity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.895</td>
<td>Approx. Chi-Square 91.564</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Df 66</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. .001</td>
</tr>
</tbody>
</table>

(Source: Own research based on the processed questionnaires)

For the assessment of the number of common explanatory factors, which are in the background, the matrix of eigenvalues has been realized, whereby the method of principal components has been selected as an extract method. According to Kaiser’s criterion, the eigenvalue has to be more than 1. As it follows from Table 4, there are 6 common factors in the background of research data matrix with 12 variables. These six common factors explain cumulatively 54.21% of the total dispersion (Dobrovič 2015):

<table>
<thead>
<tr>
<th>Value</th>
<th>VL numbers (Dissertation Questionnaire)</th>
<th>Extraction: Key Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eigenvalue</td>
<td>% of Total Variance</td>
</tr>
<tr>
<td>1</td>
<td>1.185683</td>
<td>9.880695</td>
</tr>
<tr>
<td>2</td>
<td>1.129148</td>
<td>9.409563</td>
</tr>
<tr>
<td>3</td>
<td>1.073402</td>
<td>8.945018</td>
</tr>
<tr>
<td>4</td>
<td>1.054944</td>
<td>8.791202</td>
</tr>
<tr>
<td>5</td>
<td>1.035592</td>
<td>8.629930</td>
</tr>
<tr>
<td>6</td>
<td>1.026562</td>
<td>8.554679</td>
</tr>
</tbody>
</table>
For the objectification of the number of common factors, we will use the Sutin’s graph of eigenvalues (Fig. 2), the sixth factor in sequence can be called the break-even (critical) point (regarding the slight change in the point 7). Thus to explain the variability of respondents’ replies, six common factors can be used (Dobrovič 2015).

![Fig. 2. Sutin’s Graph of Eigenvalues](Source: Own research based on the processed questionnaires)

**Qualitative Survey**

![Fig. 3: Results of the survey](Source: Own research based on the processed questionnaires)
Table 4 Factorial Loads

<table>
<thead>
<tr>
<th>Variable</th>
<th>Faktor (1)</th>
<th>Faktor (2)</th>
<th>Faktor (3)</th>
<th>Faktor (4)</th>
<th>Faktor (5)</th>
<th>Faktor (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Willingness</td>
<td>0,247480</td>
<td>0,407177</td>
<td>-0,204138</td>
<td>0,247481</td>
<td>-0,119360</td>
<td>0,033054</td>
</tr>
<tr>
<td>2. Competency</td>
<td>-0,055020</td>
<td>0,681540</td>
<td>0,006961</td>
<td>-0,072000</td>
<td>0,265825</td>
<td>-0,143970</td>
</tr>
<tr>
<td>3. Collection of Taxes</td>
<td>0,208022</td>
<td>0,193628</td>
<td>0,113738</td>
<td>0,679960</td>
<td>0,040969</td>
<td>0,043309</td>
</tr>
<tr>
<td>4. Collection of Duties</td>
<td>0,132591</td>
<td>0,065282</td>
<td>-0,075041</td>
<td>-0,362360</td>
<td>0,549920</td>
<td>-0,087184</td>
</tr>
<tr>
<td>5. Collection of Contributions</td>
<td>0,681574</td>
<td>-0,003556</td>
<td>-0,035835</td>
<td>-0,123172</td>
<td>-0,073222</td>
<td>-0,030383</td>
</tr>
<tr>
<td>6. Administrative Burden</td>
<td>0,059084</td>
<td>-0,045698</td>
<td>-0,032242</td>
<td>-0,025110</td>
<td>0,030893</td>
<td><strong>0,857102</strong></td>
</tr>
<tr>
<td>7. Time Saved</td>
<td>-0,019193</td>
<td>0,122648</td>
<td><strong>0,774129</strong></td>
<td>0,022727</td>
<td>-0,152556</td>
<td>-0,235661</td>
</tr>
<tr>
<td>8. Accessibility</td>
<td><strong>0,631722</strong></td>
<td>-0,009950</td>
<td>0,037099</td>
<td>0,165632</td>
<td>0,066763</td>
<td>0,065606</td>
</tr>
<tr>
<td>9. Electronization</td>
<td>-0,246514</td>
<td>0,479615</td>
<td>0,041579</td>
<td>-0,040427</td>
<td>-0,365937</td>
<td>0,364061</td>
</tr>
<tr>
<td>10. Transaction Costs</td>
<td>0,164648</td>
<td>0,278856</td>
<td>0,194761</td>
<td>-0,570120</td>
<td>-0,033999</td>
<td>0,152900</td>
</tr>
<tr>
<td>11. Mailing costs</td>
<td>-0,015977</td>
<td>0,224791</td>
<td><strong>-0,620793</strong></td>
<td>0,032046</td>
<td>-0,174028</td>
<td>-0,250511</td>
</tr>
<tr>
<td>12. Workforce Costs</td>
<td>-0,152111</td>
<td>0,061086</td>
<td>0,068049</td>
<td>0,266025</td>
<td><strong>0,711466</strong></td>
<td>0,122212</td>
</tr>
<tr>
<td>Expository Types criteria</td>
<td>1,103872</td>
<td>1,051341</td>
<td>1,092940</td>
<td>1,102301</td>
<td>1,094582</td>
<td>1,060295</td>
</tr>
<tr>
<td></td>
<td>0,091989</td>
<td>0,087612</td>
<td>0,091078</td>
<td>0,091858</td>
<td>0,091215</td>
<td>0,088358</td>
</tr>
</tbody>
</table>

(Source: Own research based on the processed questionnaires)

Based on the set criteria 1 – 12 given in Fig. 4, the average values obtained by the survey and transformed into numbers in the figure, determine the mean value of less than 2 and higher than 1,5. These values were given verbal description – **absolute dissatisfaction** and **dissatisfaction**.

Conclusions

For the creation of representative sample, we chose 1,500 questionnaires so that the homogeneity was observed. Because of the extent and complexity of the survey, Tables 1 to 4 show only final results, i.e. total numbers reached by the above described means. Table 4 transformed into figure 3 proves dissatisfaction with an overall tax and customs system in Slovakia, while the most critical point is the cost of labour connected with tax and customs agenda as well as the time cost of the execution of this agenda. Table 2 shows the need of simplification of tax and customs system in the form of electronization of the agenda, transparency of public finances and overall dissatisfaction of citizens with mechanisms of tax evasion limitation and with the amount of finances spent on running the tax and customs offices. Based on the expected profit from the tax reform introduced in the document “Concept of the Reform of Tax and Customs Administration with Prospects of Tax, Customs and Contributions Collection Unification” prepared by the department of strategies of the Ministry of Finance of Slovakia, the upcoming reform would bring better perception of given criteria and it would most likely change the current state of dissatisfaction for the better (Dobrovič 2015).

Apart from the defined goals, the research has revealed also other shortcomings in the area of financial administration for an optimal tax collection by a sustainable development of socio-economic system mainly regarding the need of citizens’ education. From the total amount of collected completed questionnaires, 447 questionnaires were filled in by respondents from 18 to 25 years old, from the point of view of the respondents’ age, out of which only 291 were relevant. These numbers reveal low awareness of young people. It is therefore necessary to improve the awareness and to bring the system of financial administration in Slovakia closer to the students of secondary schools and universities. This issue could be also partly improved by a potential information campaign about the introduction of optimal tax collection by a sustainable development of socio-economic system of the Slovak Republic. (Dobrovič 2015).
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References


ISSUES OF SOCIETY SECURITY: PUBLIC SAFETY UNDER GLOBALISATION CONDITIONS IN LITHUANIA

Vladas Tumalavičius¹, Jānis Ivančiks²,³, Oleksandr Karpishchenko⁴

¹The General Jonas Žemaitis Military Academy of Lithuania, Šilo Str. 5A, Vilnius, LT-10322, Lithuania
²Daugavpils University, Parades Str. 1, Daugavpils, LV-5401, Latvia
³Turiba University, Graudu Str. 68, Riga, LV-1058, Latvia
⁴Sumy State University, Department of Marketing and Management of Innovation Activity,
2 Rimsky-Korsakov Str., Sumy, 40007, Ukraine

E-mails: ¹vladas.tumalavicius@lka.lt; ²,³ janis.ivanciks@inbox.lv; ⁴a.karp@bk.ru

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Abstract. The article presents the current issues and latest trends of the first public security policy priority – analysis is made of how public security is ensured in the field of public order. The research starts with the discussion of the legal basis for ensuring public order, primarily revealing the concept of public order as such and today’s main threats to public order. Further, analysis covers the problematic aspects of the legal protection of public order: the legal mechanisms of order protection are discussed, whether they are effective, if not effective, how the legal regulation in this field is to be perfected. Attention is also devoted to the problems of human rights protection while ensuring public order. Hereafter, an analysis is provided of the administrative aspects of ensuring public order, covering the set-up of the state and municipal institutions, responsible for maintenance of public order, and problems of their activity organisation and coordination. Special attention in this work is devoted to the state-of-the-art problematic aspects of police activity organisation, to the compatibility of the functions and competences of the Public Security Service, analysis of strategic goals, to the research of the opportunities of municipality and local communities for their participation in maintaining public order. As a result in this research is emphasised the importance of decentralisation in ensuring public order; the main guidelines of modernisation in this field are presented. The authors applied general scientific methods of studying objective reality, peculiar to legal sciences: systematic document analysis, meta-analysis, structural-functional analysis, teleological, comparative, critical approach, generalisation and prediction.

Keywords: security of society, public order, police activity, public security service, municipal institutions.

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1. Introduction

The Law on the Basics of National Security of the Republic of Lithuania regulates that the Government is obliged to safeguard the inviolability of the territory of the Republic of Lithuania and ensure state security and public order as prescribed by Article 94 of the Constitution of the Republic of Lithuania. The law also indicates that domestic policy measures of the state inter alia should guarantee a secure environment and public order to the citizens of the state (Official Gazette, 1997). It is notable that “global modernization processes stimulate not only the enhancement of welfare but also of threats,” and that “contemporary society is living in the environment of a constantly changing risk; therefore, the problem of security exists in each state” (Vilnius, 2011).
The problem of ensuring security remains relevant despite of the fact that as proposed in the National Public Security Development Program for 2015–2025, on the basis of the public opinion poll, it is possible to state that human environment has become safer, for example, in 2005, just 40 percent of the population thought that a risk to become a crime victim in their residential locality was small. In 2013, such opinion was shared already by 57 percent of the residents, almost more than one-third (Resolution No. XII-1682, 2015).

Firstly, it is notable that a subjective sense of the residents’ security is just one of the indicators by which the situation of a safe environment may be evaluated. It is likely that this factor is predetermined by comprehensive factors: a level of confidence in institutions ensuring security and the individual perception of threats, evaluation, and experience of victimhood. This is underlined in the Program, stating thereof that residents confident in law enforcement institutions feel more secure (Resolution No. XII-1682, 2015). Hence, not neglecting the probability that the situation of public security has improved, such data should be assessed cautiously.

Secondly, it is notable that the threat to public order may be posed not only by human actions but also by many other factors that quite often may be hardly predictable and completely independent of the will of man or suitability of administrative legal regulation, in particular, it concerns natural phenomena. Thus, crime and relevant threats are just one of the dimensions, requiring specific attention on the part of the legislator and those enforcing the law.

Meanwhile, in Lithuania ensuring public security is most often related exclusively to crime reduction. Such approach, however, is erroneous and too narrow since securing the residents’ environment, as afore-mentioned, is determined by other factors as well. Thus, “reduction of mortality from traumas, other accidents, violence and suicides, labor security, civil security and other spheres, not directly related to crime, as if are left outside the limits of human security” (Vilnius, 2011). Too narrow perception of the security of environment has an effect on other problems pertaining to the residents’ security which is accorded insufficient attention. This predetermines negative effects on the condition of the environment in the objective and subjective sense. It is also notable that according to the narrow approach – when ensuring the security of environment is perceived only through the crime control dimension – the key role in the process of ensuring security belongs to law enforcement institutions. Meanwhile, if the issue of security is perceived comprehensively, other important entities get involved in the security ensuring process, especially local communities and self-government institutions; their synergy is likely to make an impact on the positive results (much more important and broader) in ensuring public security.

Surveys of law enforcement officers reflect a similar opinion: according to the officers, “the police role in society is given too much prominence, presuming that everything pertaining to local community security should be performed by the police even though quite a number of functions relevant to ensuring security and crime prevention belong to the competence of municipalities; especially those functions that pertain to ensuring a safe and tidy physical environment, for example, instilment and implementation of situational preventive measures” (Nikartas, 2012). Diminishing the role of other institutions in ensuring public order also has an effect on failure in achieving better results in this field.

Presumably, the residents’ approach to the police as a dominant entity, responsible for ensuring public order, is closely linked with the conditionally weak civil society and community institutions, this being characteristic of both Lithuania and other states across the region. In Lithuania like in other Baltic states – Latvia and Estonia – the problem of coordinated institutional interaction and compatibility of functions in ensuring public order has recently become highly topical.

Another problematic area is the strengthening of the role of communities by promoting the functioning of residents’ self-security systems. This problem is also emphasized in the National Public Security Development Program for 2015–2025 where it is indicated explicitly that “aiming to provide a safe residential environment it is necessary to reduce indifference of people, to help each person perceive his self-esteem and the right to protect oneself and others, to promote self-security of people and cooperation with law enforcement institutions, to encourage residents and business organizations to more broadly use property insurance services” (Resolu-
In a democratic state, the involvement of communities and separate individuals in ensuring public order is the right rather than the duty. Attention, however, should be focused on the fact that “17 percent of the residents would actually agree and another 37 percent would rather agree to be involved in the activity of taking care of the safety of their own place of residence” (Resolution No. XII-1682, 2015). Such data of the population surveys presuppose a hypothesis that communities probably possess the enormous amount of untapped potential to improve a public security situation.

Thirdly, certain problematic aspects for ensuring public order also relate to public order as an extraordinary dimension of security. For example, in 2007, according to the victimology research data, quite a big number of respondents (over 48 percent) indicated that they had a chance to experience that “somebody in a public place by his defiant conduct, taboo words, threats, taunting or acts of vandalism demonstrated his disrespect to the surrounding people or the environment and disturbed the public peace or order” (Nikartas, 2012).

Such survey results demonstrate not so much the frequency of public order offences but rather reflect a reaction of the residents to the so-called ‘signal crimes’. This means that public order offences or other criminal acts, committed in a public place, are most apparent and assessed by the residents. Even though the analysis of statistical data of the past decade has shown that the number and share of criminal acts committed in public places got reduced by 45.9 percent, as compared to the total recorded criminal acts; (Vileikienė, 2015), nonetheless, these acts are most conspicuous, thus mostly affecting the residents’ feeling of safety. In difference from some other specific public security dimensions, maintenance and assurance of public order is relevant for each member of the society without exclusion. It is possible to state that public order is primary and pivotal starting point, determining the stability inside the country.

Attention ultimately is focused also on the importance of human rights protection in ensuring public order. A. Kargaudienė’s (2005) proposition is fully agreeable that “it is difficult to deny the opinion that old administrative institutions usually were and are estimated as a benchmark of inflexibility and non-professionalism.” In the process of modernization of the administrative-legal regulation mechanism, attention should be devoted to the fact that in the contemporary state the notion of law enforcement institutions as power structures, empowered in the name of the state to apply the measures of coercion, is replaced by a qualitatively new approach to the activity of law enforcement institutions as a social service.

Relevance of the afore-mentioned problems predetermines the further expediency to discuss the legal regulation and the institutional mechanism of ensuring public order.

1. The legal basis of ensuring public order at the state level

As already emphasized, ensuring public order is a complex task, encompassing both prevention and control of human-caused threats and dangerous phenomena independent of the will of man. It would be neither possible nor expedient to provide the final analysis of all legal acts on the regulation of ensuring public order. However, prior to exploring the institutional aspect of ensuring public order and the problems of control of extreme situations, it is expedient to discuss the concept of public order and the public order offence categories (as an administrative offence, a criminal offence, and an offence).

1.1. The state-of-the-art concept of public order

The Constitutional Court of the German Federal Republic in its decision in the Brokdorf case formulated a concept that public order is the totality of unwritten rules, obedience to which (Germ. Befolgung) is regarded, according to social and ethical opinions (Germ. Anschauungen) prevailing at the time, as an indispensable (Germ. Unerlässlich) prerequisite for an orderly (Germ. Geordnet) communal human existence within a defined area (Information from BVerfGE 69, 315).

Hence, according to this definition, public order may be perceived as a certain regime of society, the mainte-
inance thereof predetermines public security and stability.

Like in Lithuania, the concept of public order and the fundamentals of its legal protection are enforced in the constitutions of France, Italy, and Switzerland. In other countries (e.g., the USA) the term *public order* is applied to define the corresponding category of law offences (public order offences) or denotes the totality of the not codified norms of behavior, identifying the order in the society (Germany).

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In Germany, the concept of public order – *öffentlich ordnung* – occupies an important place in German law, but is almost always used in conjunction with the category of public security (Germ. *öffentliche Sicherheit*). Public order (*öffentlich ordnung*) is perceived as a set of unwritten rules concerning the behavior of the individual in the society to be followed by the individual as part of the community. The main difference in the rules of public security and public order in German law is that public security provisions are regulated by legal acts, whilst the provisions of public order are not regulated since they encompass the universally recognized conduct rules (OECD, 2009). However, such indefiniteness of the concept of *öffentlich ordnung* is subject to criticism as giving too much space for interpretations.

In Italy, the concept of public order is also not precisely defined. The concept of public order in Italy resembles the situation in French law. The Italian term of public order is related to that in French law and derived from the Napoleonic Civil Code. The Constitutional Court of Italy has defined public order as a constitutional value which is aimed at safeguarding societal welfare: legitimate are those legal norms which help to prevent disruptions to public order. Such offences are perceived in the broad sense – as threats to the social and legal order, if it is violated illegally. The limitation of other rights which are equally enforced in the Constitution may be based and justified by other rights (OECD, 2009).

In Switzerland, public order is a ubiquitous concept at both Federal and Cantonal levels. The Constitution of the Swiss Confederation contains references to both the concepts of public order and to external and internal security. The Swiss Constitution recognizes the concepts of constitutional order and public order. Most often, public order, like in Lithuanian law, is mentioned in conjunction with public security as a composite legal term (public order and security). In the Cantonal Constitutions the terms ‘public order and public security’ are also mentioned, and the concept ‘public order’ is relevant in various aspects to federal and cantonal administrative law. However, the specific content of the concept of public order has not been defined in any legal act.

A conclusion is to be made that public order and security is the umbrella term for the concepts that are the basis of administrative law for protection of universally recognized values. Explaining systematically the provisions of Swiss law, the concept of public order implies universally recognized conduct rules designed to safeguard the fundamental preconditions for normal public life. The concept of public order means the protection of both the individual (the fundamental rights of the individual) and the state as the institutional framework (OECD, 2009).

In the USA, the term – public order – is used in a variety of ways in legal regulation. This term is ambiguous and is frequently mentioned within the context criminal of law. Most often the following public order conceptions exist: public order as fundamental conduct rules existing in the community, infringed by committing criminal acts or other offences of law; public order as a category, safeguarding of which is within the sphere of police activities; public order as a category, the safeguarding of which is the objective of other law enforcement institutions and other public administration institutions. It is notable that in the common law tradition, the equivalent of *ordre public* in the French sense of the term is the concept of *public policy*, denoting community conduct rules, specified and applied by the state institutions to ensure the protection of such values as public morals, health, safety, welfare, and the like (OECD, 2009).
**In Peru** the protection of public order is also enforced at a constitutional level. Article 2 of the Constitution of Peru contains the provision that legal norms governing public order may circumscribe the rights and freedoms of individuals if it is necessary to safeguard the security of society, tranquility, public health, peaceful and legal implementation of the fundamental individual rights. Hence, the concept of public order in the Constitution of Peru is related to the needs of society, morals, health, and safety. The concept of public order is mentioned in the context of national security (OECD, 2009).

**Upon generalisation** of the concepts of public order in these states it is seen that they do not differ too much from conceiving public order in Lithuania.

It is also notable that the concept of public order is closely linked with the concept of a public place. Attention should be drawn to the fact that no exhaustive and explicit definition of public place is given in the legal acts of the Republic of Lithuania. This predetermines that “operation and application of legal acts, conditioned by the circumstance of a public place, gives rise to quite a number of discussions and even judicial disputes” (Šimkaitytė-Kudarauskė, 2011). It is likely that the Republic of Lithuania Law on Meetings defines the concept of a public place most exhaustively as **streets, squares, parks of cities, townships, and other public places and common-use buildings**. Under the Republic of Lithuania Law on Noise Management, public administration institutions are authorized to exercise noise control in public places: **streets, squares, parks as well as other public places of cities and settlements, and buildings of common use, bars, discotheques, cafés and entertainment events** (Šimkaitytė-Kudarauskė, 2011). No doubt, this is not a final list of places to be treated as public. Other national laws also do not contain such a list. The concept of public order is quite broadly regulated in the rules on noise prevention in public places, adopted by municipal councils, for example, in the rules, approved by Kretanga district, Panevėžys city, Radviliškis district, Anykščiai district, Ukmergé district, Vilnius district municipal councils, places to be treated as public are listed, indicating thereof that such lists are not final, and that other places which are of common use or may be freely attended by community members are deemed to be a public place (Šimkaitytė-Kudarauskė, 2011).

Presumably, in terms of methodology, interpreting a public place by listing the places to be treated as public is not expedient. R. Šimkaitytė-Kudarauskė (2011) explains the concept of a public place in the doctrine as a space open to society. This concept seems to be revealed when interpreting it as opposed to a private space since a public place most often is perceived as a territory which is not part of the private property.

