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### Cross-country Comparative Analysis of Healthcare Financing in Western Balkans: its effect on performance and quality

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AMERICAN UNIVERSITY IN KOSOVO



# Cross-country Comparative Analysis of Healthcare Financing in Western Balkans: its effect on performance and quality

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AUK Honors Project

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**April 26, 2013**

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## Abbreviations

EU	European Union
GDP	Gross Domestic Product
HIF	Health Insurance Fund
IMF	International Monetary Fund
MDG	Millennium Development Goals
MoF	Ministries of Finance
MoH	Ministries of Health
NGO	Non-Governmental Organization
OLS	Ordinary Least Squares
SO	Statistical Office
TFS	Tax Financed System
UN	United Nations
UNDP	United Nation Development Programme
USAID	United States Agency for International Development
WB	Western Balkans
WBG	World Bank Group
WHO	World Health Organization

## Abstract

*The principal aim of this paper is to critically assess the current situation of healthcare financing in the Western Balkan countries as it impacts the quality and performance of the system as a whole. This assessment shall be used to identify the current state of financing methods and quality of the healthcare sector in countries of Western Balkans. Specifically, by identifying the differences in financing healthcare sector among Western Balkan countries, this research paper measures the effect of financial means on the performance variables, as well as the relationship between the performance variables and the quality measurement variable i.e. life expectancy. These measurements were done using regression analysis through the Ordinary Least Squares (OLS) methodology. The number of physicians and the number of nurses are considered as performance measurement variables due to their crucial role in the performance of the healthcare sector as it was previously determined in other research studies. According to regression analysis, the effect of financial means that a country dedicates to healthcare sector resulted to be statistically significant over the number of physicians operating in healthcare. On the other hand, according to the results that can be drawn by the regression model, the impact of financial means on the number of nurses resulted to be statistically insignificant.*

*Regression analysis was also used in determining the impact of performance variables on life expectancy, used as a quality measurement variable. The model which tested for the relationship between the number of physicians and the number of nurses shows that at a 10% level of significance, both variables resulted to be statistically significant, showing that these variables are important in measuring the quality of healthcare. But at a 95% level of confidence the model shows that only the number of physicians is significant, whereas the number of nurses turns to be insignificant. Therefore, it can be said that the number of physicians is a crucial factor in determining the quality of healthcare in a specific country. Furthermore, the effect of healthcare infrastructure, specifically, the effect of bed ratio is also measured over the quality of the healthcare sector of a country. Considering that at a 95% level of confidence, the bed ratio variable resulted to be statistically significant, it can be concluded that more attention needs to be paid at the bed ratio variable as it plays an important role in determining the healthcare quality of a country.*

## Introduction

The methods that different countries use to finance their healthcare systems have proven to be a crucial factor in determining and shaping the healthcare performance and health quality of countries. Acknowledging the importance of healthcare in the development process of a country, the current state of healthcare in Western Balkan countries<sup>1</sup> has encouraged many studies to research the effect that different factors pose in the performance and the quality of healthcare system in these countries (Bredenkamp & Gragnolati, 2007). However, this paper is concentrated only on the impact of healthcare financing methods in the quality and performance of the health system in the countries of Western Balkans. Thus, the aim of this paper is to identify the relationship between the means of financing healthcare, performance of the system, and quality of services. The analysis is divided in two main sections, namely, the statistical data and the state of healthcare financing in Western Balkan countries are presented in the first section, whereas in the second section, these statistical data are analyzed through regression models with the purpose of evaluating the relationship between financial means, performance, and quality variables.

The first section of the project is composed of data from the healthcare situation in Western Balkan countries, as well as of data from the situation of healthcare in a more developed country, such as Slovenia. More specifically, this section contains information over healthcare financing methods in more general terms and the impact that these financing methods have on the quality of the healthcare system in a certain country. Further, the first part of the paper contains background information over the state of healthcare in Western Balkan countries, the financing methods that are currently used in those countries, and the size of the budget dedicated to healthcare. In order to see the difference among the region and the more developed countries, information about the same components were gathered for the Slovenian healthcare system<sup>2</sup>. On the other hand, the second part of the research paper deals with the analysis of the data from the initial part with the aim of determining whether the financial means affect the performance variables of healthcare and also to determine whether performance variables affect the quality of

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<sup>1</sup> Western Balkan Countries: Albania, Bosnia-Herzegovina, Kosovo, Croatia, Macedonia, Montenegro and Serbia. However, Croatia is excluded from our research since it will soon be part of the European Union.