The concept of public place is of special topicality when considering the cases related to public order offences; it is this dimension where it is disclosed that public order offences are conceived as offences of law committed at a public place.

The Lithuanian Supreme Court jurisprudence contains the interpretation that a **public place** is the place in which “other persons are present or are entitled to attend during the commission of the criminal act. The act is deemed to be committed irrespective whether at the time of commission of the criminal act anybody was present here or not” (Šimkaitytė-Kudarauskė, 2011). Thus, publicity of the place does not depend on its belonging by the right of ownership but rather on the accessibility of this place to the public, this predetermining the necessity to defend the public interest if order is disturbed in that place. Hence, a public place is the place which is freely accessible to the public, and the accessibility thereof predetermines the need by means of legal regulation measures to defend the public interest from the possible offences of order at that place.

Another important aspect is that of decoupling the concepts of ensuring public order and protection thereof. A. Novikovas (2009) points out that dissociation of these concepts is important in terms of law since “when comparing the ensuring (guarantee) of public order and public order protection, in the former case it should be spoken about the declaration of how public order protection shall be organized, whilst in the latter case of how this protection shall be implemented”. The author explains that the term “ensuring” means guarantee and assurance and perceives it as the identification of general, political, economic, social and legal guarantees. Thus, the function of ensuring public order is the function of legislative and law enforcement authorities. Meanwhile,
public order protection means safeguarding and protecting social relations within the framework of public order. Therefore, according to A. Novikovas (2009), “public order protection shall be perceived as the activity (the system of legal and organizational measures), intended to maintain peace and safety, to protect human health, property, rights and freedoms, honor and dignity, interests of the society and the state against unwarranted infringement in public places”.

Firstly, the author’s opinion is to be maintained that ensuring public order already begins at the stage of lawmaking when creating constitutional and other guarantees established by laws for maintenance of public order. Later, guarantees established by the lawmaker are implemented at the law application stage.

Secondly, the simulated attribution of ensuring public order to the stage of lawmaking and especially that of public order protection to the law application stage is subject to discussion. First of all, public order protection should be perceived not only as physical protection (e.g., with police officers on patrol) but also as legal protection which has already been embedded in the text of the Constitution. The concept of ensuring is to be evaluated in the same way – ensuring may become manifest by enactment of guarantees in the text of a legal act and by physical maintenance of safety.

Therefore, presumably, it is not expedient to strictly delimit the concepts of public order ensuring and protection, thereby not denying the theoretical and practical importance of the distribution of public order guarantees to the lawmaking guarantees and guarantees related to the application of law.

In summary, the concept of public order formulated by the German Constitutional Court is the totality of unwritten rules, the obedience to which (according to social and ethical opinions prevailing at the time) is regarded as an indispensable prerequisite for an orderly communal human existence within a defined area; and is pertinent and relevant in Lithuanian law as well. The concept of public place, embedded in Lithuanian law, complies in essence with the conception of French ordre public and German öffentliche Ordnung. Even though in the legal acts of Lithuania the concept of public order is not specifically defined when comprehensively interpreting the provisions of legal acts and judiciary jurisprudence, one draws a conclusion that a public place is the place which is freely accessible to the public and the accessibility thereof predetermines the need by means of legal regulation measures to defend the public interest from the possible offences of order at that place.

1.2. Legal protection of public order of the community

According to the data on a public security situation in Lithuania for the period of 2005–2014, public order offences comprise several percent of the total criminal acts recorded in the country. Within the period under analysis, a comparative part of these criminal acts stayed at about 4 percent. Due to the type of these acts, their latency is not high; therefore, quite precise data on these offences have been collected (Vileikienė, 2015).

Nevertheless, it is notable, that not all the data fall into the criminological statistics, since administrative offences constitute a major part of public order offences. As already mentioned, the concepts of public order and public place are closely interrelated: public order offences cover offences of law that are usually committed in a public place.

As concerns the control of public order offences, it is notable that national legal acts envisage both criminal and administrative liability for these offences. The regulation of public order offences gives rise to numerous discussions as regards their inconsistency, while the discussions on the substantiation of criminal liability have been ongoing since of old. The criminal liability for public order offences is foreseen in Article 284 of the Republic of Lithuania Criminal Code (further the CC) (Official Gazette, 2000).

The wording prior to 1 April 2016 foresees that those who by defiant conduct, threats, taunting or acts of vandalism demonstrated disrespect to the surrounding people or environment and disrupted public peace or order shall be punished by community service or by a fine or by restriction of liberty or by arrest or by imprisonment
for a term of up to two years.

The wording prior to 1 April 2016 also foresees the constituent elements of a criminal offence.

The wording from 1 April 2016 does not contain any more the constituent elements of a criminal offence, and the formulation of Pt. 1 of 284 remained almost the same, except for the circumstance inserted that the constituent elements of such an act include “vicious taunting”. The Lithuanian Supreme Court (further LSC) in one of its rulings has interpreted the qualification of an act under the said article.

The court spoke up for that the legal regulation of the state had enacted that the order of coexistence of community members, communication of people in public spaces should be based on the cultural traditions, principles of respect and tolerance. Personal safety, protection of moral-cultural traditions and spiritual comfort in a public life is a social value, which is not only stimulated and cherished but also protected by the corresponding legal acts, and by criminal law measures in the cases established by laws. Article 284 of the Criminal Code foresees the liability for violation of public order to a person, who by defiant conduct, threats, taunting or acts of vandalism, demonstrated disrespect to the surrounding people or the environment in a public place and thereby disrupted public peace or order. The object of this offence is public order; complementary objects are human health, honor, dignity, and property. At the disposition of Article 284 of the Criminal Code several alternative ways of violation of public order are indicated: 1) defiant conduct; 2) threats; 3) taunting; 4) acts of vandalism. A criminal act commonly becomes manifest as the demonstration of disrespect to the surrounding people or the environment or neglect to the universally adopted rules of conduct. Defiant conduct means aggressive, unacceptable in terms of morals, act or omission, shocking the surrounding people thereby public peace or public order is disrupted. Such behaviour may entail physical violence against the person, interfering with persons in their work, studies, rest, etc. Since the constituent element of this offence is material, therefore, it is imperative to identify the effects that actually disrupted public peace or order (Supreme Court of Lithuania, 2014).

However, it is notable that the application of CC Article 284 causes quite a lot of problems. First of all, the law does not define strictly the criteria of both criminal and administrative liability for public order violations. As referred to by the LSC in the other case, the acts, described in the dispositions of CC Article 284 and Article 174 of the Code of Administrative Violations of Law (CAVL), are in the essence of similar degree of dangerousness (...). An issue of dissociation of the liability under such conditions is to be tackled in accordance with (...) the provision of Part 2 of Article 9 of the CAVL, wherefrom the requirement ensues that when settling an issue on the criminality of an act it is necessary to take into account the type of a specific act and evaluate the peculiarities of the actions of a perpetrator, intensity, duration, the individuality of the aggrieved party, and specificities of a public place (Supreme Court of Lithuania, 2013). In the CC wording from 1 April 2016 the legislator has filled this gap partly, decriminalizing the acts that were foreseen under CC Article 284 Part 2. Due to this reason, the CC wording from 1 April 2016 reveals the main criterion of criminal and administrative liability for such violations – criminal liability shall be applied when real consequences are caused by an act – public order is disturbed. However, the above-mentioned interpretation of the LSC, explicitly maintaining that the acts described in CC Article 284 by their dangerousness are similar to the violations of administrative law, reflects not only the problems of dissociation of criminal and administrative liability but also the substantiation per se of the criminal liability for public order offences.

It is assumptive that this not completely substantiated criminalization of an act is incompatible with the principle of criminal liability as ultima ratio, recognized in a democratic state. It is assumptive that on the basis of this fundamental principle this act is to be decriminalized. In the cases when another act is committed in a public place and it results in the disturbance of peace of the surrounding people, it would be enough to treat it as an aggravating circumstance.

As regards the administrative liability for public order offences, emphasis should be laid on the enactment of the new Republic of Lithuania Code of Administrative Offences (further the CAO) (new wording since 01-01-2016, Official Gazette, 1985), which has come into force from 1 April 2016 and replaced the old Republic of Lithu-
ania Code of Administrative Violations of Law (further the CAVL) (TAR, 2015). Upon the enactment of a new CAO, serious gaps in the regulation of public order offences have been remedied. Administrative violations of law whereby public order is infringed have been regulated by Chapter XIII of the CAVL.

The main shortcoming of legal regulation, demonstrating the legislator’s omission, was that some violations of law, regulated in this Chapter, in general, could not even be attributed to public order offences (e.g., violation of child’s rights or production of strong alcoholic beverages). Fortunately, this shortcoming was eliminated after the enactment of the CAO, where administrative offences relating to public order are regulated in Chapter XXIV.

Further, the constituent elements of several basic offences by which attempts are made to infringe public order and their changes upon the enactment of the CAO are briefly discussed. Aiming to provide a concentrated analysis, the changes in sanctions for these offences are not discussed since this does not pertain directly to the topic (pointing out in brief that the major part of sanctions remained the same, except of one type of administrative penalties – administrative arrest).

It was set out in Article 174 of the CAVL that petty hooliganism included swear-words or gestures in public places, offensive molestation of people or other similar actions that disturbed public order and peace of people. This article corresponds to CAO Article 481, regulating the liability for a minor violation of public order which is being manifest as swear-words or gestures in public places, offensive molestation of people, other intentional actions, whereby public order and peace of people are aimed to be disturbed. It is notable that the CAO envisages administrative sanctions to be applied for the repeat administrative offence under this Article: obligation to attend programs for alcoholism and drug prevention, early intervention, health care, resocialization, improvement of communication with children, change of violent behavior or other programs (courses). This is to be evaluated very favorably as such sanction could reduce a risk of repeat violations in the future as well.

Article 178 of the CAVL foresaw the liability for consuming alcoholic beverages in public places or the appearing of a drunk person in public places. In the CAO this violation is regulated by Article 484, it is also regulated that the administrative offence under this Article also entails imposition of an administrative sanction, namely, obligation to attend programs for alcoholism and drug prevention, early intervention, health care, resocialization, improvement of communication with children, change of violent behavior or other programs (courses).

It is notable that the liability for this offence has become stricter; in addition, an option appeared to impose an administrative sanction. Article 178’ of the CAVL also regulated the liability for consumption or possession of alcoholic beverages by persons under the age of 18 years. This violation is regulated by CAO Article 485, whereby it is also envisaged that an administrative sanction may be imposed for the repeat administrative offence, namely, obligation to attend programs for alcoholism and drug prevention, early intervention, health care, resocialization, improvement of communication with children, change of violent behavior or other programs (courses).

Article 183 of the CAVL regulated that disturbance of the public peace included shouts, whistling, loud singing or playing musical instruments and other audio apparatuses or any other noise generating actions in the streets, squares, parks, beaches, public transport and other public places, and in the evening and at night also in the residential premises, enterprises, offices or organizations, if this disturbs public peace. In Article 488 of the CAO an analogous offence is foreseen.

It is notable that a penalty has become stricter conditionally since a warning is not imposed any more for this offence.

Article 186 of the CAVL regulated such violation as a knowingly false alarm call to fire protection, police, emergency medical service, and other special services. In the CAO the constituent elements of the offence got
changed: Article 489 of the CAO envisages the liability for a false report about violence in close environment or abuse of the rights of a person who experienced violence. Meanwhile, CAO Article 493 regulates the liability for interfering the work of the General Emergency Response Centre, being aware that help is not needed. Stricter liability is imposed for alarm calls to fire protection, police, emergency medical service, and other special services, being aware that help is not needed. 

It is notable that constituent elements of this offence were expanded, and liability for it has become stricter. Three new public order offences have been also included in the CAO: Article 494 regulates the requirement for organizing meetings and other events (an offence of the Law on Meetings entails, in addition to a fine, prohibition to attend the events organized in public places for a term of up to 18 months); Article 495 – organization of the illegal meeting, demonstration, protest and other actions within the territory of the nuclear energy object and in the sanitary protection zone. Article 496 of the CAO sets out additionally several new constituent elements of offences: offence of the order of film presentation (trailer) in cinemas, public demonstration of films, video films and video programs, reproduction or distribution, violation of the order of public demonstration of events of erotic type, violation of the order of the use of mandatory filtration measures at the places of access to the public communication networks (internet).

In summary, it may be said that national legal acts for violations of public order foresee both criminal and administrative liability. According to the wording of Article 284 of the Criminal Code, from 1 April 2016 the key criterion of criminal and administrative liability for such violations has become revealed – criminal liability is imposed when the real effects are caused by an act – public order is disturbed. However, criminalization of public order violations is to be estimated as incompatible with the principle of criminal liability as ultima ratio, recognized in a democratic state. This is witnessed by the LAC clarification, explicitly expounding that acts, described in CC Article 284, are similar to administrative law offences. For this reason, one proposes to decriminalize this act and, in the cases when the other act is committed in a public place and the peace of the surrounding people is disturbed, to enforce the option to treat it as an aggravating circumstance. Even though the meticulous detailing of legal regulation was not avoided upon the enactment of a new CAO, estimated as positive in the new CAO could be the systematically arranged offences whereby public order could be infringed, the enforced possibility to impose administrative sanctions which could positively impact the offenders’ conduct and reduce the risk of repeat public order offences.

2. Improvement in the activity of state governance and self-government institutions to guarantee public order

As already mentioned, the main institution, responsible for maintaining public order in Lithuania as in many other states across the region, traditionally is deemed to be the police.

It should be noted that, according to Eurostat data, in comparison with the number of the population, in 2010–2012, the most numerous force of police officers was in Cyprus, and the lowest number in Finland. The interstate indicators differ by almost six times (Information from Crime Statistics). It is presumptive that such differences are related to the general setup of the institutions, responsible for maintaining public order, and division of functions. As illustratively expounded by A. Novikovas (2010), the present situation in the field of ensuring public order may be defined by applying the economic term – the police monopoly. The author also observes that, in accordance with the economic rules, competition becomes reduced in the monopolized market, and as a result makes consumers suffer most of all.

Presumably, a similar situation got formed having in mind the role of the police in the context of ensuring public order. Therefore, an emphasis is placed on the necessity of creating the alternative mechanisms for ensuring public order, which would take over and, probably, would perform certain police functions more qualitatively. Another group of problems is related to the internal police problems. As underlined by the Latvian authors E. Melnis, A. Garonskis and A. Matvejevs (2006), the major part of Central and East European countries possess wide experience in the field of totalitarian regime governance, when the police was used for citizens’ op-
pression and control. Due to this, the police until recently quite often enjoy a negative reputation. Even though trust in the police at present is augmenting, in the last decade of the 20th century the police were even perceived as a threat to human rights and freedoms rather than a protector. Therefore, attention should be focused on the fact that trust in the police on the part of residents is directly related to information on the police activities and inducement of the communities for cooperation in ensuring public security.

Statistical research data show that, in the opinion of the residents, the police should devote utmost attention in their activities inter alia to patrolling public places and a swift response to the reports received (Vileikienė, 2012). In addition, “citizens are demanding from the police services more diverse crime prevention services, higher accountability and effective work” (Raipa, Smalskys 2006). Thus, attention should be focused on the necessity of modernization of the administrative-legal regulation mechanism. According to V. Domarkas (2005), public administration, as a democratic institution, inter alia should be responsible and transparent; decentralized; based on the balanced control system of the executive and legislative authorities; performing the key role in reducing exclusion, protecting the rights of minorities and vulnerable groups of society; possessing sufficient managerial capacities to improve legitimacy; creating a favorable environment for interaction of civil society and private sector; using information and communication technologies, when stimulating the citizens’ participation in the developmental processes; promoting and strengthening different types of collaboration in seeking to achieve the set goals.

In accordance with these principles, it may be said that of special importance also is to guarantee their operation in the activities of the institutions involved in ensuring public order protection, the more so that maintaining public order is the specific field where restrictions on human rights and freedoms are possible. This problem is urgent, indeed, given that contemporary European countries and in particular those where long-term democratic governance traditions are absent “attempt to concert the management and training systems of the police, as the statutory public sector organization, with modern public administration tendencies” (Bubnys, Smalskys 2005).

Due to these reasons, it is expedient to discuss in this subtopic the problematic aspects of the activities of the police and other institutions – the Public Security Service and self-government institutions – in ensuring public order.

2.1. Contemporary problematic aspects of policing organization

State policing function. As already mentioned, the science of police law that was dissociated from the science of criminalistics has become the foundation of the contemporary administrative law. For example, police law in the law theory of Poland is deemed to be the branch of law, regulating social relations, resulting from implementing the functions of ensuring security and maintaining order. According to Lithuanian authors, the state and its different institutions carry out certain policing functions, for example, “to ensure state and society security, maintain public order and peace, as well as perform human life, health and property protection” (Kalesnykas, Mečkauskas 2003). According to D. Žilinskas (2003), the state policing function is manifest through administrative supervision, opportunity to apply administrative coercion, collection of information about persons, events, phenomena, organizations, carrying out prevention of law offences and implementation of pertaining programs, etc.

Hence, the function of policing at the level of the state and its institutions means that upon a threat being posed to the protected values, for example, public order and security, institutions, responsible for protection of these values, undertake active actions for preventing those threats. If public order is disturbed, the state is entitled to apply coercion, seeking to restore the infringed rights. Thus, the state performs the policing function with a view to maintaining and restoring public order.

The principal institution, performing this function, is the police. The Law on Police of the Republic of Poland, adopted in 1990, identifies the police destination in Poland, the principles of activity and legal fundamentals,
the tasks and organizational structure, the competence and responsibility of a police officer. Article 1 of the Law defines the police as a uniformed and armed formation, serving society and designed to maintain public order and to protect public safety.

The main tasks of the police are; protecting the life of people and their property against unlawful attacks; ensuring public safety and order in public places; initiating and organizing activities to prevent the perpetration of offences and cooperation in this field with other state agencies, local governments, and social organizations.

Like in Lithuania, the police in Poland are subdivided into public, criminal, and support staff; it is interesting though that here the special judicial police are distinguished, with the function of maintaining public order at courts and prosecutors’ offices. The premises of the said police are usually located in neighboring premises (Kalesnykas, Mečkauskas 2003).

It is presumptive that the need for such police units also exists in Lithuanian courts where ensuring safety remains a problem. For example, the officers from the detention facility and convoy division of the Public Order Service under the subordination of the County Chief Commissariat practically are constantly present at the Vilnius city courts, but they perform a very narrow function: convoying and transfer of the detained and convicted to the courtrooms, whereas the staff safety is not included in their duties.

The problem of residents’ (dis)trust in the police. In 1996, only 22 percent of the population of the country trusted in the police. As most frequent the following reasons of distrust in the police should be mentioned: corruption, links with the criminal world, ineffective activity (inability to regulate criminality), impoliteness, and unwillingness to help (Kalašnykas, Deviatnikovaitė 2007).

The first reason is that mass media where the police work quite often is evaluated unfavorably contributes greatly to a negative image of the police (Bandzevičienė et al. 2010). It should be noted that lately trust in the police has been on the increase. According to the data of the Ministry of the Interior, one of the main reasons for victimized persons not applying to the police was their disbelief that the police could help.

The second reason is reluctance to have any deals with the police. These reasons as being principal were referred to in the public polls of 1997 and 2006–2012. Attention, however, should be drawn to the fact that in the 2013–2014 polls the reluctance of dealing with the police as a reason of not applying to the police is mentioned still more rarely. Nevertheless, according to the 2014 poll data, this reason is in fourth place – it was indicated by one-tenth of the aggrieved persons (Vileikienė 2015). Nonetheless, in comparison with other institutions within the criminal justice system (prosecutor’s office, courts, imprisonment facilities, correctional inspectorates), the police activities are evaluated best (Vileikienė, 2015).

It is assumptive that such results are not so much related with the police work quality but rather with the publicity of their activities. The police are faced by more numerous residents as compared to the prosecutor’s office or imprisonment facilities, the activities thereof are more closed and more restricted.

It is assumptive that residents’ trust in the police could be increased not only due to the enhancement of transparency and openness, but also due to the police attention to operational activities. In this aspect, special emphasis should be placed on the necessity to increase the efficiency of response to reports on violations of law by improving the organizational, technical, information and communication systems of the law enforcement institutional forces, and especially to ensure the qualitative services of the general emergency telephone number 112 and the efficient operational control of forces (TAR, 2015). The efficiency of the police activities with the application of comprehensive measures and inter alia of the most advanced technological achievements to allow the police to perform their duties operatively and effectively is also underlined by A. Matvejevs (2013). Thus, those accidents which undermine trust in the law enforcement system and are relevant to the inefficiency of these systems could be avoided (Information from Delfi.lt, 2013).
Qualification problem of police officers. A number of reasons for contraposition of police and community pertain to the improper attitude of police officers to their duties performed. For example, research findings showed that police protection and services were less accessible to the residents of the communities in the poverty-stricken districts. According to the research data, “the police tended to treat the residents from communities with a high rate of crime as victims that got what they deserved, their way of life stimulating their victimization” (Nikartas, 2012).

Such approach of the officers is closely linked to their insufficient qualification and competences. As emphasized in the Public Security Program for 2015–2025, “the existing system of professional training and qualification improvement of officers only in part complies with the practice of professional training and qualification improvement of officers, applied in the majority of the EU Member States, and cannot fully satisfy the need for training of officers and their qualification” (TAR, 2015). This presupposes the need for creating a system of qualification improvement and training of officers, which would ensure operative training of the proper personnel and would grant the opportunities for qualification improvement of personnel with allowance for the problems of ensuring public security.

One of the possible problem-solving options is the creation of attractive training conditions and actualization of officer training and qualification programs. It is noteworthy that quite an urgent problem is becoming a provision of the agreement on recruitment to the internal service (TAR 2015), according to which the interior professional training establishment or another educational institution undertakes to provide proper conditions for training; the central office of the interior obligates to ensure that a trainee upon completing the interior professional training establishment or a person upon graduating from another educational institution will be appointed to the duties corresponding to his education and profession at the interior office and be afforded proper service conditions, as established in this Statute, and legal and social guarantees for officers as specified in other laws, and that a person entering the internal service upon completing training shall serve in the internal service no less than 5 years; and if he is expelled from another educational institution or upon completing training refuses to serve in the internal service, or if he is discharged from the internal service at his own request or earlier due to his fault, he shall reimburse the training-related expenses to the central office of the interior in proportion to his term of service at the internal service.

On the one hand, this provision helps to be protected against recruitment of accidental and unmotivated persons to the internal service.

On the other hand, the imperative duty to serve in the internal service for 5 years, and, upon breach of this condition, to reimburse training expenses, considerably reduces the attractiveness of employment in the internal service.

Police and community synergy problem. A variety of research showed that “formal police control may strengthen the population capacities to fight against crime and disorder” (Nikartas 2012). A sense of community of the police has a considerable impact on the active involvement of the residents in maintaining public order. Hence, formal social control also strengthens informal social control and vice versa. Even though no thorough research of formal and informal social control interaction has been performed, it is presumptive that not only inactivity of the police but also its exaggerated interference with community matters may have a negative effect on informal social control.

It should be noted that a sufficiently high potency of the alternative ways for ensuring public order is inherent in the communities; according to the 2008 research data, even 63 percent of the respondents indicated that they would take active actions seeking to prevent a criminal act, which was not directly targeted against them or their family members (Analysis of the…, 2008). Actually, this number would probably be less, though the results of surveys demonstrate the approach of part of the residents to be active when ensuring public order and safety. Some 57 percent of the respondents are also resolute to assist the police in maintaining public order. It is notable that according to the 2010 research findings, this percentage stayed almost unchanged at 56 percent.
(Nikartas 2012). In spite of this, one-fifth of the residents evaluate the work of the police officers negatively and think that “if the latter worked as expected, no assistance from the community would be needed” (Analysis of the…, 2008).

Thus, part of the population still considers maintaining public order as an exclusive function of the police and does not think that community should take an active position on this issue. This shows that it is expedient for the police to devote more attention to the initiatives of the work with society, elucidating the significance of assistance and active participation of the residents in maintaining public order, support to crime control and prevention. This is also confirmed by the public opinion poll data indicating that only one-third of the respondents believe that police furnish enough information on their activities (Analysis of the…, 2008). An issue remains open whether the expressed willingness of a major part of the residents to help the police to maintain public order shows a big potential of the society’s participation since “the residents’ willingness to help the police (as revealed through the research) contradicts the exploratory results pertaining to general volunteering and civic activity, exhibiting somewhat lower level not only of actual participation but also of willingness to participate in various social or/and volunteer activities” (Analysis of the…, 2008).

Presumably, the lower number of the population, expressing an active willingness to partake in these activities or actually participate in them, as compared to the inhabitants who just declare such wish during polls, is natural. Quite a number of people, who would indeed be willing in principle to help the police to maintain public order, have some other priorities or cannot participate in the volunteering due to their busyness. Nevertheless, the specific reasons of the conditionally not active collaboration of the residents with the police are the subject of further special research.

One of the forms of collaboration between police and community is the activity of police support volunteers, which becomes revealed in maintaining public order, for example, patrolling together with police officers or undertaking targeted measures. By evaluation of police officers, “police support volunteers is a beneficial support to the police in consideration of lacking police human resources” (Nikartas 2012). The rights and duties of police support volunteers in fact are realized only together with the rights and duties of police officers – that is, police support volunteers cannot operate fully on their own and do not acquire a totality of the rights and duties of an officer. Even though in 2011, the lawmaking initiatives existed to expand the content of the rights of police support volunteers by providing a higher independence (Nikartas 2012), such projects were rejected on the ground that upon expanding the right to use coercion the police support volunteers in fact would be comparable to police officers. It is assumptive that such opinion is reasonable.

The rights of the police officers being granted to the police support volunteers, the human rights protection would be jeopardized; moreover, in contrast to the police officers, no special qualification and other requirements are set to police support volunteers. Presumably, the content of the rights and duties of a police support volunteer should not be extended, but the available potential could be used more effectively. For instance, police supporters could perform the role of intermediaries (mediators) between the local community and police officers (Nikartas 2012).

Problem of the police as a social service. According to some authors, police functions and administrative management functions should be decoupled, since the regulation methods of police law and administrative law vary. A distinction of the police law regulation method is predetermined by the specificities of ensuring public security, which grant the powers, if necessary, to restrict human rights and freedoms or to apply coercion in the name of the state (Kalesnykas, Mečkauskas 2003). Such conception of the police is hardly compatible with the opportunity to perceive the police activities as a social service.

It is notable that in new democracies in Central Europe “it is quite difficult to oust from policing the coercive activity models. The Lithuanian police in this respect are not of any exception either; it so far remains a coercive organization” (Bubnys, Smalskys 2005). However, new public management ideas gradually come in effect even in this sphere and are targeted to provide services of better quality to the residents.
New public management is based “on the improvement of horizontal decentralized management, privatization of part of the state functions, personnel contract-based management system and other modern management methods” (Bubnys, Smalskys 2005). The statutory part of the public sector – the police get adapted to these innovations with difficulty; therefore, more considerable attention should be devoted to the modernization of police structures.

Police modernisation necessitates both its community-oriented approach and dissociation of public and criminal police functions. Public policing covers the performance of active preventive activity and provision of social services to citizens, involving them in the implementation of their programs. Currently, the specificities of Lithuanian police activities are regulated by the Law on Police Activities (Official Gazette, 2000), which is common for all types of policing. Instructions on Police Patrolling Activities are also of relevance to the public police (Official Gazette, 2011), even though they are an accompanying legislative act wherein the practical aspects of activities rather than strategic goals are regulated. Meanwhile, the Law on Police Activities envisages the principles and tasks of police activities that are common for all types of policing. It is notable that it would be expedient to regulate the public police and criminal police activities by different laws.

R. Kalašnykas and I. Deviatnikovaitė (2007), emphasizing the necessity of harmonizing the national administrative law with the EU legislation, R. Kalašnykas and I. Deviatnikovaitė indicate that this is not just an issue of incorporating the norms of one legal system into another legal system but “the implementation of the prevailing ideas of law – legal principles – in the national legal system, affecting other parts of the legal totality: practice of implementing administrative law norms, operation of public administrative institutions, human resources, etc.”

The principles, which should be implemented in the police activities and would help to perceive the police as a social service, are the principles of subsidiarity, proportionality, legitimate expectations, of the legal certainty, good administration principles and they are “not only the foundation of the process management, but also a measure of the proper relation of management entities to the management objects” (Kalašnykas, Deviatnikovaitė 2007). The following principles of police activities are reinforced in Article 4 of the Law on Police Activities: the principle of non-discrimination (obligation for the police to impartially protect all persons who are in the territory of the Republic of Lithuania, regardless of their nationality, race, sex, language, origin, social status, religious beliefs, convictions or views); democracy, respect for human rights, humanism, morals of society, lawfulness, professional openness, as well as the principles of the use of coercion only when necessary and proportionality thereof; the principle of not participation in political activities.

Even though this system of principles is state-of-the-art and modern, a question arises as regards the level of their implementation in practical policing. It is noteworthy that modernization perspectives, however, are paving their way in the police with difficulty. For example, from 1 July 2015 handling of the cases on the violations of administrative law had to be commenced in e-format (National courts administration, 2014). Despite of the reformed legal basis, the electronic cases of administrative law violations still are not existent in practice, though such format of the cases would be convenient both for persons prosecuted for administrative offences who could access the e-case and for police officers who would shape such cases; in addition, the budgetary funds would be saved (just as regards paper and CDs, into which video or audio records, appended to the case, are made).

It is presumptive that a positive step in expanding the concept of the police, as a social service, is the adoption of the new Statute of the Internal Service (further the Statute) (TAR, 2015) where the principles of officer activity and social guarantees are regulated comparatively smoothly and thoroughly. Article 3 of the Statute has reinforced that internal service is based on the principles of the rule of law, equality of rights, political neutrality, transparency, career, compensation for internal service specificities, official subordination, legitimate expectations and respect for the rights granted, and constant exercising of the officer’s general duties.

It is also positive that this elucidates the content of each of these principles. However, distinguishing of the principle of the constant exercising of the officer’s general duties is subject to criticism – it is presumptive that
such distinguishing is excessive since the law when envisaging the general duties of the officer obligates to follow them; if the officer fails to perform those duties, he violates a specific norm where such duty is regulated, but not the principle of activities.

**Problem of human resources and lack of resources.** As stated in the Vilnius city strategic plan for 2010–2020, the position by the number of police officers per 100,000 residents is worst in the city of Vilnius, as compared to other cities in the country, namely, just 335 officers per 100,000 residents in Vilnius; meanwhile, in Kaunas – 342, in Panevėžys – 348, in Klaipėda – 353, and in Šiauliai – 397. This situation partly discloses the reason why barely 31 percent of the crimes are investigated in the city of Vilnius, whereas in other major cities this share ranges from 42 percent to 47 percent (Vilnius City Municipality, 2010).

It is subject to discussion whether such big difference in detection of criminal acts in the cities of the country is determined by the number of officers here, which is not so much distinct. The problem of human resources in the police, however, is emphasized in the Public Security Development Program for 2015–2025, where it is stated that “public security development is restricted in particular by the insufficient funding of law enforcement institutions and other state institutions, delegated directly with the tasks of strengthening public security; decrease in the number of officers employed; the training and qualification improvement system not satisfying the needs; the insufficient qualification and skills of officers” (TAR, 2015).

The qualified personnel is highly lacking in the police and other law enforcement institutions. For example, as at 1 January 2014, vacant statutory state servant posts in the statutory institutions of the interior accounted for 12.7 perc.

It is evident that such negative tendencies were highly impacted by unattractiveness of the officer’s profession, gaps in the regulation of official relations, the reduced social guarantees, and the underdeveloped motivational system of statutory service. Even though Article 25 of the new Statute of the Internal Service regulates in detail the evaluation of the official activities of officers, targeted at estimating the annual work results and achievements of an officer, and upon assessment of the activities of an officer as very good, giving motivation, a question arises how effectively and transparently these provisions are implemented in practice.

It is noteworthy that evaluation of the officers’ activities, reinforced in the Statute, is analogous to that in the Law on Civil Service, the application practice thereof revealing its imperfections and problems. For example, some authors note that “assessment by results, in general, is attributed to the more subjective (or less strict and precise) assessment methods. Its implementation seems to require most of efforts (organizational, managerial), as compared to other assessment methods. Thus, such evaluation is especially costly in terms of input” (Kaselis, Pivoras 2012).

Such assessment in big organizations takes much time; in addition, the assessors themselves are to be trained. All that put the assessment of officer activity in jeopardy as being performed just formally and subjectively. It is presumptive that the problem of human resources should be tackled in the order of priority, since the existing shortage of qualified and motivated specialists makes the reform of the efficient police structures impossible. No doubt, an important obstacle in creating the motivational statutory service system is the lack of funding. In this case, however, the problem of irrational distribution of funds is also urgent.

**In summary, it should be said** that the police when maintaining public order implement the state policing function; therefore, in the case of a threat to public order, the police structures shall acquire the right to use coercion. The key problems of police activity, aggravating the police opportunities to ensure effectively public order, are the problem of distrust of the residents in the police structures, the lack of human and other resources, the problem of qualification of police officers, a gap in the cooperation between the police and communities, which preconditions the potential of communities to partake in ensuring public order.

It is notable that an urgent goal is to oust from public policing the coercive activity models and to start applying
public management methods aiming to ensure that public policing should be started to be conceived as a social service, with the standards of quality being applied thereto. Therefore, it would be useful that the principles and tasks of public policing activities should be regulated by a special law.

2.2. Compatibility of the functions and competences of the Public Security Service

Another institution with the functions thereof pertaining to the maintenance of public order is the Public Security Service, its activities being regulated by a special law (Official Gazette, 2006). It is noteworthy that the Public Security Service, indeed, plays an important role in ensuring public order. Nevertheless, scholarly literature does not give any attention to the activities of this service and its regulation – not a single scholarly publication has been found where the problems of the activities of this institution are being tackled. It is therefore expedient to discuss the main legal acts regulating the Public Security Service and to give the reasonable critical feedback on some provisions.

It is notable that in Latvia and Estonia, unlike in Lithuania, ensuring public security is solely the police function, whereas the Public Security Service, as a second institution, responsible for maintaining public order in cases of emergencies and extraordinary situations is more characteristic of the larger states, for example, France and Spain (National Audit Office of the Republic of Lithuania, 2015).

The Public Security Service is under subordination of the Ministry of the Interior of the Republic of Lithuania. It is laid out in Article 3 of the Law on the Public Security Service that the Public Security Service is “a state agency in the state of constant special readiness and accountable to the Republic of Lithuania Minister of the Interior whose purpose shall be to restore and/or ensure public order in cases of extraordinary situations and emergencies and as part of the armed forces to defend the state in wartime, also to perform other functions established by this Law and other laws” (Official Gazette, 2006).

Thus, as distinct from the police, the activities of this institution are more specialized and related to extraordinary situations and ensuring public order in these cases. Article 4 of the Law regulates that activities of the Service shall be governed by the principles of the rule of law, lawfulness, respect for human rights and freedoms, equality of persons before law, political neutrality, coordination of publicity and confidentiality of activities, professionalism, coordination of personal initiative and official discipline, official subordination, and proportionality in using coercion.

In accordance with these principles, the Public Security Service shall restore and ensure public order in cases of extraordinary situations and emergencies and shall perform other tasks:
– shall liquidate hazards posed to human life or health and property in cases of extraordinary situations and emergencies;
– shall ensure the organization and carrying out of convoy operations of the persons detained, arrested and convicted;
– the protection of important state objects; shall search for persons (Art. 6).

The task of this Service as enforced in this Law covers assistance to other institutions, carrying out the functions delegated upon them (the Lithuanian police, the State Border Guard Service under the Ministry of the Interior, the Fire and Rescue Department under the Ministry of the Interior, the VIP Security Department under the Ministry of the Interior, and the Financial Crime Investigation Service under the Ministry of the Interior).

In addition, the Public Security Service is delegated with the task to defend the state in the event of war and to perform other tasks assigned to the service by law. It is assumptive that such important tasks assigned to the Public Security Service cause certain vagueness and make presumptions for “overlapping” of institutional functions. If the obligation to assist the police, the State Border Guard Service, the Fire and Rescue Department and the VIP Security Department to perform functions delegated upon them is understandable, since their functions are directly related to ensuring public security and maintaining public order, the obligation to assist
the Financial Crime Investigation Service, which is an institution investigating economic and financial crimes, is not quite understandable.

Certainly, the Financial Crime Investigation Service is also an institution, carrying out a pre-trial investigation, though it is disputable in regard to the grounds this institution was listed in conjunction with other services, the activities thereof are pertinent to maintaining public security and public order, the more so that other special pre-trial investigation institutions, for instance, the Special Investigation Service, also carry out certain operations, where assistance of the Public Security Service could be useful. Therefore, one may conclude that such extension of the tasks assigned to the Public Security Service is to be evaluated negatively, since it presupposes the indefiniteness of the activities of this institution and “overlapping” of institutional functions. In the same way a task assigned to the Public Security Service to defend the state in the event of war is also subject to criticism since this is a general civic duty of the country’s citizens.

Making an analysis of this norm, it is probable that the legislator whereby intended to enforce the duty of the Public Security Service in the event of war to perform certain functions related to maintaining security, but in this case this provision, as being too abstract, should be revised. Article 7 of the Law defines the specific functions of this Service.

The first functions: two of these are to suppress riots, mass disturbances, group actions violating public order or resisting law enforcement officers, riots at imprisonment institutions or group resistance to the administration of imprisonment institutions, also other intentional actions constituting a grave violation of internal procedures of imprisonment institutions, and to free hostages; to prevent, in cases of extraordinary situations and emergencies, the actions posing a hazard to human life or health, property, nature or constituting a grave violation of public order or of internal procedures of an imprisonment institution. It is assumptive that regulation of these functions is not very precise and overlapping each other.

The definition of the second function contains an excess provision, obligating the Public Security Service in cases of extraordinary situations and emergencies to prevent the actions constituting a grave violation of internal procedures of an imprisonment institution. Meanwhile, the definition of the first function states that the Public Security Service shall suppress riots at imprisonment institutions or group resistance to the administration of imprisonment institutions, also other intentional actions constituting a grave violation of internal procedures of the imprisonment institutions, this in essence being identical to the second obligation.

The same may be also said about the second obligation – in cases of extraordinary situations and emergencies to prevent the actions constituting a grave violation of public order. Therefore, the corresponding provisions are to be eliminated from the second function, retaining the following statement: “to prevent, in cases of extraordinary situations and emergencies, the actions posing a hazard to human life or health, property and nature”.

The third, fourth and fifth functions of the Public Security Service are related to convoying the persons arrested and convicted to imprisonment institutions or from one imprisonment institution to another, from imprisonment institutions to the Supreme Court of the Republic of Lithuania, the Court of Appeal, regional courts, the Supreme Administrative Court of the Republic of Lithuania and regional administrative courts, and in cases of special convoy (when convoying the persons in respect whereof there is an effective court judgment of life imprisonment, also in other cases established by law) also to local courts of cities and districts and back to imprisonment institutions, to guard them during court hearings.

The Public Security Service also shall conduct convoying the persons detained, arrested and convicted in cases of their extradition and deportation, transfer to the International Criminal Court, surrender under European arrest warrant, also transfer of the convicts for the continued serving of the sentence. It is notable that the procedure of convoying is regulated in detail in the Convoying Regulations (Order No. 1R-240/1V-246..., 2015). Even though in these Regulations the convoying procedure and following of the security requirements are described in detail, attention is to be drawn to the fact that in these Regulations very little heed is paid to the rights
of persons convoyed, this not being in line with the provisions of a democratic state.

In the Convoying Regulations some rights of the convoyed persons are enforced only as the grounds for the convoy to not accept the persons under convoy, for instance, in accordance with Paragraph 98.2 of the Convoying Regulations, if a person is sick or disabled, whose convoying is impermissible under the conclusion of the personal health specialist, entered in a personal case certificate of the person convoyed, it shall be the grounds for the convoy to refuse to accept the person to be convoyed. The convoy also shall refuse to accept the person to be convoyed, if the latter is not supplied with the food ration, whilst convoying will take more than 6 hours. Also the provisions are stipulated that persons are not subject to convoying without a personal health care specialist, stocked with medical emergency remedies. However, it is hardly possible to state that these provisions are aimed at enforcing the rights of persons under convoy, the more so that alongside these provisions are those contained in Paragraph 98.4 of the Convoying Regulations, setting forth that convoying of intoxicated persons shall be refused. Paragraph 102 of the Regulations contains the reinforced principle of non-discrimination that the convoyed persons are equal, regardless of their origin, sex, social or property status, nationality or race, political views or party membership, education, language, religious or other beliefs, genetic properties, sexual orientation, type and character of activities, place of residence and other circumstances, not stipulated in the Republic of Lithuania laws. However, it is again doubtful, whether this provision was targeted to enforce the rights of the convoyed persons, since further the basics for keeping of the convoyed persons separately are listed.

Special attention is to be devoted to the absence of a separate clause in the Convoying Regulations whereof the rights of the convoyed persons should be enforced; instead of it the Regulations contain Clause V “Regulations of the Convoy Conduct with the Persons Convoyed,” thus as if transforming the convoyed from the legal relationship of the subject to the object. In addition, this clause is the shortest of all the clauses and covers just four paragraphs, enforcing thereof that the conduct of convoys is based on the principle of legitimacy; it is prohibited for the convoys to have non-official contacts with those convoyed; the convoys are obligated to address the convoyed using the word “you” and surname; it is prohibited to torture, injure the convoyed person, degrade his dignity or otherwise subject him to cruel treatment.

Naturally, the convoying regime concerns the special restriction of human rights, even though this does not absolutely justify the gap in the regulation of the rights of the convoyed person. It is assumptive that this just presupposes the need for more detailed regulation of the rights of the convoyed, with account of their legal restraints.

The remaining functions of the Public Security Service include search and detention of persons who have escaped from imprisonment institutions or during a convoy operation, protection of important state objects according to the Government-approved list, liquidation of emergencies and their sequels, participation in the operations and missions of the United Nations, other international organizations, European Union and foreign states in the procedure prescribed by the Republic of Lithuania Government, communication with law enforcement institutions, etc.

Two above-mentioned aspects subject to criticism are also specified as functions and they are also indicated as tasks: assistance to the authorized institutions to implement the functions assigned to them and to defend the state in wartime. Articles 10 and 11 of the Law regulate comprehensively the rights and duties of the Service officers.

The first right of the officer refers to the right to require that natural and legal persons take immediate actions to promptly eliminate the obstacles preventing a Service officer from performing his direct tasks.

The second right is to use, in the cases and in accordance with the procedure laid down by this Law, physical coercion, special means, firearms and explosives. The fact of interest is that the Law grants the right to a Service officer also to use mental coercion; actually, Article 12 of the Law sets forth explicitly that such right shall be
Conditions when it is permissible to use mental coercion cover the striving to protect himself or the life or health of the surrounding people from a hazard, to save a person from mutilation or suicide; to secure compliance with a lawful demand when a person is avoiding the compliance; to detain a person, avoiding detention; where an attempt is made against an object guarded by the Service, a vehicle, a firearm, explosives, special communication means, special means or other property of the Service; in extraordinary situations; when it is necessary, to free hostages or to prevent an act of terrorism.

Extraordinary situations under Art. 2 are deemed to be situations, where riots, mass disturbances, group actions violating public order or resisting law officers, riots at imprisonment institutions or group resistance to the administration of an imprisonment institution take place and where these actions are accompanied by pogroms, fire-raising, hostage taking and other intentional actions, also escape of the persons held at imprisonment institutions, taking of hostages or other intentional actions constituting a grave violation of internal procedures of the imprisonment institutions.

The Public Security Service officer shall have the right when persecuting a person who escaped during a convoy operation or from an imprisonment institution or a person who is suspected of a criminal act, also when seeking to prevent a criminal act being committed, to enter at any time of day and night the residential or non-residential premises, territories belonging to natural and legal persons, to stop and enter vehicles, also to use all the vehicles.

It is also noteworthy that a list of the rights of a Service officer is not final – it is indicated that a Service officer also has other rights granted to him by laws. It is assumptive that seeking to avoid inadequacies, it would be expedient in this norm to indicate legal acts where other rights of an officer are enforced. It is notable that the duties of the Service officers are regulated in Art. 11 of the Law more succinctly than the rights of an officer.

On the one hand, the more detailed regulation is reasonable seeking to avoid abuse of an officer’s rights and ultra vires.

On the other hand, it is subject to criticism that some duties of a Service officer are of too general type, for instance, “to respect and defend human dignity, ensure and protect human rights and freedoms,” which due to their high abstractiveness are rather declarative. Other duties of a Public Security Service officer permit him, upon receiving a notification of a criminal act or some other offence being committed or an officer himself being a witness to an accident, take immediate measures to prevent the criminal act or some other offence being committed, protect the place of the accident and evidence, establish witnesses, detain a person who has committed the criminal act and notify thereof a police establishment. Also a Service officer must provide immediate medical or other necessary aid to a victim or a helpless person; take all possible measures to rescue people, property and nature in cases of extraordinary situations and emergencies; keep confidential information secret unless official duties require otherwise; wear a uniform. It is also indicated that an officer of the Service must perform other duties prescribed for him by law.

It is assumptive that in this norm it is also expedient to specify legal acts wherein such duties are foreseen for an officer. As concerns the Public Security Service regulations (Official Gazette, 2007), attention should be devoted to the fact that most of them are excessive, for example, Chapter I “General Provisions” contains the norms, transferred from the Law on the Public Security Service, regulating the Service functions and rights, the Service structure. Such mechanical transfer of the Law provisions does not give any tangible benefit, but rather increases the probability of the Law provisions to be transferred inaccurately, the content of the rights of the Service officers, specified by law, to be expanded without any grounds, and the content of the duties to be narrowed.
It is presumptive that a major attention in the Public Security Service provisions shall be devoted to the practical aspects of the activities of this institution and to the elaboration of the provisions of the Law on the Public Security Service. For example, if the function of the Public Security Service to assist the police and other law enforcement institutions in implementing the functions assigned to them is regulated in the Law on the Public Security Service, it could be elaborated in the regulations how this task would be implemented in the practical activity of the institution.

Practical problematic aspects of the Public Security Service activities are specified in detail also in the activity report for 2015. In this report it is indicated that in 2013–2014 and the 1st half of 2015 one extraordinary situation occurred in Lithuania (in the Marijampolė correctional facility) and one case of emergency (regarding African swine fever in the Ignalina district) (National Audit Office of the Republic of Lithuania, 2015). These hazards being rare explain in part why so little attention in the doctrine and in practice is devoted to the activities of the Public Security Service. It is notable, however, that the Public Security Service unlike the police shall ensure public order in case of hazards, which though being seldom may cause especially grave outcomes.

For this reason, as stated in this report “irrespective of how often the Public Security Service forces are required the state of constant special readiness of the Service shall be ensured” (National Audit Office of the Republic of Lithuania, 2015). Nevertheless, the Ministry of the Interior in 2010–2015 has not assessed the efficiency of the activities of the Public Security Service in ensuring public order in cases of extraordinary situations and emergencies and did not make an analysis of practice of other states.

Attention in the report is also devoted to such problems as improper organization of ensuring the state of constant special readiness of the Public Security Service, inadequate distribution of the convoying function, upon insufficient evaluation of distances from imprisonment facilities to institutions, performing convoying, and the available human and material resources. It is also noted that the Public Security Service structure is not optimum, not all options are used to call to assistance the Service officers for the statutory institutions of the interior to perform their everyday functions; a list of the important state objects to be under protection of the Service has not been approved. In addition, even one-third of the buildings belonging to the state under the right of ownership and managed by the Service are not used for performance of the assigned function (National Audit Office of the Republic of Lithuania, 2015).

It is assumptive that special attention should be focused on the problems, mentioned in the report, that legal acts do not obligate the Service officers to react to the situations that happened after working hours; therefore, upon occurrence of such situation, the number of officers collected may be less than required since no constant watch regime is applied (National Audit Office of the Republic of Lithuania, 2015).

Given the work specificity of the Service, it is expedient to change the legal regulation by establishing a constant work regime. With account of the human resources problem, it is presumptive that the convoying function could be partly undertaken by the police, this especially referring to the convoying of the arrested and convicts to court sessions. It is assumptive that the officers of convoying divisions of territorial police units could actually perform this function properly and operatively. Meanwhile, the Public Service activities in ensuring public order should be concentrated on management of extraordinary situations and extremities. Also, in terms of human rights protection it is important to review the Convoying Regulations, regulating thereof the content of the main rights of the convoyed persons, in consideration of legal restrictions.

2. 3. Compatibility of the functions and competences of municipal institutions

According to A. Novikovas (2009), the state monopoly of the public order protection function “does not reflect the innovative framework of the state and actually ignores one of the public government and governance organization forms – local self-government.” In the opinion of many authors, ensuring public order in contemporary states is “a task of all levels” (Pitrėnaitė et al. 2011). Therefore, it is necessary to evaluate properly the
significance of municipalities in ensuring public order. The principles of cooperation when seeking to tackle urban security problems have been laid out in the 1995 Guidelines for the Prevention of Urban Crime of the United Nations Economic and Social Council (Information from United Nations, 1995).

This instrument emphasizes the importance of problem tackling at a local level and of the coordinated actions of all institutions concerned. The United Nations Economic and Social Council Guidelines for the Prevention of Crime 2002 (Information from United Nations, 2002) also underline that the leader’s role in organizing the preventive activities shall be undertaken by government at all levels. The Republic of Lithuania Government Resolution “On the Approval of the Concept of a Safe Municipality” is based on the Canadian experience in the organization of ensuring public order at the municipal level. In Canada, in 2007, recommendations for security assessment in local communities have been prepared wherein a mechanism for organization of the residents’ security activities in local communities was presented; insecurity factors and measures for their reduction were assessed.

The Government Resolution emphasizes that the above-mentioned Canadian experience in ensuring the safety of communities may be successfully applied in Lithuania. The Resolution underlines the Collection of the Canadian Urban Security Ensuring Strategies and Practices, developed by the Crime Prevention Institute of Ottawa University and published in 2008, setting out the principles of improving municipality capacities to implement, maintain and strengthen initiatives on crime prevention and community safety ensuring in municipalities. According to these principles, local authority governance and community safety are comparable to other local priorities; constant community safety maintenance adjustment with other activities; identification of local priorities, partnerships, involvement of society and private sector, effective use of knowledge and data, etc. (Official Gazette, 2011). No doubt, these principles are state-of-the-art and applicable, whereas a question arises how they should be implemented in practice.

It is worthwhile to mention that a local self-government model has a great impact on the role of a municipality in ensuring public order. Of worldwide existing continental, Anglo-Saxon and mixed local self-government models, the continental model traits are inherent in the Lithuanian local self-government system (Novikovas, 2003). This means the conditionally limited discretion of municipalities in adopting decisions and a comparatively big effect of the Government on them. The formation of such a system was highly impacted by both the statehood development and, presumably, by the fact that Lithuania is not a big state not only in terms of the territory, but, first of all, the number of the population. For the state of Lithuania, surrounded by big external threats, such a centralized governance method was beneficial and useful. However, in consideration of the recent changes, Europeanisation and democracy, the decentralization process is urgent in seeking to use all the benefits of decentralized government.

Nevertheless, the implementation of the decentralized governance model first of all faces such lack in governance skills and traditions due to which the central government transfers its functions unwillingly to the subnational authority, and the residents do not appreciate the importance of the strong local self-government either. The significance of the decentralized model is based on the principle of subsidiarity (Novikovas, 2003), widely applied in the EU, its application being based on the rule that in a specific situation the most competent party shall take a decision. The importance of this principle is emphasized by Latvian scholar E. Vanags (2005), who holds that decisions should be taken by the institutions at the lowest level which are closest to the people, since not any of the tasks should be solved at a higher level than it is necessary. As concerns ensuring public order, it is evident that the local government that is “closest” to the local communities should implement that function most properly both as possessing most of the information on the local problems and as most interested in the proper tackling of such problems.

Nevertheless, shaping of a public order protection strategy is attributed to the competence of the Ministry of the Interior (Novikovas, 2003). Actually, it is the Police Department, a structural unit of the Ministry of the Interior, which is responsible for strategy formation. The Police Department sets out a strategy that is implemented by territorial police institutions, which, certainly, also take into account the needs of the local communities,
but following the general state strategy formed by the central government institution. Therefore, the specific interests of local communities which cannot be identified at that level are neglected. Even though the society of Lithuania, as a small state, externally may seem sufficiently homogeneous, this does not deny the existence of the specific interests of different local communities. For example, in the eastern part of Lithuania, inhabited comparatively abundantly by national minorities, this may become one of the sources of tension in the community, which may have an effect on the condition of public order.

Following exclusively the national public order ensuring strategy, this may be insufficient in ensuring the effective safe environment. This problem may be solved foreseeing that local self-government institutions should be responsible for strategic planning. A. Novikovas (2003) also envisages an important problem, pertaining to the fact that public order is practically ensured by structural units of the internal system (police institutions), which are under the subordination of “senior hierarchical level institutions and in their activities are being guided not by interests of the local residents, but by control commands”. This may predetermine the improper positioning of priorities, when, for example, utmost attention is devoted to the prevention of high-resonance crimes rather than public order ensuring problems, which, though being of little importance at a national level, are very urgent for a local community.

It should be noted that initiatives for strengthening of decentralization and the role of municipalities are given more attention at a national level as well. For example, it is enforced in the Public Strategy Development Program for 2015–2025 that even though under Article 94 of the Republic of Lithuania Constitution the Government shall ensure State security and public order, “in creating a safe residential environment the role of municipalities is of special importance, and it shall not be restricted just to the establishment of public order maintenance units in municipalities.”

Expedient distribution of functions. In this case the compatibility of state and local government functions is necessary in ensuring public order. A. Novikovas’ (2002) position is agreeable first of all that the state government function is to create the favorable political, legal, economic, organizational and other conditions, enabling public order to be effectively maintained, and in self-government formations the specific legal and organizational measures should be implemented. An analogous position is enforced in the Public Security Development Program for 2015–2025, where it is set out that in the organization and coordination of the prevention of violations of law at a municipal level, municipalities should take the lead, “concentrating for this activity the state and municipal institutions and establishments, non-governmental and business organizations, communities of residential localities, operating within the municipality territory.”

While organizing such preventive activities, the role of non-governmental organizations shall be expanded, whereas the role of the police should remain in essence as that of an expert and advisor (Resolution No. XII-1682, 2015). Also, it is laid out in Article 6 of the Law on Local Self-Government that “one of the independent functions of municipalities is participation, cooperation in ensuring public order, creating and implementing crime prevention programs” (Safe Municipality Concept, 2011). In analogy, Article 7 of this Law envisages that the functions delegated to municipalities are related to ensuring civil protection, fire protection, protection of the rights of children and the youth, liquidation of natural meteorological events, communicable diseases of animals, etc. The Republic of Lithuania Law on Civil Protection shall obligate the director of the municipal administration to perform the prevention of emergencies, to ensure that such situations will be predicted and the residents will be trained on the issues of civil protection. Municipalities also participate in fire prevention, provide information to the state fire prevention officers necessary for implementing preventive measures, and organize training of the residents in this field (Official Gazette, 2002).

Attention in the concept of a safe municipality is focused on the fact that even though the cooperation between the central and local government is based on legal measures, “quite a lot of space is left for local government decisions and effective operation” (Safe Municipality Concept, 2011). This predetermines that solely the proper legal regulation of these situations is not sufficient to ensure the proper results. Here the unresolved organizational-managerial issues relating to ensuring the municipality safety are of special importance. In addition, it is
a matter of relevance not only to create and implement safety ensuring methods, but also to strengthen the local communities, in general, and to carry out proper surveillance and assessment of insecurity factors.

The concept of a safe municipality covers the complex of the integrated methods for carrying out such surveillance (2011):
- a description of risks shall be compiled and assessment of the existing situation made;
- analysis of injuries and traumas as well as accidents and causes thereof performed;
- environmental impact analysis made, identifying the possible mechanisms of impact and modelling of the possible impact;
- crime and fire analysis conducted.

Criteria of a safe municipality encompass “indicators, specifying safety conditions in a municipality and the results of implementation of a safe municipality model” (Safe Municipality Concept 2011).

Two safe municipality criteria are distinguished in the safe municipality concept 2011:
- criteria, intended for assessment of the situation of residents’ safety;
- criteria, specifying the level of municipal efforts to improve the safety situation.

The first group covers qualitative indicators, reflecting the specifications of various insecurity factors. Such criteria may include crime statistical data, statistical data of traffic accidents, etc.

The second group is related to organizational and legal measures, applied by a municipality, for example, the creation of those programs which are intended to implement the goals for promoting the residents’ safety.

The concept of a safe municipality distinguishes the following key problems of safety-promoting activities in municipalities (inter alia ensuring public order):
- too narrow approach to safety and the institutions in a municipality responsible for it;
- the activities of these institutions are insufficiently well coordinated, planned, controlled and assessed;
- this activity is not enough oriented towards the results;
- involvement of the local community is too little and information thereof is too scanty.

It is notable that these problems are closely interlinked and impact each other directly; therefore, they should be resolved in a comprehensive way. The concept of a safe municipality (2011) proposes the application of legal, organisational and other measures, intended for improving the situation in the field of ensuring public security and implementing the safe municipality model – the totality of legal, administrative and organisational measures, intended for ensuring of the safety of residents in a municipality.

These measures shall be subdivided into the following categories (Safe Municipality Concept, 2011):
- improvement of the internal (organisational) structure of a municipality;
- improvement of planning system;
- creation of the system for accounting and estimation of most of the facts and the results achieved, relevant to a safety situation in the municipality and administrative efforts to strengthen it;
- better provision of information to the local community and involvement in decision-taking processes.

An important role in the implementation of these measures belongs to the structural bodies of a municipality; first of all, to a municipal council, which is a local authority formed by way of democracy. The municipal council shall take decisions on the trends in the municipality development and shall adopt statutory administrative legal acts to be followed by all persons. Therefore, it is proposed in the concept of a safe municipality to initiate amendments to the Law on Local Self-Government, seeking to enforce that it is mandatory in the municipality to form the commission for safety promotion in the municipality and of the safe municipality development to be guided by the municipality mayor. Such commission shall be set up by decision of the municipal council. The commission would organize and guide the preparation of safety promotion in the municipality and of safe
municipality development programs; would give proposals to commissions in charge of separate safety spheres on the identification of the values of assessment indicators for short-term program goals and tasks each year; would furnish notes and proposals on the strategic action plan of the municipality and municipal budgetary projects; would assess reports on a public security situation and would perform other important functions for ensuring public security. Also, it would be possible to form commissions (councils) for separate safety areas (Safe Municipality Concept, 2011).

As concerns the evaluation of the safe municipality concept, it should be said that some authors are critical regarding its abstract approach: the concept “contains the key guidelines, not offering any detailed measures of how to create and develop safe municipalities” (Mikulskienė et al. 2011). The said Resolution of the Government of the Republic of Lithuania (Official Gazette 2011) highlights the trends in the creation of a safe municipality.

According to these trends, a special unit is set up in the municipal administration being responsible for organizing the activities of promoting the residents’ safety in the municipality; the responsible institution is assigned to assess the safety situation of residents in the municipality; to organize collaboration of the responsible institution with the entities concerned through the partnership mechanism of the entities concerned – the corresponding commission, council or some other formation which would include the representatives of the municipal administration and the entities concerned.

The Resolution also includes recommendations that the safety situation of the municipality residents should be also periodically assessed. It is also explicated that such assessment would include municipality demographic, economic, criminogenic, civil protection, public health and education specifications, and evaluation of the development of residential localities in terms of residents’ safety promotion.

It is also necessary to assess and to use all available information sources, to identify most urgent safety problems of residents, their causes and conditions, to evaluate the available administrative, organizational, financial and human resources for organizing the activities of promoting the residents’ safety. The need is foreseen for preparing assessment conclusions, according to which an action strategy for residents’ safety promotion will be formed, priorities identified and measures planned. It is also important to specify the residents’ safety promotion goals in the municipality strategic planning documents and to develop programs or plans of measures, which would be comprehensive, and which could be implemented in the whole or the larger part of the municipality territory. Such plans could resolve not one specific problem but much more problems (Official Gazette 2011).

In generalisation of the laid out provisions, it is to be said that even though they are very elaborate (here only most important of these are distinguished and provided), but they are abstract enough in terms of their content.

Firstly, it is assumptive that it would be hardly possible to specify a clear solution of each problem in the Government Resolution. The destination of the document of that type is to indicate the main guidelines which would be quite elaborate to be used for guidance in developing a safe municipality model.

Secondly, such guidelines should be specified to the extent as not to lose their universality, and that they could be followed in creating a safe municipality model, irrespective of the specificities of such municipality (size, number of inhabitants, specific problems of the locality). Therefore, the criticism of the concept, expressed in the above-mentioned literature, is not acceptable due to its high level of abstractness.

Thirdly, this does not eliminate the possibility to criticize the content of separate provisions. For example, the concept foresees that programs and plans of measures shall be focused not on tackling a specific problem but as many problems as possible. This provision is subject to criticism since it is assumptive that identification of the plan of measures for resolving a specific problem could give more effective results than the plan where the whole complex of problems is being tackled.
In summary, the Republic of Lithuania Government Resolution “On the Approval of the Concept of a Safe Municipality” is based on the Canadian experience in the organization of ensuring public order at the municipal level; an insufficient analysis is made of the feasibility of implementing the experience of this country in Lithuania where a continental local self-government model is prevailing and the state governance historically has always been centralized.

Importance of a decentralised self-government model is based on the principle of subsidiarity. Lately, the growth of the role of municipality in the field of ensuring public order has been observed. In the National Public Security Development Program for 2015–2025, it is also emphasized that the role of municipalities is very important in creating a safe residential environment and it shall not be limited only to the establishment of public order maintenance units in municipalities.

When evaluating the present-day legal regulation, it is assumptive that it presupposes sufficient premises for the active participation of a municipality in ensuring public order, though special attention should be devoted to the improvement of organizational-managerial aspects, especially to promoting the community awareness and involvement in the processes of ensuring public order. Considerable attention should be also devoted to the proper creation of the assessment system of results. The plans and programs created, contrary to those, enforced in the Government Resolution on the approval of the concept of a safe municipality, should tackle separate specific problems.

Presumably, at present one of the most serious problems of an active role of municipalities in ensuring public order is lack of analogous experience in the field of governance.

Conclusions

The subjective sense of security of the residents shows that lately the situation of the security of environment has been improving in Lithuania, though this is just one of the indicators, therefore such data should be assessed cautiously. Ensuring public security in Lithuania is most often related exclusively to crime reduction; though such approach is erroneous and too narrow since the security of residents’ environment is determined by other factors as well, which quite often may be hardly predictable and completely independent from the will of man or the suitability of administrative legal regulation.

Too narrow perception of the security of environment has an effect on other problems pertaining to residents’ security which is accorded insufficient attention. If a security problem is perceived comprehensively, other important entities get involved in the security ensuring process, especially local communities and self-government institutions, their synergy making an impact on the positive results, much more important and broader, in ensuring public security. Therefore, today in Lithuanian, like in other Baltic states – Latvia and Estonia – the problem of coordinated institutional interaction and compatibility of functions as well as the problem of strengthening of communities in ensuring public order has become highly topical. Public order is primary and pivotal starting point of public security, determining the stability inside the country.

In the process of modernisation of the administrative-legal regulation mechanism, attention should be devoted to the fact that in the contemporary state the approach to the activities of law enforcement institutions as power structures, empowered in the name of the state to apply the measures of coercion, gets changed – the activities of law enforcement institutions are assessed as a social service.

The concept of public place, embedded in Lithuanian law, complies in essence with the conception of French ordre public and German öffentliche Ordnung. Even though in the legal acts of Lithuania the concept of public order is not specifically defined, when comprehensively interpreting the provisions of legal acts and judiciary jurisprudence, a conclusion is to be drawn that a public place is the place which is freely accessible to the public and accessibility thereof predetermines the need by means of legal regulation measures to defend the public interest from the possible offences of order at that place.
Criminalisation of public order violations is to be estimated as incompatible with the principle of criminal liability as ultima ratio, recognised in a democratic state. This is witnessed by the LAC clarification, explicitly expounding that acts, described in CC Article 284, are similar to the administrative law offences. For this reason, it is to be proposed to decriminalise this act, and, in the cases when the other act is committed in a public place and therefore the peace of the surrounding people is disturbed, to enforce the option to treat it as the aggravating circumstance. Even though that upon the enactment of the new CAO the meticulous detailing of legal regulation was not avoided, estimated as positive in the new CAO could be the systematically arranged offences whereby public order could be infringed, the enforced possibility to impose administrative sanctions, which could positively impact the conduct of the offenders and reduce the risk of the repeat public order offences.

Traditionally, the main institution, responsible for maintaining public order in Lithuania is deemed to be the police. The key problems of the police activities, aggravating the police opportunities to ensure effectively public order, are the problem of distrust of the residents in the police structures, lack of human and other resources, the problem of qualification of police officers, a gap in the cooperation between the police and communities, which preconditions the potential of communities to partake in ensuring public order. It is notable that an urgent goal is to oust from public policing the coercive activity models and to start applying public management methods aiming to ensure that public policing should be started to be conceived as a social service, with the standards of quality being applied thereto. It would be useful that the principles and tasks of public policing activities should be regulated in a special law.

A special institution, responsible for maintaining public order in cases of emergencies and extraordinary situations and other relevant tasks is the Public Security Service. Special attention should be focused that legal acts do not obligate the Service officers to react to the situation that happened after working hours, therefore, upon occurrence of such situation, the number of officers collected may be less than required, since no constant watch regime is applied. Given the work specificity of the Service, it is expedient to change the legal regulation by establishing a constant work regime. With account of the human resources problem, it is presumptive that the convoying function could be partly undertaken by the police, this especially referring to the convoying of the arrested and convicts to court sessions. Also, in terms of human rights protection it is important to review the Convoying Regulations, regulating thereof the content of the main rights of the convoyed persons, in consideration of the legal restrictions.

The concept of a safe municipality of the Republic of Lithuania is based on the Canadian experience in the organisation of ensuring public order at a level of a municipality, though an insufficient analysis is made of the feasibility of implementing the experience of this country in Lithuania, where a continental local self-government model is prevailing and the state governance historically has always been centralised. Lately, strengthening of a decentralised self-government model, based on the principle of subsidiarity, has been observed in Lithuania. When evaluating the present-day legal regulation, it is presumptive that it presupposes sufficient premises for the active participation of a municipality in ensuring public order, though special attention should be devoted to the improvement of organisational-managerial aspects, especially to promoting the community awareness and involvement in the processes of ensuring public order. Presumably, at present one of the most serious problems of the active role of municipalities in ensuring public order is lack of analogous experience in the field of governance.
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Towards sustainable development: changing the model of social policy in Latvia

Zhanna Tsaurkubule

Baltic International Academy
Lomonosova, 4, Riga, Latvia, LV-1003

e-mail: zhannac@inbox.lv

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Abstract. The article presents an analytical overview of models of social policies in the context of their application to socio-economic system of Latvia. In the article, the history and peculiarities of the creation of integrated social policy of member states of the European Union, European social model as well as a system of Key Indicators characterizing the social policy of Latvia in the context of the European Integration are analyzed. The problems faced by Latvia in its socio-economic development and ways to overcome them are identified. The necessity of forming a new model of socio-economic policy in Latvia by the transition to a model of sustainable development is justified. Proposals to improve the social policy of Latvia by the transition to the model of sustainable development of the country are made.

Keywords: Latvia, social policy, models of social policy, social security, sustainable development of the state

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1. Introduction

At the end of the 20th century, in the developed countries of Europe and the world the influence of social factors has increased, since their impact on various sectors of the economy leads to a change in the structure of social needs, economic activities, social and moral values. These processes characterize transformation of the modern economy to socially oriented, the functioning centre of which become people, and as the main goal is set the welfare of society. However, certain approaches common for other countries are not always acceptable in Latvia, as well as their methods and techniques of management and support of socio-economic processes are not adaptable. Socially oriented market economy suggests substantial decision making of the government in solving social issues. This is due to the fact that market economy does not guarantee workers the right for labour and standard education, in addition, it does not ensure social protection for the people with disabilities, economically disadvantaged and pensioners. Therefore, it raises the need for government intervention in the sphere of income distribution using the method of social policy implementation. Social policy is carried out by means of social orientation of the economy, which means that its development provides social sustainability and social stability of the members of society while preserving human resources.

Relevance of the research on problems of improving the social policy in Latvia is due both to the objective re-
requirements of the present stage of global socio-economic development, as well as to the specifics of the current situation in Latvia, which requires taking decisions to ensure sustainable economic growth while achieving a higher level of welfare. The most important task of the state is to ensure a balance between economic efficiency and social justice, since such balance is a prerequisite for achieving sustainable economic development. In this connection, ensuring sustainable economic growth while improving living standards of population remains the main task of the state.

**The aim of research:** on the basis of the analysis of different models of social policy to justify the need for changes in the social policy of Latvia, and based on that to develop recommendations for the improvement of socio-economic processes in the country to ensure its sustainable development.

**Research tasks:**
1. On the basis of analysis of literature data to conduct a comparative analysis of different models of social policy and to describe the state of social policy in Latvia;
2. To justify the need for changing the model of social policy in Latvia in modern conditions;
3. Develop proposals for improving social policy in Latvia by the transition to a model of sustainable development.

The formulation of these tasks determined the object and subject of the research.

**The subject** of the research is structure, mechanisms and control means of the social sphere of society (social policy model) in the context of Latvia’s development within the EU. **Object of research** - social policy in Latvia and its place in the strategy of sustainable development.

The ideas and concepts presented in classic and contemporary works of scientists on sustainable economic development, social policy, welfare, labor and social behavior form **theoretical basis** of this research.

**Research methodology.** The studies are based on the methodology of systems analysis, involving the structural-functional approach of allocating objects in the system of structural elements and defining their roles (functions) in the system. We used scientific methods, such as systemic and situational approach, structure and comparative analysis.

**2. The Extent of the Development of Problem**

3. Classifications of Models of Social Policy

The nature of the implementation of social policies in different countries and regions is defined by many parameters, including history, cultural traditions particularities of the economic development, political system, and others. Therewith, along with all differences and variability of conduction of social policy in different countries of the world, scientists attempted to distinguish social policy models and their classification. There are different classifications of models of social policy, but, anyway, the majority of them is based on the principles, which arise from the role and degree of the state’s, civil society’s and individual citizens’ participation in the implementation of the social policy.

There are several methods in the classification of European countries’ social policies’ models.

According to the classification of models of social policy by the Swedish researcher G. Therborn on two criteria - the level of the social obligations of the state and the degree of their orientation to the labor market and the “full” employment, there are four categories of models of social policy in Western Europe (Smirnov and Sidorina, 2004):

- **The first** - the “strong”, interventionistical (according to the degree of direct state regulation of the social sphere). Social policy covers, to a greater or lesser extent, all segments of the population with a strong commitment to “full employment”. Its content is not only compensatory, but also constructive. According to G. Therborn, this policy model was carried out in Sweden, Norway and Austria.

- **The second** – a “soft” state of well-being. Mainly compensatory maintaining of social policy. Social obligations of the state, especially with regard to financial support to low-income, low commitment to “full” employment. According to G. Therborn, such a policy was carried out in Belgium, Denmark and the Netherlands.

- **The third** - small-scale costs of the welfare state, focused on maintaining a “full” employment. According to G. Therborn, such a policy is typical for Switzerland.

- **The fourth** - social policy, the content-oriented market. Limited role of the welfare state and comparatively narrow limits of the social rights of citizens. Low commitment to “full” employment. According to Therborn, such a policy is common in the UK and Ireland. In the author’s opinion, such policy is also inherent to Latvia.

One of the classifications of social policy management models was proposed by The English scientist H. Manning (Manning and Shaw, 2000). The unique feature of this typology is not so much of emphasis on the economic support of social policy as on the political system of management of social security and solving social problems. Manning distinguishes between the pluralistic model, the elite, the corporate model and the Marxist:

- **Pluralistic model** – the idea of it is that the political system is pluralistic. This means that it is open to external influence, and citizens, individually or in organized groups, have many opportunities to influence the formation and implementation of social policy. The fact that there is an elected political system means that the politicians have to take care of the interests of their constituents. They will receive feedback on the status of citizens of social enterprises and try to solve the pressing problems. In addition, a serious impact on the implementation of this model of social policy have so-called pressure groups: voluntary associations, churches, trade unions and business organizations, lobbying their interests in politics.

- **Elite’s model** – this model is based on the fact that the world of elite (influential individuals and groups from certain circles with a common outlook) virtually determines the policy. In real life, it is very difficult for ordinary people to influence social policy. The world of people, who “conduct” policy, including social policy, is actually quite closed and protected against external influences. In this world, political networks are of importance, i.e. interaction via certain channels worked out for years; good offices usage etc. These “key players” in the main, have common ideas about the appropriate and reasonable social policy and about alternatives, which policy options may exist in certain circumstances. This is typical of the UK and partly in France. In the opinion of the author, such model is present also in Latvia, where more than 20 years the same political power (“elite”) has been in charge, defining the basic principles and structure of social policy in the state.
Corporate model – the point is that groups that form social policies appear less from integrated cultural elite rather than from several elites, born by the corporate structure of power in modern industrial societies. The existence of three key corporate groups is supposed: unions representing the power and interests of working people; the business community and the State itself. There are distributed key power blocks between these three groups, which determine the form and the structure of the social policy. They trade with each other in constant discussions, determining wage levels, public spending on social and other services, the tax rate necessary to pay it all, and the kind of state intervention (provision, regulation, etc.). This is typical of many European countries, especially Germany and France. Such a model, despite its appeal, cannot be applied in Latvia, firstly, because of the weakness of trade unions, and, secondly, also due to the fact that the government is closely fused with the business community and in many cases is lobbying the interests of that community (eg, banking lobby in the Parliament).

Marxist model – this model is based on the fact that social policy in a society is organized by the business community. Under this model, it is admitted that there is only one true elite, confirmed by the economic power. Manning considers this approach as Marxian, as the entire system of social policy in this case adapts to the interests of powerful economic groups. Considering that there are possible conflicts between the economically powerful groups such as trade unions, local and central governments that have interest in a particular area of social policy, this model argues that economic interests prevail.

Another approach to the classification of social policy models was proposed by the leading Western sociologist G. Esping-Andersen in his book “The Three Worlds of Welfare Capitalism” (1990). The scientist identifies three types of state, which actually represent basic models of modern social policies that now exist in the economically developed countries of the West. The following parameters were laid in the basis of the Esping-Andersen’s classification: the level of decommodification (Decommodification - weakening or elimination depending on the individual and group welfare by market forces); stratification of society, government intervention. Based on these parameters, the scientist emphasizes three types (modes) of the modern welfare state:
1. Neo-liberal (Anglo-American);
2. Conservative-corporatist (continental social market, the Franco-German);
3. Social-Democratic (Scandinavian, Swedish model of social policy).

Table 1. Model of modern social policy by G. Esping-Andersen

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Neoliberal (Anglo-American)</th>
<th>Conservative-corporatist (continental, socio-market, the Franco-German)</th>
<th>Social Democratic (Scandinavian, Swedish model of social policy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The level of decommodification</td>
<td>Low</td>
<td>high</td>
<td>high</td>
</tr>
<tr>
<td>The stratification of society</td>
<td>Strong</td>
<td>strong</td>
<td>weak</td>
</tr>
<tr>
<td>Form of government intervention</td>
<td>regulation of markets</td>
<td>direct provision of financial support and regulation of markets</td>
<td>Direct provision of financial support</td>
</tr>
</tbody>
</table>

Source: Pavroz, 2011

A significant factor that distinguishes national social state models from each other, is structure and combination of the most important institutions of social protection (mandatory social insurance, social assistance and public welfare), health care and education, the size of the resources allocated to their functioning, as well as the dominant role one of the institutions of social protection.

Scandinavian model. In a model of this type of social policy, a significant part of social expenditure is borne by the state, and the main channel of redistribution is the budget. The State takes the primary responsibility for the social welfare of its citizens and is a major producer of social services. Services (education, health, childcare and nursing, etc.) in the majority of cases are organized by municipalities. The system operates through redistribution (e.g., budget or social insurance funds), and the percent of social spending is very high. This model is in some extent embodied in the policies of such countries as Sweden, Finland, Denmark, Norway.
Continental model. In this model, the state, as a rule, is only responsible for the issue of social benefits to recipients, namely - social security, but does not organize social services. Here, budgetary contributions and premiums of the employee and the employer’s social activities are approximately equal, and the main channels of redistribution are both public and private (but state-controlled) social-insurance funds. This model is followed in Germany, France, Italy, Austria, Belgium.

Anglo-American model. This model is characterized by minimal governmental involvement in the social sphere. Financial basis of social programs is compiled, primarily, of private savings and private insurance, but not the state budget. The state takes responsibility only for the preservation of the minimum income for all citizens and for the welfare of the least weak and the disadvantaged. However, it maximally stimulates the creation and development of various forms of non-state social insurance and social assistance in the society, as well as a variety of means and methods of producing and raising the citizens’ income. However, it encourages creation and development of various forms of non-state social insurance and social assistance, as well as various means and ways for citizens to receive and increase their income. Such a model of the welfare state is typical to the United States, Great Britain, Ireland, Canada, Australia. In the opinion of the author, such model of social policy to a greater or lesser degree is typical also to Latvia.

This qualification of the models of social policy of the countries has its strengths and weaknesses. The strong point of the classification is macroeconomic and political ways of assessing the nature of social policy, the weak point – the evaluation methods are partly conventional.

In accordance with the classification of the EU Commission can consider another typology, in which, for all of dissimilarity are three main options:
1. The model of Bismarck
2. The Beveridge Model
3. The Swedish model

Significant factors that distinguish the social model of the state of each other, are (see. Table 2.):
- structure and configuration (combination), applied by institutes of household incomes;
- circle coverage system of compulsory social insurance, the level of dependency on the pensions and benefits from wages;
- the degree of redistribution of resources between the insured and the beneficiaries of pensions and benefits (Volgin, 2008).

Table 2. Comparative characteristics of social models of state

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Model of Bismarck</th>
<th>Beveridge model</th>
<th>The Swedish model</th>
</tr>
</thead>
<tbody>
<tr>
<td>The share of wages in GDP%</td>
<td>45%</td>
<td>55%</td>
<td>58%</td>
</tr>
<tr>
<td>Basic institutions of social protection</td>
<td>Compulsory social insurance - 75% of all resources for social protection; social assistance conditional - 15%; additional insurance - 10%</td>
<td>Social support - 35% of all resources; mandatory professional insurance - 35%; voluntary individual insurance - 30%</td>
<td>Compulsory social insurance - 60%; social assistance - 30%; voluntary individual insurance - 10%</td>
</tr>
<tr>
<td>The share of all costs for all types of social security, in% of GDP</td>
<td>30%</td>
<td>25%</td>
<td>32%</td>
</tr>
<tr>
<td>Transfers between groups with high and low income groups</td>
<td>Average (35%)</td>
<td>Minimum (25%)</td>
<td>High (40%)</td>
</tr>
</tbody>
</table>

Source: Volgin, 2008
Bismarck model. The model is named after its founder, Chancellor Bismarck. This model is characterized by democratic governance and transparency of financial flows. Its basic characteristics:
- Purpose of compulsory social insurance is to preserve for the insured workers the living standards and quality of life, social status they have reached upon the occurrence of social risks. The premiums and benefits focused on the substitution of wages upon the occurrence of insured events, as well as for the provision of quality health care and rehabilitation services.
- Insurance load distribution between employees and employers on a parity basis, the size of pensions and benefits depends on the amount of wages, the value of insurance premiums and duration of insurance.
- Organization of Social Insurance for certain types of social risks in the form of mutual insurance associations, which play a key role is played by employers and employees. Their authorized representatives determine insurance rates, design policies to establish insurance, social and medical infrastructure, organize the management of the executive bodies (the insurer).
- The combination of universal and differentiated approach in determining the financial burden and insurance rates. Universal approach is expressed in the same for all categories of employee amount of deductions for social insurance. Differentiated approach means flexible tariffs to compensate for the costs associated with the various effects of social (professional) risks depending on the hazard or unsafe working conditions, and the condition (quality) of labor used.

Beveridge model (Beveridge William Henry (1879-1963) - English economist and statesman, a follower J.M.Keynes, strive to combine Keynesianism with liberal doctrine ). The characteristic features of this model:
- Three-level type of social protection, allocates to the State an obligation to provide basic guarantees of social protection to the entire population, with the employer - social (professional) insurance of employees (in which the employee receives partial participation), the employee - additional private insurance.
- Orientation of state social guarantees to the cost of living, additional professional insurance - by substitution (compensation) of earnings, additional voluntary personal insurance - for the implementation of the employees of their personal capacities for the benefit of their own social protection.
- Providing by the state three basic living conditions of the population - public health, equal opportunities for education of children to families with different incomes (child benefit) and the prevention of mass unemployment.

Beveridge believed, that family benefits and health services should be financed by state budget and other measures of social protection - due to contributions of the workers themselves and employers and government subsidies. In the author’s opinion, such model of social policy is typical also to Latvia.

The Swedish model. The distinguishing features of this model:
- Social spending from general tax revenues, a progressive tax system (withdrawn up to 65% of high-income groups). The priority of the principles of equality and solidarity in the implementation of social policy. Proactive measures to prevent long-term unemployment.
- High level of accessibility and measures of social support.

The significant role of subsidies from the state budget to the system of compulsory social insurance explains the active role of the state in the functioning of the system, the activity of which is under strict government control.

4. History and Characteristics of the Creation of Integrated Social Policy-Members of European Union

The EU social models have significant differences. However, integration processes are taking place in the social sphere within states - members of the EU, have necessitated the creation of a new common (but not uniform) model of social policy - a pan-European, which would be alike in the concept of social policy in the different countries of the European Union. An important stage in the development of the social policy of the European Union was signing the 1997 Treaty of Amsterdam, which laid the foundation for the further strengthening of policy coordination between the member states and developing strategic installations of solving social problems within the Union. As a result of the signing the Treaty of Amsterdam, the Treaty establishing the European Community was amended with the section “Social policy, education, vocational training and youth”, as well as
a new section “employment policy”. The tasks of social policy are amended with new ones, for example, anti-discrimination and integration of the excluded persons.

In November 1997 in Luxembourg a special meeting of the European Union on the problems of employment was held. New approach was approved during this meeting, which involved beginning of coordination of employment policies pursued by nation states. (Volgin, 2008). In March 2000, the European Council during the meeting in Lisbon set the task - for 10 years to create the most competitive and dynamic, based on high technologies, economy, capable of providing sustainable growth, development, social integration. The heads of 15 states expressed such intent. This is how the Lisbon Agenda or Lisbon strategy emerged.

In the framework of the guidelines of Lisbon Strategy the following objectives were set:
- Conduct social policies to economic growth;
- Economic growth, not contradicting the objective of preserving the environment.

During the meeting there were also formulated methods of open coordination (Open Method of Coordination), which was designed to help the countries - participants successfully develop their policies, leaving behind the European Commission’s coordinating role.

At the 2002 World Summit on Sustainable Development in Johannesburg, the European Council has set a goal - to make its policy of sustainable development emulated worldwide. Thus, the foundations of modern social policy were laid. After the proclamation of the goals of the Lisbon strategy, some experts rightly expressed bewilderment at the fact that in terms of perceived economic crisis, its authors promised to the population of EU Member States at the same time record rates of economic growth, full employment and maximum social justice. As subsequent events showed, this skepticism proved justified. The deteriorating economic situation in Europe has raised the question of the need to take serious action. At the end of 2004, when the European Union comprised already 25 countries, it has become apparent that the goals of the Lisbon strategy will not be achieved: too large a gap between planned results and the actual state of affairs in the European economy.

Slow progress in the implementation of the Lisbon strategy has led to its thorough revision. In the new edition of the Lisbon Strategy, approved by the European Council in December 2005, the fact that by 2010 the EU would become a superpower in no way inferior to the United States was not mentioned anymore. A significant role in this strategy was assigned to stimulate economic growth, increase employment and reduce unemployment. Coordinating the implementation of the Lisbon Strategy in Latvia by the Ministry of Economy, which in cooperation with line ministries, social partners and the parliament developed and on 15 October 2005 presented to the European Commission the Latvian National Lisbon Programme.

In 2008, the Committee on Employment and Social Affairs of the European Parliament proposed to strengthen the fight against poverty in member countries. It was proposed that the minimum wage would ensure social inclusion. This means that the mode of the minimum wage should be supported by state aid measures for social inclusion aspects of daily life such as rental housing, education, skills development throughout life, as well as assistance for farming. In the same year, at the spring session of the European Council were named the priorities of social policy: the eradication of child poverty, increasing working-age guarantee pension, eliminating disparities in health care. According to EU Commissioner for Employment, Social Affairs and Equal Opportunities Vladimir Spidla, the proclaimed policy of social protection and inclusion gave results: social cohesion, attracting more people to the labor market, providing government funding. However, the growth and job creation only do not automatically improve the lives of those members of society who live in the most adverse conditions. To ensure the full integration of less protected sectors of the population, a common policy for all member countries is necessary. In order to solve this problem together, it was scheduled to use the method of open coordination in the field of EU social policy.

The result of this method was improvement of mutual understanding and learning, creation of a system of a better control, concentration of necessary knowledge. (Ada van Krimpen, 2004). However, the strategy of ef-
fective socio-political and economic development of the European Union due to objective and a subjective reasons did not bring the expected results. The EU has entered a period of deep recession. Today the difference in various indicators determining competitiveness between EU countries is even more than in the year of adoption of the Lisbon Strategy. Gap with the US has increased. Most of the countries of the Union simply ignored the Lisbon strategy, they didn’t consider its necessary to adapt their policies under the EU-wide imperatives. This conclusion was made by experts of the Centre for European Reform in February 2009. However, as it was mentioned in the report of the Committee on Employment and Social Affairs of the European Parliament (Parlement Europeen commission de l›emploi et des affaires sociales. Rapport sur un modele social european poursavenir (2005/2248 (INI)), FINAL A6-0238 / 2006), Europe should not abandon its ambitious social policies, it should use its positive influence to economical rates and living standards.

- Strengthen the efficiency of social policy;
- Eliminate the „poverty traps“ and other blocks for employment;
- Invest in development (education, prof. training), maintenance (health) and the mobilization of human resources (through active labor market policies);
- Ensure that the financing of social policy that it contributes to employment and economic growth while maintaining the principle of mutual support and solidarity between generations.

5. European Social Model

According to the definition, adopted by the European Council in Barcelona in March 2002: “The European social model is based on economic performance, a high level of social protection, education and social dialogue.” (Smirnov and Sidorina, 2004). The social system in the EU consists of two levels: national and supranational. Activities of individual EU institutions at the supranational level continue to play the role of the superstructure, by contributing to the problems which in their scope and volume are beyond the power of the governments. Supranational social policy is carried out not only by the head of the EU institutions such as the European Council, the Council of the European Union, the European Parliament, the European Commission and the European Court of Justice, but also by relevant committees - Economic and Social Committee of Regions, as well as by specialized organizations - the Standing Committee on Employment, structural Funds, the European employment Service, the Mutual Information system on employment Policy.

To help address issues such as quality of life, improved health and safety, as well as the convergence of social systems of the the EU member states, legal regulation is mainly used, the purpose of which is the overall coordination of the social systems of all countries – the EU member states.

Thus, the mechanism of social protection of the EU is built on the principle of the division of roles and responsibilities between the different levels according to the principle of subsidiarity. This is the principle implying that the European Union does not interfere in the affairs of individual states, if Community action in this matter cannot be more efficient than the existing national, regional or local authorities (Bonoli, George and Taylor-Gooby, 2000). The main part of the European social policy is the method of open coordination, involving the exchange of best practices of EU member states. Regular meetings of the Ministers for Social Policy allow to share experiences and develop a common vision. The goal of an integrated European social policy is to improve working conditions and raise living standards, promote employment and equal opportunities, the mandatory minimum social protection of people.

6. Social protection of population

Social protection system of Latvia’s population is meant to mitigate the risks and meet the requirements related to unemployment, parental responsibility and duties, illness and disability, loss of a spouse or parent, old age, the difficulties of adequate housing provision and other social vulnerability conditions. Total expenditure on social protection in Latvia, as well as in the European Union, is calculated in accordance with the methodology of the European System of Integrated Social Protection Statistics ESSPROS. Over the features of social policy pursued in certain state and performance of social functions by it, is judged rather objectively by the analysis
of its budgetary policy – the budgetary expenses in economically developed states, as a rule, are divided as follows: up to 10% go the maintenance of officials of a state administration and power structures, from 20 to 40% - on social needs of the population. The government’s responsibility level of maintaining certain living standards of the deprived and most vulnerable social groups is an accepted indicator of social expenditure volume that is represented by the proportion of GDP. According to the UN, the social expenditures of a normally developing country should not be less than 20% of the GDP. Thus the state with strong social policy doesn’t allow the sharp differentiation of the income in society and by that promotes alignment of a standard of various social groups living. (Hramcov, 2010). The analysis of expenses structure of Latvian state budget since 2008 (the last before global financial and economic crisis) till 2012 shows that expenses on officials of a state administration, even in crisis years, despite persistent recommendations of European Commission on reduction of the budgetary expenses for crisis overcoming, did not decrease significantly and still exceed 10%, and in the sum with expenditures on defense both a public order and safety, exceed 20%. That is above the recommended norm twice. At the same time expenses on social needs of the population on the eve of crisis made up a minimum – 21,5%, and in the years of crisis were raised in connection with a global impoverishment of the population of Latvia.

Table 3. The expenditure structure of the consolidated budget of Latvia according to individual positions (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Government</th>
<th>Defence</th>
<th>Public order</th>
<th>Education</th>
<th>Healthcare</th>
<th>Social protection</th>
<th>Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>13,6</td>
<td>3,5</td>
<td>5,0</td>
<td>20,2</td>
<td>8,1</td>
<td>21,5</td>
<td>4,0</td>
</tr>
<tr>
<td>2009</td>
<td>14,8</td>
<td>2,4</td>
<td>4,5</td>
<td>19,6</td>
<td>7,5</td>
<td>27,9</td>
<td>3,4</td>
</tr>
<tr>
<td>2010</td>
<td>13,4</td>
<td>2,0</td>
<td>4,4</td>
<td>16,7</td>
<td>7,2</td>
<td>33,8</td>
<td>2,9</td>
</tr>
<tr>
<td>2011</td>
<td>12,1</td>
<td>2,3</td>
<td>4,4</td>
<td>17,1</td>
<td>7,8</td>
<td>28,5</td>
<td>3,2</td>
</tr>
<tr>
<td>2012</td>
<td>13,3</td>
<td>2,1</td>
<td>4,5</td>
<td>16,6</td>
<td>7,8</td>
<td>28,2</td>
<td>3,5</td>
</tr>
<tr>
<td>2013</td>
<td>12,8</td>
<td>2,2</td>
<td>4,8</td>
<td>16,4</td>
<td>7,6</td>
<td>28,4</td>
<td>3,6</td>
</tr>
<tr>
<td>2014</td>
<td>13,2</td>
<td>2,1</td>
<td>4,9</td>
<td>16,7</td>
<td>7,4</td>
<td>29,1</td>
<td>3,4</td>
</tr>
</tbody>
</table>

Source: based on the data of Central Statistical Bureau, Ministry of Economics of the Republic of Latvia

At the same time, according to the UN, for normally developing state expenses on social needs have to make not less than 20% of gross domestic product.

Table 4. Expenditures of the consolidated budget of Latvia, % of GDP

<table>
<thead>
<tr>
<th>Year</th>
<th>Government</th>
<th>Defence</th>
<th>Public order</th>
<th>Education</th>
<th>Healthcare</th>
<th>Social protection</th>
<th>Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>5,3</td>
<td>1,4</td>
<td>1,9</td>
<td>3,5</td>
<td>3,1</td>
<td>8,4</td>
<td>1,6</td>
</tr>
<tr>
<td>2009</td>
<td>6,4</td>
<td>1,0</td>
<td>1,9</td>
<td>8,4</td>
<td>3,2</td>
<td>12,0</td>
<td>1,5</td>
</tr>
<tr>
<td>2010</td>
<td>5,7</td>
<td>0,8</td>
<td>1,8</td>
<td>7,1</td>
<td>3,1</td>
<td>14,4</td>
<td>1,2</td>
</tr>
<tr>
<td>2011</td>
<td>4,7</td>
<td>0,9</td>
<td>1,7</td>
<td>6,6</td>
<td>3,0</td>
<td>11,0</td>
<td>1,3</td>
</tr>
<tr>
<td>2012</td>
<td>4,9</td>
<td>0,8</td>
<td>1,7</td>
<td>6,1</td>
<td>2,9</td>
<td>10,4</td>
<td>1,3</td>
</tr>
<tr>
<td>2013</td>
<td>4,7</td>
<td>0,8</td>
<td>1,8</td>
<td>6,0</td>
<td>2,8</td>
<td>10,4</td>
<td>1,3</td>
</tr>
<tr>
<td>2014</td>
<td>4,9</td>
<td>0,8</td>
<td>1,8</td>
<td>6,2</td>
<td>2,8</td>
<td>10,8</td>
<td>1,3</td>
</tr>
</tbody>
</table>

Source: based on the data of Central Statistical Bureau, Ministry of Economics of the Republic of Latvia

Statistical data of the Ministry of Economics of Latvia show that UN recommendations are ignored by Latvia, and, since 2011 when the prime minister of Latvia V. Dombrovskis declared that Latvia successfully overcame crisis, expenses on social protection of the population of Latvia are gradually cut, though, according to Eurostat, they are among the lowest in Europe. On average in EU in 2011, the European Union countries spent 29,1% of gross domestic product on social protection or on expenses to provide normal living conditions of the population in case of social risks and other problems. Thus, this indicator in various countries significantly
differs. Comparing to other European contries expenses on social protection of the population in the Baltic States are very low as well:

![Expenditure on social protection (according to classification ESSPROS), % of GDP](image)

**Fig.1.** Expenditure on social protection (according to classification ESSPROS), % of GDP

*Source:* based on the Eurostat data

According to Eurostat, expenditures on social protection in Latvia in 2011 were among the lowest in the EU (15.1%), which is 2.7% less than in 2010 when they constituted 17.8% out of GDP.

According to Eurostat, in 2011 Latvian expenses on the social protection, calculated according to ESSPROS methodology, were among the lowest in the EU (15.1% of gross domestic product) that is 2.7% less than in 2010, when they made up 17.8% of gross domestic product. Latvia obviously concedes in social protection of the population to the Baltic neighbors: Estonia for these purposes allocates 16.1% of gross domestic product, Lithuania — 17.0%. Less than 20% of gross domestic product in 2011 was spent also by Romania - 16.3%, by Bulgaria - 17.7%, Slovakia - 18.2%, Malta — 18.9% and Poland — 19.2%. At the same time the highest expenses on social protection were in Denmark — 34.3% of gross domestic product, in France — 33.6% and in the Netherlands — 32.3%, Belgium - 30.4%, Greece - 30.2% and Finland - 30.0%. According to Eurostat, distinctions reflect the different standards of living, different social systems, demographic and economic situations in level of social expenses (Freecity, 2012).

With regard to Latvia, the premature reforming of its national economy has led not only to the poverty of vulnerable groups, such as elderly, disabled and multiple children families, but also to the fact that the human capital is losing its value, keeps being non-demanded, and does not serve as a catalyst for economic growth. This is the reason why the level of poverty and unemployment leads to not only to the decline in the living standards of the population, but also to the underutilization of economic strength and society’s human capital formation. The rapid growth of unemployment, as well as the reduction in wages and pensions along with inflation led to the fact that thousands of people fell into the income of poverty. This situation shows the necessity to build a new economic model and to create the national development strategy, that would primary be focused on production development, social protection enhancement, and human capital maintenance, rather than on the reallocation of financial resources.

7. The necessity and starting conditions for transition to a model of sustainable development of the country

Transformation and socialization of modern economic systems lead to a deepening of the interconnection between the social indicators and their influence on both internal and external economic security of the state. The negligence of the specified regulations during the implementation of sustainable development may result in
failure of the reform implementation. Thus, the government’s sustainable development strategy that is focused on the social progress enhancement should create new principles that not only could provide the population with a social protection floor, but also raise its social well-being. In the applied plan, the model of a sustainable development is a way of the organization and functioning of society, the state, economy on the principles of stability, providing the prevention and neutralization of external and internal threats. National strategy is the long-term program of stage-by-stage transition to the sustainable development, defining the concrete directions of transformations and kinds of activity on achievement of the strategic objectives, resources necessary for this purpose and mechanisms, a control system and coordination at local, regional, national and international levels. Sustainable development of the country is considered as an element of a sustainable development of the world community, and the national purposes - as realization of common goals and tasks, the principles and the directions of development stated in the Millennium Declaration (2000), the Universal declaration of human rights (1948), the Johannesburg declaration on a sustainable development (2002) and other documents of the UN, in specific conditions of Latvia. The main factors of sustainable development should be: human, scientific, production and innovation potential, natural resources and favorable geographical position of the country, and the main priorities - “high intelligence - innovations - welfare”. The most important objectives of sustainable development of Latvia are the transition to innovative development, the implementation of system-wide changes. Scientists remind us that long-term European strategy of development until 2020 provides science funding in the amount of 3% of GDP, but Latvia intends to allocate for this purpose half the funds - 1.5% of GDP. Consequences of such a policy are already evident in the economy structure. (Delfi, 2012). The ability for Latvia to overcome this crisis is impossible without shifting the existing socio-economic policies and infrastructure of the Latvian national economy towards increasing the industrial and agricultural weight, as a basis for adding value and improving the performance of social infrastructure and societal development. This is needed to develop the concept of strategic development by defining priority sectors, which will be based on the economy of Latvia. The government’s tactics, aimed at survival by consolidating the budget through reductions and cuts, must give way to thinking oriented towards future development.

In the long run, a strategy for state development based on public investment in social infrastructure and human resources is a prerequisite for the long-term socio-economic development of Latvia. Stratification of the society has significant influence on state and execution of social policies in Latvia. Therefore, social policy, in particular, social protection should be based on a differentiated approach to the various strata of the population. The model of socio-economic and political development, capable of providing citizens with decent living conditions, has yet to be created in Latvia with regard to such factors such: 1) demographic policy; 2) income differentiation between different segments of the population; 3) strengthening the role and importance of human resources.

8. Socio-political mechanisms of a sustainable development

The most important factor of providing a sustainable development of society and human development are political and economic stability of society, effective social policy of the state, urged to create the necessary conditions providing worthy life of the population of the country.

Ensuring steady growth of level and quality of life of the population and creation of conditions for human development has to become a main goal of social policy of Latvia in long-term prospect.

To realize this goal, the main directions of social policy should be (Caukubule, 2013):
- creation of conditions and opportunities to all able-bodied citizens to earn means for satisfaction with their and their family requirements;
- ensuring real employment of the population by creation of new and preservations of available workplaces at the vital and perspective enterprises, including in the private sector of economy;
- consistent increase in the level of wages as the main source of income of the population and a major incentive of labor activity of wage workers through increased productivity and economic efficiency in all sectors of the economy, the growth of the investment potential of the population;
strengthening legal protection of employees’ rights to work and fair pay; reducing the tax burden on payroll entities of all forms of property that will contribute to the creation of new jobs, legalization of shadow incomes, development of social partnership at all levels of government;

increase of the real incomes by raising real wages in line with productivity growth and GDP growth;

formation of the middle class as a factor in the stabilization of society based on the considerable growth of monetary incomes and reducing poverty;

the fight against poverty through the reduction of the poverty level in the country. That objective realization can be possible on the basis of economic growth and rising living standards, especially the working population;

improving social protection of indigents, based on optimization programs providing assistance and strengthening targeting assistance to rationalize the system of benefits, improve social services, etc;

improving the living standards of pensioners through increased levels of pensions, as well as improvement of the pension system by creating a stable, financially sustainable pension system that satisfies the principles of social justice, capable to resist to future demographic changes;

achievement of social justice in the society, which is one of the basic needs of the individual. Bundle of Latvian society on national, social and cultural and economic reasons prevent strengthening of statehood. The main segments of society diverge farther on value orientations, on wealth, lifestyle patterns and norms of behavior, etc. Therefore, social consolidation is a necessary condition for the consolidation of democratic institutions and the consistent development of civil society. For social cohesion and strengthening the state, according to scientists, the following conditions are necessary: 1) selection of the goal of strategic development of the country, which would have the potential for consolidation and would be able to unite the efforts of various strata of society; 2) creation of a new social order governing the behavior of the main social actors in the context of the strategic goals of the state. Creation of a legal and institutional mechanisms to ensure such coordination - the basis of the sustainable development strategy of the state.

To achieve the goals set it is necessary (Caurkubule, 2010):

To review the employment policy by directing main efforts of the state to create new jobs by improving the legislation in the field of business, tax policy and social policy;

In this case, the forecast of labor resources balance should be linked to short-term and long-term trends of economic development of the country, and designed not only by type of activity, but also by region;

In order to solve problems associated with unfavorable demographic situation in the future (aging workforce and low birth rates, as well as low levels of education and non-conformity to requirements of the labor market) it is necessary to develop a long-term migration strategy, including migration, emigration and integration aspects;

To revise the education policy in order to direct funding to training of specialists needed by society on the basis of the forecast of labor resources balance in the labor market of Latvia;

To introduce the institution of personal public accountability of decision-makers, to give up actually used today, officials of the principle of immunity for the decisions that will allow some residents to restore confidence in the system of government in general.

Conclusions

Social policy models of Western Europe are the object of attention, careful analysis, and sometimes criticism. The basic principles on which they are based are social justice, social security, social cohesion, economic competitiveness. It should be recognized that there is not a single, clearly defined concept of European social policy, and social integration in the European Union lags behind economic integration. Principles of social models in Western Europe allow them to build a system based on the organization of society, which would outline the tasks of each of the social partners.

In the future, the EU social model should be a system that integrates the best aspects of each national system, without prejudice to the national characteristics and conditions and should be unified in terms of minimum living standards of the population of the European Union. Sustainability of socio-economical development of the country is incorporated in the system of support of national development sustainability. The concept of sustainability of socio economic development has to be based on taking into account a variety of factors, including the main element – growth of efficiency of economy as a guarantee of social stability. Provision of
decent living standards and economic prosperity of citizens is a goal of any modern country.

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PERCEPTION OF SECURITY AND SAFETY NEED: VOLUNTEER FIRE PROTECTION AS A PART OF VOLUNTEERING ON SLOVAK REPUBLIC:

Miroslav Kelemen¹, Jozefína Drotárová², Danica Kačíková³, Mikuláš Bodor⁴

¹ The University of Security Management in Košice, Kukučínova 17, Košice, 04001, SR
² The University of Security Management in Košice, Kukučínova 17, Košice, 04001, SR; PhD. Student at: Technical University in Zvolen, Ul. T. G. Masaryka 24, 960 53 Zvolen, SR
³ Technical University in Zvolen, Ul. T. G. Masaryka 24, 960 53 Zvolen
⁴ The University of Security Management in Košice, Kukučínova 17, Košice, 04001, SR; PhD. Student at: Technical University in Zvolen, Ul. T. G. Masaryka 24, 960 53 Zvolen, SR

E-mails: ¹miroslav.kelemen@vsbm.sk; ²jozefina.drotarova@vsbm.sk; ³danica.kacikova@tuzvo.sk ⁴mikulas.bodor@vsbm.sk

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Abstract. Volunteering is generally considered an unpaid, conscious activity which is undertaken of a person’s own free will and for the benefit of other people or society. Volunteering on the field of fire protection is a specific and extremely valuable that volunteer firefighters are not only willing to help others selflessly. They are willing to risk at any time to save others their lives, health. This article points out the importance and activity of the voluntary fire protection in Slovakia. It deals with the statistics on the development of volunteer fire department in Slovakia as well as the statistics on fire alarms. The study also includes results of the public opinion poll and its evaluation, from which we can say that the public response to the work of volunteer fire department is positive.

Keywords: voluntary fire protection, public response, Slovak republic


JEL Classifications: L39

1. Introduction

Today's society is mature enough to realize the need to help others voluntarily. Volunteering is developing in all areas of life. The voluntary fire protection was created and developed in order to help others selflessly and to protect people at risk of life, health or property loss. Volunteering related to fire protection is specific and immensely valuable because volunteers are not only willing to help others but also selflessly risk their own lives and health at any time. The role of a firefighter has changed over the last few years and it will continue that way (Holmgren, 2012). Firemen’s work is no longer just about putting out the fire. Firefighters are engaged in traffic accidents, spills of hazardous substances, natural disasters, emergencies and dangerous situations. If a man finds himself/herself in distress and needs help, the fire department is one of the main services providing such aid.

The history of voluntary fire protection in Slovakia started in 1921 when conditions for establishment of the
nationwide fire protection organizations started to develop intensively. On 6th August 1922, the Land Fire Union was founded in the city of Trenčín. The aim of the organisation was expressed by the motto: “For the glory of God and my neighbour’s good.” Up to the present day, this credo stands out on every single flag of the fire department. Later people demanded an establishment of the institution for professional firefighters which eventually led to change of the Slovak name of the profession (from “hasič” to “požiarnik”). The name of volunteer fire departments changed from “Dobrovoľný požiarny zbor” to “Dobrovoľný hasičský zbor” at the beginning of the year 2003 (Hurbanisová, 2012; www.dposr.sk; Tánczos, 2012).

2. Volunteering in general

Volunteering is generally considered an unpaid, conscious activity which is undertaken of a person’s own free will and for the benefit of other people (except for family and relatives) or society. Volunteering can also be defined as a voluntary and free decision to participate on an unpleasant incident of other people in exchange for good feeling and experience.

A male/female volunteer is a person which freely and without any financial reward devotes his/her time, abilities, knowledge and energy for the benefit of other people or society (Brozmanová et al., 2009). Volunteering leads to philanthropy, respect and love, thus to the essence of humanity. Only that man who carries humanity in himself/herself and keeps the phenomenon alive, is able to become a volunteer. Volunteering is an evidence of the level of society and also of the person’s maturity (Pavlovičová, 2012).

The Universal Declaration on Volunteering was adopted by the International Association for Volunteer Effort (IAVE) in 2001 which was the International Year of Volunteering. According to the declaration, volunteering is defined as follows:

- it is based on a personal motivation and free choice,
- it is a way of supporting the active civic participation and interest in community development,
- it has a form of a group activity which is carried out within a particular organisation,
- increases human potential and quality of everyday life, strengthens human solidarity,
- provides solutions to key challenges of our society and contributes to creating a better and more peaceful world,
- conduces to a vitality of economic life and creation of new jobs and professions.

According to Mikuš (2012), the core of volunteering comes from the Christian philosophy. The teaching proceeds from philanthropy and encourage people to do charity which has always been considered to be one of the most important human virtues. Mikuš also thinks that volunteering is among the best “fruits” which resulted from Christian traditions. And on these same traditions is, according to the constitution, based our homeland.

In terms of the time span, we can divide the volunteer activities into involvement of the volunteers in one-time events (campaigns, collections), long-term voluntary aid which is provided repeatedly and regularly, and volunteer service that is usually carried out abroad and lasts several months (Tošner-Sozanská, 2002).

From the point of view of historical development, volunteering can be divided into:

European model – an evolutionarily older type of the volunteer activity which has the nature of a communal volunteer work. This kind of volunteering arises on the basis of mutual interests and spontaneous meetings in the natural environment. Here belong especially church, sports or children’s organisations which can transform into professional centres but they should always preserve community features such as personal friendships.

American model – evolutionarily younger type of the volunteer activity. It has a managerial nature because male and female volunteers collaborate with professional centres. These centres seek after volunteers and provide them with the opportunity to engage in such activity. The centres are organized by professionals whose social conscience and intelligence enable them to carry out this profession (Tosner, 2002).
According to Mydlíková (2001), there are three basic types of volunteers in the Slovak volunteer practice:

- people working in organisations without financial compensation (including members of the voluntary fire protection),
- male and female experts (e.g. translators, lawyers) who provide highly specialized services and get only symbolic reward,
- members of the boards of organisations.

Nowadays, the most of volunteer organizations are non-profit organizations. The ways in which non-profit organizations operate are complex and multi-layered. There is an overlap between social enterprises who seek to help people and those who seek to help the environment, and between those whose activities are focused locally and those who have special interest groups at the centre of their aims. In addition to their employed workforce, social enterprises and non-profit organizations rely heavily on volunteer labour. (Dees, 1998, Hockerts, 2006, Šebestová-Haltofová, 2014)

3. The background of volunteer firefighters as part of volunteering

One of the basic state functions is to ensure security. Already in the 20th century began to spread safety agenda on non-military aspects. (Nečas-Ušiak, 2010) Security is ensured mainly by means of particular components of the Integrated Rescue System. There are many people in Slovakia who are willing to cooperate and help, or simply said, to be actively engaged in various areas of social life. Because of these people, the cultural and socio-political attitude towards the volunteering is still changing. Our society begins to realise that the transformation process of the state is simply not enough (Guťan, 2012). Volunteer firefighters represent an important element in performing this function.

Volunteering is usually understood as unpaid activity where someone gives their time freely to help an organisation or an individual who is not a relative. (Pryce-Hall-Hill, 2015) Volunteering is basically a willingness to help people who are not directly in a friendly or family relationship with the volunteers. It is a willingness to help a man who finds himself/herself in distress and various unpleasant incidents. However, this helpfulness must not be taken for granted. We should underline it, support and appreciate. This applies especially in the case of voluntary fire protection. In addition to the constant and selfless help, its members are voluntarily exposed to imminent danger, and risk their own health and lives. They often work in difficult conditions, e.g. when they fight the fire, or are engaged in traffic collisions, accidents, natural disasters, various kinds of emergencies such as heavy snowfalls or floods.

4. Characterization of the present-day voluntary fire protection in the Slovak Republic

The voluntary fire protection is currently on the rise and its positive progress also affects the development in legislative area. The year 2014 was a turning point because the Act no. 37/2014 about the voluntary fire protection came into force.

This Act defines the Voluntary Fire Protection of the Slovak Republic as an independent legal entity with the headquarters in Bratislava. It operates on the entire territory of Slovakia, and performs task related to the fire protection, fire fighting and rescue work. The Voluntary Fire Protection of the Slovak Republic is a member of the Slovak National Committee of the International Association for Fire and Rescue Services. It is also integrated into the International Technical Committee for the Prevention and Fire Fighting and a member of the World Federation of Volunteer Firefighters based in Tokyo. The Voluntary Fire Protection of the Slovak Republic also cooperates with the volunteer firefighter organisations from different countries.
The basic organisational unit of the Voluntary Fire Protection of the Slovak Republic is the volunteer fire department. In terms of a territorial basis, these volunteer fire departments are represented by provincial and territorial committees of the Voluntary Fire Protection. There are also eight county committees which are established on a delegation principle. Each county has a representation in the Committee of the Voluntary Fire Protection of the Slovak Republic. The Voluntary Fire Protection of the Slovak Republic is a legal entity. Its president and secretary-general also function as the statutory representatives. (dposr.sk)

**Role of the Voluntary Fire Protection of the Slovak Republic**

The aim and role of the voluntary fire protection is a good performance and cooperation in the following areas and activities:

- education and training of the population to protect themselves against fire and during dangerous incidents,
- education of the population in the area of fire protection, especially in relation to children and youngsters,
- special preparation, training and practice of the population in the area of prevention, fire fighting, rescue works during emergency situations,
- financial support of the regional volunteer fire departments and other civic associations included within a nationwide deployment of forces and means,
- the work of members of the Voluntary Fire Protection of the Slovak Republic,
- protection of inhabitants,
- volunteer activity related to protection against fire and dangerous incidents,
- community service, public enlightenment, educational and cultural activities,
- organisation of sports events and competitions which are related to fire protection,
- preservation and enhancement of the historic and cultural heritage in the area of fire protection,
- cross-border cooperation,
- creation, protection, maintenance and improvement of the environment.

Numerous contracts and cooperation agreements were concluded in connection with the tasks which should be fulfilled by the Voluntary Fire Protection of the Slovak Republic. The above-mentioned entity made an agreement with the Ministry of Interior of the Slovak Republic in order to achieve a higher level of efficiency and fulfilment of the tasks in the field of fire protection. Another agreement was made on mutual cooperation in safety measures, police interventions, search and rescue services and other activities of the Police Force. An agreement was also made with the Ministry of Defence which deals with the collaboration in ensuring a training for drivers and operators of special vehicles. The second agreement refers to the cooperation in fire protection. Another contract is the Memorandum of Cooperation between the Voluntary Fire Protection of the Slovak Republic and the Association of Towns and Communities of Slovakia. This agreement aimed at the education of population in the area of fire protecting, rescue works, natural disasters and other emergency situations. The cooperation agreement with the Association of the Samaritans of the Slovak Republic has a similar content and focuses on the mutual collaboration and assistance in protecting the environment and person’s health, life and property against fire. They are also engaged in carrying out the rescue works in case of fire, natural disasters and other emergency situations.

The fact is that fires, natural disasters or any other emergency situations have no limits. The immediate need of forces and means from the neighbouring countries is never out of the question. “When it comes to helping people
affected by a natural disaster, the national boundaries for a volunteer are only an imaginary line on a paper...“ (Hašek, 2012).

For these reasons the Voluntary Fire Protection of the Slovak Republic made cooperation agreements with foreign organisations. Among them is the cooperation agreement with the Association of Firefighters of Bohemia, Moravia and Silesia, the Volunteer Firefighter Association in Hungary, and the Voluntary Fire Service in Poland.

Volunteer Fire Departments of the Municipality
It is necessary to mention that the volunteer fire department of the village/town is not the same as the volunteer fire department. The volunteer fire department of the municipality is a community fire unit which was established by a village/town. It carries out the following tasks:
• rescues people at risk of fire and puts out the fire,
• rescues animals and property at risk of fire,
• performs rescue works during natural disasters,
• according to technical capabilities and professional qualification, it provides assistance in accidents and emergency situations when a person’s life is at immediate risk,
• ensures that the fire-fighting equipment and components are ready for action, it establishes professional mechanical, anti-gas and communication services,
• conducts the training of its employees and members within the specified range,
• reports rescues without delay to the district board and informs it about the firefighting and rescue works during natural disasters and other emergency situations,
• prepare and keep the documentation of the fire unit.

Categorisation of the volunteer fire departments of the municipalities
Over the last few years, the categorisation of the volunteer fire department of the municipality has changed several times. On 1st September 2015, the Amendment to the Regulation no. 611/2001 on fire units came into force. It deals with the various types of volunteer fire departments of the municipalities which can be divided into categories according to the degree of risk of the cadastral communities as follows: Category A1, Category A, Category B, Category C, Category D.

Each category has a fixed minimum number of its members as well as its functional structure, material and technical equipment, a number of the fire-fighting equipment, etc.

5. Current status of the volunteer fire departments in Slovakia

The following statistics give the evidence of the activity and operation of the volunteer fire departments. Nowadays, there are nearly 2300 volunteer fire departments in Slovakia. Evolution of the number of volunteer fire departments in 2007-2015 is presented in the following diagram.
Statistics on the number of rescues are more relevant than the statistics related to the number of volunteer fire department. This is because the latter also includes the inactive volunteer fire departments. On the diagram you can see the increase in the number of rescues. The numbers do not show how many times the volunteer fire department managed to save a life or a property, however, they point out how many times the department voluntarily, freely and selflessly tried to do it.

Table 1. Overview of rescues made by the voluntary fire departments in 2005-2014.

<table>
<thead>
<tr>
<th>Year</th>
<th>Trips to fires</th>
<th>Trips because of technical and ecological problems</th>
<th>False alarm</th>
<th>Trainings</th>
<th>Total number of trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1,177</td>
<td>1,250</td>
<td>53</td>
<td>0</td>
<td>2,480</td>
</tr>
<tr>
<td>2006</td>
<td>932</td>
<td>1,783</td>
<td>0</td>
<td>0</td>
<td>2,715</td>
</tr>
<tr>
<td>2007</td>
<td>1,401</td>
<td>2,641</td>
<td>0</td>
<td>0</td>
<td>4,042</td>
</tr>
<tr>
<td>2008</td>
<td>1,069</td>
<td>1,403</td>
<td>0</td>
<td>0</td>
<td>2,472</td>
</tr>
<tr>
<td>2009</td>
<td>1,229</td>
<td>1,891</td>
<td>57</td>
<td>1,802</td>
<td>4,979</td>
</tr>
<tr>
<td>2010</td>
<td>1,159</td>
<td>3,669</td>
<td>69</td>
<td>2,480</td>
<td>7,377</td>
</tr>
<tr>
<td>2011</td>
<td>1,638</td>
<td>3,110</td>
<td>76</td>
<td>2,885</td>
<td>7,709</td>
</tr>
<tr>
<td>2012</td>
<td>2,333</td>
<td>3,428</td>
<td>376</td>
<td>2,576</td>
<td>8,713</td>
</tr>
<tr>
<td>2013</td>
<td>1,558</td>
<td>3,438</td>
<td>101</td>
<td>2,887</td>
<td>7,984</td>
</tr>
<tr>
<td>2014</td>
<td>1,456</td>
<td>4,425</td>
<td>138</td>
<td>3,345</td>
<td>9,364</td>
</tr>
</tbody>
</table>

Source: Statistics of the Ministry of Interior of the Slovak Republic

Research was conducted by: The Technical University in Zvolen in cooperation with The University of Security Management in Košice. Principal Investigator: Ing. Jožefína Drotárová

6. Methods and tools

Data collection method: survey. The primary aim of this research was to determine how people perceive the need for volunteer fire departments and what their opinion on them is.

The survey was conducted in the form of an online questionnaire. For the creation, distribution and evaluation of the questionnaire was used the website “www.survey.sk”. The questionnaire was distributed by sending direct internet link via e-mails, social networks and intranets of universities.

Time of the survey: 19th February 2016 – 24th March 2016, i.e. 35 days. During this period which lasted over one month, 607 people of all ages over 15 years were involved in the survey. Although younger people can be involved in the survey, no participant chose the answer “less than 15 years”. The survey was nationwide. People from all districts took part in it, therefore we consider this research sample to be relevant.

The evaluation of closed questions was made by using simple statistical methods. To all questions was assigned a specific number of answers followed by a percentage of the total number of respondents who answered this particular question.

In case of semi-open questions, to all questions was assigned a specific number of answers followed by a percentage. Responders’ reactions to the type of answer “other” were classified into several groups which are also followed by the number and percentage of the answers.

There weren’t any open questions used in this questionnaire.
Results of the research

The questionnaire consists of 11 questions, from which we have chosen these ones:

*Are you familiar with the activity/work/rescues carried out independently by the members of the volunteer fire departments of the municipalities, or in a cooperation with the Fire and Rescue Corps?*

Type of question: closed Number of answers: 606

**Answers:**

<table>
<thead>
<tr>
<th>Yes</th>
<th>370</th>
<th>61,10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>185</td>
<td>30,50%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>51</td>
<td>8,40%</td>
</tr>
</tbody>
</table>

*How do you see the need for the activities carried out by the volunteer fire department of the municipality?*

Type of question: closed Number of answers: 606

**Answers:**

<table>
<thead>
<tr>
<th>Very necessary and useful</th>
<th>205</th>
<th>33,80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Necessary and useful</td>
<td>337</td>
<td>55,60%</td>
</tr>
<tr>
<td>Less necessary and useful</td>
<td>48</td>
<td>7,90%</td>
</tr>
<tr>
<td>Hardly necessary and useful</td>
<td>8</td>
<td>1,30%</td>
</tr>
<tr>
<td>Neither necessary nor useful</td>
<td>8</td>
<td>1,30%</td>
</tr>
</tbody>
</table>

This main question demonstrates an unequivocally positive attitude of the Slovak society towards the activity of the volunteer fire departments. Nearly 90% of respondents consider their activity necessary and beneficial.
Have you ever witnessed the work/rescue of the volunteer fire department of the municipality, or have you seen it/heard about it in the media?

Semi-open question. Number of answers: 588.

**Answers:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, several times</td>
<td>241</td>
<td>39.8%</td>
</tr>
<tr>
<td>Yes</td>
<td>272</td>
<td>44.9%</td>
</tr>
<tr>
<td>No</td>
<td>66</td>
<td>10.9%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>27</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

How would you characterise the work of the voluntary fire department of the municipality during the rescue?

- 153; 26.0%: Members of the volunteer fire department of the municipality carried out the whole rescue, it was no need to call in the Fire and Rescue Corps. The rescue was efficient and professional.
- 265; 45.1%: Members of the volunteer fire department of the municipality arrived late and they only documented the incident.
- 137; 23.3%: Members of the volunteer fire department of the municipality acted very unprofessionally and in a chaotic way.
- 23; 3.9%: I have both positive and negative experiences.
- 10; 1.7%: I have no experience.
- 15; 2.6%: I don’t know.
- 2; 0.7%: Poor technical equipment of the volunteer fire department.

The Answers “Other” meant:

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t know</td>
<td>47</td>
<td>30.7%</td>
</tr>
<tr>
<td>I have no experience</td>
<td>39</td>
<td>25.5%</td>
</tr>
<tr>
<td>Inadequate answer</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td>Positive evaluation of the rescue</td>
<td>61</td>
<td>39.9%</td>
</tr>
<tr>
<td>Negative evaluation of the rescue</td>
<td>2</td>
<td>1.3%</td>
</tr>
<tr>
<td>I have both positive and negative experiences</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td>Poor technical equipment of the volunteer fire department</td>
<td>2</td>
<td>1.3%</td>
</tr>
</tbody>
</table>
How would you characterise the work of the volunteer fire department of the municipality if it collaborates with the professionals from the Fire and Rescue Corps, or other forces of the Integrated Rescue System? (Have you seen such intervention, or have you ever heard about it?)

Semi-open question. Number of answers: 580

The Answers “Other” meant:

<table>
<thead>
<tr>
<th>Description</th>
<th>Answers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t know</td>
<td>36</td>
<td>48,00%</td>
</tr>
<tr>
<td>I have no experience</td>
<td>31</td>
<td>41,30%</td>
</tr>
<tr>
<td>Inadequate answer</td>
<td>2</td>
<td>2,70%</td>
</tr>
<tr>
<td>Positive evaluation of the rescue</td>
<td>2</td>
<td>2,70%</td>
</tr>
<tr>
<td>I have both positive and negative experiences</td>
<td>2</td>
<td>2,70%</td>
</tr>
<tr>
<td>Poor technical equipment of the volunteer fire department</td>
<td>1</td>
<td>1,30%</td>
</tr>
<tr>
<td>The Fire and Rescue Corps didn’t need help of Voluntary Fire Department</td>
<td>1</td>
<td>1,30%</td>
</tr>
</tbody>
</table>

It can be concluded from the respondents’ answers and reactions that people who have experienced the rescue of the volunteer fire department of the municipality, either as an independent action or in collaboration with the Fire and Rescue Corps, evaluate these interventions positively.

Have you ever considered, or are you considering now the possibility to work in the volunteer fire department of the municipality? Closed question. Number of answers: 606.

**Answers:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Answers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I considered it in the past</td>
<td>100</td>
<td>16,5%</td>
</tr>
<tr>
<td>Yes, I’m considering it</td>
<td>99</td>
<td>16,3%</td>
</tr>
<tr>
<td>Rather not</td>
<td>234</td>
<td>38,6%</td>
</tr>
<tr>
<td>I’ve never considered it</td>
<td>146</td>
<td>24,1%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>27</td>
<td>4,5%</td>
</tr>
</tbody>
</table>

This question demonstrates that people in Slovakia (but not all of them, of course) consider the work of the volunteer fire department of the municipality to be necessary. They have even considered to become a member of the volunteer fire department.
Conclusions

The progress of volunteering resulted from its publicity, educational campaigns, bringing the public closer to volunteers and especially from the development of the volunteer centres (Andronic-Andronic, 2011). Volunteers represent an essential pillar for the success of the non-profit organisations, government, business and philanthropic organisations. We should also care about the mental health of volunteers, since they can be affected by the burnout syndrome (Shecherer-Aler-Hart, 2016). In case of accidents, every second counts and that’s why it is important to establish a volunteer fire department in smaller towns where the station of the Fire and Rescue Corps is not present, or its arrival takes too long. Results of the survey show that the public feedback on the volunteer fire departments is positive and that most people have positive experiences with them. The good thing is that inhabitants of the Slovak Republic are interested in involvement in these brigades, and so are ready and resolved to voluntarily help each other. Of course, the development of the Voluntary Fire Protection of the Slovak Republic still has a long way to go. It is not possible to carry out a professional and successful rescue without a high-quality and modern material and technical equipment. Fortunately, the Slovak Republic progresses in this area and the possibility to obtain financial, material and technical support continues to increase. The work of volunteer firefighters is very important, therefore we wanted to contribute to its propagation. This study is one of the aims of the institutional project which focuses on the development, optimisation, modernisation and ultimately on the efficiency of the training of members of the volunteer fire departments.

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HOUSING POLICY AND SECURITY IN THE EU: A CASE STUDY OF THE CZECH REPUBLIC

Zuzana Horváthová¹, Soňa Křítková², Olga Tcukanova³

¹ Metropolitan University Prague, Dubečská 900/10, 100 31 Praha 10, Czech Republic
² University of Economics, Prague, nám. W. Churchilla 4, 130 67 Praha 3, Czech Republic
³ ITMO University, Faculty of technology management & innovation, 49 Kronverksky pr., 197101 St. Petersburg, Russian Federation

E-mails: ¹ zuzana.horvathova@mup.cz, ² sona.kritkova@vse.cz, ³ zoa1999@mail.ru

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Abstract. Our paper aims at analysing and assessing sustainable housing policy and social security in selected countries of the European Union with a special focus on housing policy which largely depends on the family support and family policy of the EU Member States. Family policy and family support allow young families to acquire their own housing and therefore represent a key element in the bundle of the social-oriented state policies.

The paper describes the historical development of housing policy and security as well as provides comprehensive analyses of the existing housing policy instruments. Moreover, it focuses on the standard of living and various legal aspects of the social policy in the post-Communist countries using the case study of the Czech Republic. The analysis is done through the comparison of the state-of-the-art in the Czech Republic to the wealthier and more developed EU Member States represented by Germany and United Kingdom. We find that in all countries in question housing is of good quality but each country stands out with its own specifics that are dependent on the economic and social situation. Moreover, we find that the EU membership plays an important role in the formation and development of social policy and housing policy.

Keywords: social policy, housing, security, legal aspects, social disparities, European Union, Czech Republic

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JEL Classification: D04, H41, R31

1. Introduction

For every country, housing policy represents an important and constituent part of its social policy and its strategy of maintaining personal security and suitable living standards for its citizens (Zavora and Chepurny, 2014; Korsakienė, Tvaronavičienė, 2014). Housing policy and security have considerable impact on the lifestyle and the living standards of general population (Włodarczyk, 2015). In the past as well as nowadays, housing is rightfully considered to be an entirely private good, which possesses its economic and social dimensions (Morselli, 2014). Each EU Member State develops its policies in this area in order to create sustainable conditions for the satisfaction of primary human needs via the housing market that is influenced by many factors (e.g. historical, political and geographical, just to name a few) (Abrhám et al., 2015; Trojanek, 2010a,b). According to Poláková
(2006), the right to housing is defined in a number of international documents and in certain countries it is even incorporated into their constitutions. In legal terms, it is simply a right and real power to deal with some things as own property. From the economic point of view one can speak of a certain motivation or intention to use that thing or modify it in some way (see Čábelková et al., 2015).

Some sociologists say that housing, along with clothes and food are the main consumer goods, because without them there is no life at a decent level possible. In this way, appropriate housing becomes an important element of personal security. As an object of consumption we can call mainly a dwelling, which creates benefits in the form of furnishings that one needs or wants (Pęciak and Tusińska, 2015). One of the reasons that people aspire to own-occupied home is the ability to consume or enjoy many disparate things that together create a „home“.

Helešic (2007) says that in the past a community or a state mostly took care about the houses and apartments, now it’s a subject matter to all of us. There are emerging unions or cooperatives of owners of namely flats, through which citizens take care of the maintenance, repair, reconstruction and modernization of the dwellings in which they live. From the point of view of other sociologists such as Lux, Sunega, Kostelecký, Čermák and Košinár (2004), we understand that housing in all countries, irrespective of political, cultural, social or economic differences among them, is regarded, as already mentioned, as one of the primary human needs, and therefore there exist a certain form of housing policy, whether directly formulated as a policy or implicitly presented in many other policies. Although specific objectives of housing policies may differ greatly from country to country, there is a consensus on what a global goal is - to ensure adequate quality and affordable housing for local residents.

The earliest form of housing is own-occupied dwelling, which is also in the Czech Republic most promoted via the advertising links. This housing option is preferred by most households and constitutes 47% of the current Czech housing stock. Its main source nowadays is a new construction, a conversion of cooperative flats into the ownership and privatization of the municipal housing stock to the ownership of the tenant (owner-occupier). In the current economic climate, for most households to purchase own living, especially newly built, is very expensive. Usually this form of housing is sought by people who can use loans from building society accounts and mortgage loans, and especially by families with middle and higher incomes. The price of such housing is high relative to the average monthly wage, and therefore a family seeks to invest in such a living, which price in the future will at least equal to the sum of all costs associated with the acquisition.

This paper is structured as follows. In section 2 we shall describe the Czech housing market, forms of dwelling and housing construction in the Czech Republic. In section 3 we shall elaborate of the goals and tools of the housing policy. Section 4 discusses housing policy and family support in Germany and United Kingdom in order to compare the situation with the Czech Republic. Section 5 outlines and presents a brief econometric model of housing and GDP inter-dependence. Section 6 provides overall conclusions and discussions.

2. Forms of dwelling and housing construction in the Czech Republic

Czech housing market is full of interesting features and oddities (Sanderson et al. 2014). For instance, there is a regulation of house rents at state-owned housing facilities (see Sunega, 2005; Lux, 2003) or cheap regulated rents provided on the property market by the Czechoslovak state after 1991 (Lux, 2002). The new Czech middle class wanted modern and fancy housing and the banking sector and the easy availability of mortgages enabled it to buy the desired properties. The situation caused developers (often international companies) to offer a wide range of cheap properties and that, in turn, caused the construction boom in the Czech Republic in the mid-1990s (Lux and Sunega, 2010). However, it did not last that long as far as the demand for the new first-hand housing was covered by the end of the 1990s. According to Rojiček (2006), in the beginning of the 2000s Czech GDP dropped about 3% per year drop due to the decreasing productivity in the construction sector. Housing policy in the Czech Republic has three basic forms, which include homeownership, cooperative and rental housing. Each of these forms of housing is designed for a different, in terms of age and especially economic, class of the population of the state.
Homeownership is the most authentic form of living in our country and even the offer on the estate market to the greatest extent focuses on this possibility. In this form, the owner has a property ownership and user relationship. The continuous growth of this housing option is also supported by the government. Its source is the conversion of older cooperative flats into the homeownership, the construction of new apartments and townhouses and the privatization of the municipal housing stock to the ownership of the tenants. In the current economic situation, families can purchase their own housing, especially new homes, at very high cost and very few families can make it. Most families satisfy their financial needs via taking mortgage loans and building society savings. Even this financial loan from the state is intended only to families with medium and higher incomes.

Cooperative housing is made up of members of the housing association, in which each member has one vote. In the Czech Republic, these houses were owned by building and housing cooperatives were built using panel technology. A person who is a member of a housing association has duties and rights, which earmarks the association in its statutes. The fundamental obligations of a member of a housing association are to actively participate in meetings, vote on the various proposals and innovations. Rental housing is dealt within the amendment of the Act of January 2014, which has an impact on the entire sphere of private law. All contracts for rental housing, which gained legitimacy before the amendment of the Act shall continue to be governed by the original legislation. For rental housing it is very important to distinguish between rent and tenancy. Pšenko and Obšasník (2014) say that the main difference between the two is that in a contract for the rent the subject of renting must be owned by the landlord. For tenancy contracts the tenant has already himself rented a flat or house and provides with it another person. According to the latest census of citizens, houses and apartments in 2011 in the Czech Republic up to 60% of people lived in an apartment or a house in a private ownership, while there was a reduction of people living in rented flats and even cooperative ones. This reduction in the number of people in cooperative flats has resulted in the privatization process, which started in 1993 and has converted apartments to private ownership, or has sold them directly.

A special part of the housing policy in our country is the creation and support of families under social housing. According to Krebs (2010) the subject matter of social housing has been significantly influenced by a tradition of living and, last but not least, by the economic level of individual states, which are generally reflected in the standard of living of a given society and specifies the level of living of the individual households. State bodies or municipalities are trying to ensure that socially disadvantaged groups of people who cannot afford their own housing are provided with the possibility of social housing. Rent in this type of housing is lower than a market one. To a large extent the construction of social housing is supported and subsidized by the Ministry for Regional Development, Ministry of Labour and Social Affairs and the State Housing Development Fund. Ripka (2013), a sociologist, says that social housing does not lead to a situation where the state cares for as many people possible, who will then be not responsible for themselves. To this direction rather heads the support for collective forms of housing, from which it is increasingly difficult to become independent and integrate himself in the life and society. Thus there is a need for a law on social housing as any other regulation of social housing is unable to clearly and long term guarantee the involvement of all relevant actors in dealing with the situations of specific people at risk of inadequate housing. A guarantor of the right to housing should become the state. This right should be realized through municipalities and autonomous units. Based on funding from the State Housing Development Fund in the years 2003-2013 there were built 8,616 social flats. Based on funding from the Ministry for Regional Development in the years 1998 to 2013 there were built 11,818 flats, which serve for disadvantaged social groups and families in the Czech Republic.

3. Housing policy: tools and goals

The main goals of the housing policy of the Czech Republic up to 2020 are the following:

- affordability;
- quality,
- stability

Especially for medium-economically rich states of the European Union including the Czech Republic, the af-
fordability of housing is a major goal of housing policy. Given the lifestyle of the population, the quality of life and wealth, it is necessary to keep in mind that not all households manage to satisfy their housing situation and needs of the market without the aid from others. Nowadays, most families who acquire new apartments or houses in private ownership must take the mortgage banks and building society savings loans. The priority of the state in housing is to motivate the population to ensure a living on their own. For this reason, according Polaková (2006), further goals of the housing policy should be set both in the Czech Republic and other countries of a similar economic level, such as:

- increase the intensity of housing construction;
- foster care of the existing housing stock and optimally use it,
- seek to promote ownership and rental housing,
- encourage disadvantaged or low-income households,
- collaborate with non-profit organizations in the sphere of housing,
- promote the construction of social housing,
- efficiently and effectively provide subsidies to the housing sector,
- improve the existing regulatory relations between the different actors in the housing market

The quality of housing stems out of the standard, which on one hand provides housing stock for most of its citizens, while on the other hand, is derived from the rising of the ambient environment of residential areas. At present, citizens of the Czech Republic do not require only high-quality housing, but also a certain standard of amenities that are be part of a residential complex, or are in close proximity to the new residential property. The stability of the housing policy is directly related to the economic and political environment of the state. It is determined by laws and institutions for all actors in the housing market. In practice, the most famous type of state intervention in the market for residential estates is public support with the exact purpose of its use. This support is very extensive and may even be negative, because it can cause an increase in the price level. Also, it is quite demanding in terms of administration and rather expensive. It can be a support on both the supply side as well as the demand one.

In 2015, the Ministry for Regional Development of the Czech Republic opened four calls to support housing:

- support for the construction of technical infrastructure,
- promotion of the repair of lead distribution networks,
- support for the construction of subsidized apartments,
- support for the regeneration of housing estates and blocks of flats.

The support for the construction of technical infrastructure is provided in terms of increasing the supply of investment land for future construction of houses and apartment buildings. Grants are awarded to cities and municipalities, which have to provide for the construction of technical infrastructure (sewers, roads and water supply) on these lands. The promotion of the repair of housing lead distribution networks aims at the reduction of lead content in drinking water. This reduction of lead in drinking water is realized in exchange of lead water distribution pipes to the healthy ones. This support is intended for all the family and apartment houses, which are permanently inhabited. The exchange of lead networks belongs among the main objectives of European environmental policy environment. The aim to support construction of subsidized housing is to ensure the independence and personal self-sufficiency for people who need it. This group includes starting and nursing homes. Nursing homes are designed for elderly (over 65) and disabled people. Starting flats are determined for people who are already re-granted benefit in material distress, or their net monthly income for the last year did not exceed 0.6 times of the average monthly wage. The latest promotion, which deals with the regeneration of prefabricated housing, is based on the assumption of improving the original flats, their life extension and overall improvement of the living space to meet the demands of modern living. This grant is provided by the city or municipality if they have at least 150 apartments in panel buildings.

State Housing Development Fund in the Czech Republic also provides a number of preferential soft loans and thereby seeks to secure long-term support for housing. The most important loans that it provides are:

- Panel 2013 programme (a programme for the revitalization of the housing stock)
- Element programme (residential recovery programme from natural disasters)
- Construction programme (programme of soft loans for the construction of apartments)
- programmes for municipalities (programmes for modernization and repairs of municipalities)
- Jessica programme (a programme for the development of disadvantaged urban areas and zones)
- Programme 150 (programme providing loans for young people up to 36 years with the interest of 2%).

The Czech Ministry of Finance has been providing housing support for its citizens in the form building society accounts since 1993. This savings is intended for a period of 6 years, and if within this time the participant does not withdraw his savings he will get a state aid. The participant of the savings scheme must, however, for a period of 6 years deposit on his account a minimum amount of 20,000 Czech crowns annually. In recent years, the number of contracts on building society savings has been increasing. The reason for this increase in the number of contracts is a possible division of withdrawing financial benefits from several contracts.

The Ministry of Labour and Social Affairs of the Czech Republic provides the opportunity to support housing through the following aspects:
- housing benefit,
- housing supplement

The housing benefit is a benefit under state social support, through which, according to the Ombudsman gateway (2015), the state contributes to partially cover the costs of housing for families and individuals who have low incomes. This housing benefit can be obtained if the applicant lives in his own, rental flat or cooperative apartment or a family house and in an apartment owned by her husband, provided the entitlement of housing benefit is not already applied by her husband. Housing supplement is a benefit in material need assistance and is provided for households which do not have sufficient income, including a housing allowance from the state social support. It is a benefit granted monthly.

4. Housing policy and family support in Germany and United Kingdom

The housing policy of the European Union respects the principle of subsidiarity and pursuit to international obligations of Member States, every citizen has the right to adequate housing. The housing sector has remained since the beginning of European integration primarily a national competence of the individual EU Member States. For this reason and as claimed by Munková (2004) housing policies of Member States diverge significantly, and also with regard to the historical, socio-economic and demographic factors. Due to individual differences in demographics, the political situation and the economy, we will compare the housing policy in Germany and the UK. In political terms, Germany has a very interesting history, because in 1961, when the Berlin Wall was built, the state was divided into two completely different political and ideological camps (East and West). This fact is directly connected with the social policy in both countries, which were until 1989 completely different. The current housing policy in Germany is based on the effective business model of the welfare state, which means that social policy is directly derived mainly from the work activity of individuals on the labour market. The goals of the housing policy here are similar to those in the Czech Republic with the first place taken by the goal to ensure sufficient and adequate housing for citizens and the other very important objectives are to support young families in the form of housing allowances and assistance for low-income and economically disadvantaged households. The policy support is ensured through the Bundesministerium für Umwelt, Naturschutz und Bau Reaktorsicherheit, as well as through the Federal Institute for Construction, Urban Development and Territorial Development, which is part of the Federal Office for Building and Regional Planning in the context of scientific policy advice and program and project management. Among other very important forms of support for housing in Germany one may include the Programme for Reconstruction of Cities - West, which focuses on reducing emissions and energy consumption and to support the restoration and protection of the environment. As Munková describes (2004) the construction of housing stocks in the 1950s and 1960s in Germany amounted to a whopping 500,000 flats a year. Despite the small stagnation of housing construction in the 1970s the number of new flats grew steadily and in 1986 there were in an average 3 residents for one flat.

A very important factor in the housing stock is to determine the nature of ownership. In Germany the largest
share make up rental apartments, a smaller group consists of flats in private ownership and the smallest number make social flats, which are built with public funds. According to the Eurostat (2014), almost two-fifths of the population in 2012 lived mainly in the rented property with market-set rents. For the entire European Union, Germany is one of the countries where the least people live in their own property.

Since 2011, the development of housing construction has greatly increased by an average of 8% annually. Regarding the standard of living, it is considered to be of generally good quality, although they are significant differences throughout the country. These differences are due to the former division of the contemporary Germany into two separate states. In the former East Germany the housing stock is older, because most of the apartments were built in 1944, with the territorial West Germany the situation is reversed, as 70% of flats emerged after 1945.

The fourth most populous state in the European Union is the United Kingdom and in terms of natural population growth it has had a growing tendency in recent years, but to a high degree the increase consists of migrants. For this reason the state belongs to the liberal type of housing policy. In this system, the emphasis is on the activity of the individual, where the state provides assistance only to those who are on their own unable to cope with their situation and resolve it. Also, a form of home ownership gets the maximum support. The promotion of housing policy is in large volume focused mainly on young families with children lies in the pursuit for increasing the availability of rental housing. Since 2006 there has been a program called National Youth Homelessness Scheme, which supports the construction of low cost housing for young families and mothers with children. It takes the form of one-room apartments with an access to a common room. We can define it as a form of hostels or dormitories. This program follows a support for the provision of halfway houses for young homeless and young people from socially disadvantaged backgrounds. Lux (2010) describes another very positive and effective promotional program based on providing housing benefit. If a salary of a UK household living in rental housing gets below a certain minimum level, the cost of the rent are fully covered by that program. United Kingdom belongs to a system where social housing is supported by a public authority and is determined only for disadvantaged or excluded persons. Rents for social housing are subsidized up to 96% from the social assistance system and hence the allocation of such housing is realized on the basis of very strict standards.

The development of housing construction and housing policy since 1950 has been mixed. In the 1950s great emphasis was put on public housing and its development, and this trend was implemented until the end of the 1970s. In 1980s, the legalization of the right to buy council flats came in force. This law was meant to promote housing policies on the grounds that the purchase was under very favourable conditions. Owing to the fact that council flats were bought by people from economically weaker classes, there gradually emerged tremendous social and economic differences between council apartments and condominiums of individual owners. According to the latest data currently most families and the population of the state lives in detached houses. They make up to 60%, followed by houses and apartments. These properties, in terms of forms of ownership, are mainly homeownerships, where a loan or mortgage has not been repaid yet. Another smaller group consists of population living in their own house or apartment in private ownership without the burden of a loan or mortgage. The rest are citizens who use the free housing or housing with reduced renting, or people who live in rented flats with market-set rent.

5. Empirical model

In this section, we will draw a simple econometric model of inter-dependence between housing and GDP (that represents economic development). The model will be based on simple regression analysis of the one dependent variable (number of finished housing project (apartments) in the Czech Republic in 1998-2015 (quarterly data provided courtesy of the Czech Statistical Office)) and three independent variables: Czech GDP in current prices, number of people in active work force, and wages (all taken from 1998 until 2015 on a quarterly basis).

The formal model can be written in the following form:

$$Y_i = \alpha_i + \beta_1 GDP + \beta_2 employment + \beta_3 wage + e_i \quad (1)$$
where $Y_i$ is the dependent variables representing the number of finished housing project (appartments) in the Czech Republic in 1998-2015 and the independent variables are as follows:

**GDP** – general domestic product in the Czech Republic,

**Employment** – the number of economically active populations (in thousands of people),

**Wage** – average monthly personal income (in thousands of CZK).

We employ the OLS linear regression with and test our empirical model. The results are depicted in Table 1 and the explanation of the results follows.

**Table 1. Empirical model results**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coef.</th>
<th>Std. error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>-0.034 ***</td>
<td>0.0094</td>
<td>0.000</td>
</tr>
<tr>
<td>EMPLOYMENT</td>
<td>-0.00093</td>
<td>0.0036</td>
<td>0.797</td>
</tr>
<tr>
<td>WAGES</td>
<td>0.126 ***</td>
<td>0.03040</td>
<td>0.000</td>
</tr>
<tr>
<td>CONSTANT</td>
<td>8591.287</td>
<td>16703.55</td>
<td>0.609</td>
</tr>
</tbody>
</table>

$R^2 = 0.28$

$N = 71$

**Note:** Significance levels: * 0.05 < $p$ < 0.10; ** 0.01 < $p$ < 0.05; *** $p$ < 0.01.

**Source:** Own results

Our model has a good fit. One can immediately see that in spite of the relatively low $R^2$ (which is of course common in the social sciences and economics), there are two variables that are very significant: GDP and wages. The signs of the variables indicate that the larger is GDP, the smaller is the number of the new housing stock. On the other hand, the higher are the wages, the more of the housing stock is being built. The results are logical and can be interpreted that the more cash people have, the more of the housing stock they can afford. On the other hand, the increase in GDP slows down the production of new housing. This might be explained by the fact that the market gets saturated and filled with cheap and affordable apartment over time and the people are not longer willing to buy new apartments. The market might also be influenced by the second-hand and old housing stock that can be obtained much cheaper.

Our results suggest that housing reacts to the economic situation and the overall level of security (either economic or political) in the country (represented in our model above by the Czech Republic) and therefore less wealthy people and young families should be supported by the state in the form of providing affordable accommodation and housing. These results imply that less wealthy citizens are likely not able afford their own dwelling. Due to this fact, they are forced to shop for their housing at the open market and should therefore be included into this branch of the social policy. By protecting these groups of vulnerable citizens, the governments might increase the overall level of well-being and security in the country. Moreover, it might help those citizens to save up for their own accommodation some time in the future.
Conclusions

Housing policy is one of the fundamental parts of social policy and security and the European Union places a great emphasis on it. Although the goals of housing policy in individual states union vary in response to the economic and social resources of the state, each country of the European Union sets as one of the fundamental goals, ensuring its inhabitant with adequate and quality housing, because adequate housing is one of the basic needs of each human being.

In the current economic and demographic situation, social housing is a relevant issue for all European countries. This form of housing is not defined by a common mandatory legal provision for the whole Union yet. To a large degree this term is perceived a public sector of rental housing, which is determined for the socially and economically disadvantaged groups of citizens who on their own forces are not able to ensure an adequate and decent housing.

We can say that in all three selected European Union countries, housing is of good quality, although in every country there are certain specifics and deficiencies arising from the economic situation of the country as well as its social problems.

The right to ensure adequate housing is defined in the Declaration of Human Rights of the United Nations and the European Social Charter. The European Union takes a principle of subsidiarity in this policy, which means that the area of housing belongs to the exclusive competence of the Member States. The impact of the European Union membership is evident in promoting itself through legislation on construction products and the various laws and rules in the area of public procurement.

References


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CONTENTS

VOLUME 5 NUMBER 4 2016 JUNE

József Kis-Benedek.
ILLEGAL MIGRATION AND TERRORISM 455

Viljar Veebel.
WILL SANCTIONS AGAINST RUSSIA BE SUCCESSFUL: WILL RUSSIA FALL BEFORE UKRAINE? 465

Jindřich Ploch, Zdeněk Žihla.
SECURITY AND HINDRANCE AT AIRPORTS 481

Sergej Vojtovič, Valentinas Navickas, Valentas Gruzauskas.
STRATEGY OF SUSTAINABLE COMPETITIVENESS: METHODOLOGY OF REAL-TIME CUSTOMERS’ SEGMENTATION FOR RETAIL SHOPS 489

Valius Urbonas, Arūnas Alonderis.
PRECONDITION OF SUSTAINABLE SECURITY: GENESIS OF THE LITHUANIAN AVIATION INSTITUTIONS 501

Elena Petrenko, Anna Shevyakova, Zhanibek Zhartay, Oleg Olefirenko.
TOWARDS ECONOMIC SECURITY THROUGH DIVERSIFICATION: CASE OF KAZAKHSTAN 509

Ieva Astrauskaitė, Arvydas Paškevičius.
ASSESSING THE OPTIMAL TAXATION OF THE CAPITAL INCOME: A CASE OF CORPORATE BOND MARKET 519

Ján Dobrovič, Anton Korauš, Lucia Dančišinová.
SUSTAINABLE ECONOMIC DEVELOPMENT OF SLOVAKIA: FACTORS DETERMINING OPTIMAL TAS COLLECTION 533

Vladas Tumalavičius, Jānis Ivančiks, Oleksandr Karpishchenko.
ISSUES OF SOCIETY SECURITY: PUBLIC SAFETY UNDER GLOBALISATION CONDITIONS IN LITHUANIA 545

Zhanna Tsaurkubule.
TOWARDS SUSTAINABLE DEVELOPMENT: CHANGING THE MODEL OF SOCIAL POLICY IN LATVIA 575

Miroslav Kelemen, Jozefína Drotárová, Danica Kačíková.
PERCEPTON OF SECURITY AND SAFETY NEED: VOLUNTEERY FIRE PROTECTION AS A PART OF VOLUNTEERING ON SLOVAK REPUBLIC 589

Zuzana Horváthová, Soňa Křítková, Olga Teukanova.
HOUSING POLICY AND SECURITY IN THE EU: A CASE STUDY OF THE CZECH REPUBLIC 597