<sup>2</sup> Slovenia is considered as an appropriate base as it has prospered well even though it is a country with many similarities and it has gone nearly the same phases with other countries of Western Balkans

the healthcare in Western Balkan countries. Thus, for heightened accuracy purposes, statistical software is used to identify and measure the relationship among these variables through OLS methodology.

## **Problem Statement**

The healthcare sector in countries of Western Balkans is currently facing a number of issues regarding healthcare financing. Specifically, some of the main financial problems that have followed the healthcare sector in this region are the financing methods that have been used in financing healthcare activities and the attitude of authorities in these countries towards healthcare performance and quality. Regardless of the persons who are making the decisions, the ones who bear the cost from inability to run the healthcare sector effectively are the citizens of Western Balkan countries whose social welfare deteriorates as a result of the denied access to quality healthcare services.

Taking into account that a large portion of healthcare activities is financed by private expenditures, specifically, out-of-pocket payments<sup>3</sup>, healthcare financing methods in Western Balkans are considered to be inappropriate for the region (Mendola, Gragnolati, & Bredenkamp, 2007, p.2). For the most part, due to the poverty rate in the region, which is higher as compared to other countries, it can be said that out-of-pocket payments as a healthcare financing method create barriers for the society to access healthcare services. Due to such payment methods, most of the people living in Western Balkans are not receiving the necessary medical treatments as they are constantly being faced with payment barriers that impede their full access to healthcare services.

Considering the resources dedicated to the healthcare sector in Western Balkan countries, it can be said that authorities in these countries are not seeing the system of healthcare as an important pillar of state development since they are not dedicating enough financial means to ensure a proper operation of the overall healthcare system. Even though, these countries have experienced economic growth over the years, the budget dedicated to healthcare has not changed in

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<sup>3</sup> An expense incurred and paid for by an individual for personal use of medical services

proportion with the economic growth; instead it has experienced very small increases in compare to economic growth (Bredenkamp, Gragnolati, Ramljak, 2008, p.26). This negligence to the healthcare sector has caused an inappropriate functionality of the overall system in most of the countries of Western Balkans. A consequence of such an action can be regarded the low performance of actors involved in the healthcare, specifically, due to the low budget, healthcare systems in Western Balkan countries have lost quite a number of human capital at public health institutions, or at least their performance has been negatively affected by not having enough incentives for them to be fully committed to the healthcare sector in general (Bredenkamp, Gragnolati, & Ramljak, 2008). Thus, this research is conducted to provide some recommendations that would improve the performance and the quality of the healthcare in Western Balkan countries through tackling the connection between financial issues, performance, and quality variables.

## **Healthcare Financing Methods**

Throughout the world, there are four general methods of healthcare financing that are most widely used and which are used in Western Balkans as well. These four methods of healthcare financing are through direct contribution from the budget of a country, health contributions (HIF), direct payments from patients, and through donations. Besides these general healthcare financing methods, many of them are divided in sub-categories in order to specifically state the source of healthcare financing. For instance, contributions from the government budget can be gathered through different types of taxes, while the HIF contributions can be gathered as a fixed amount for every worker or as a percentage of the worker's wage. It is important to mention that there is no state which is dependent solely in one healthcare financing method, rather in all countries there is a combination of different financing methods in order to ensure that there is enough budget for healthcare services and to (tentatively) ensure an efficient use of financing methods. The four general health financing methods, their subcategories, and the way they function are described in the following paragraphs in more detail.

Taxation as a method of financing healthcare functions in a way that certain authorities of the government are responsible to collect different taxes through different means from citizens



operating in that country. Through these taxes, the budget of the country is created, which then dedicates a portion of the budget to different ministries for different purposes. In this case, MoH is responsible for receiving the portion of budget dedicated for health and they are the authorities who prioritize projects and decide how the money is going to be allocated within the sector. Another method of financing healthcare is through HIF contributions, which is similar to the taxation method. As in the previous methods, HIF contributions are paid by the contributors in two forms, in some places they are paid as a fixed amount by every worker, whereas in some others, they are paid as percentages of wages, meaning that the higher the wage, the higher the contribution in the absolute value will be. Unlike the taxation method, HIF contributions from people who are operation in certain country are not classified in the category of the state budget, but rather they are directly categorized in the healthcare budget specifically. Then, the MoH decided over the allocation of these resources within the health sector.

Another important financing method of healthcare is the category of direct payments from patients. This category is part of the private health expenditure since people pay directly for the healthcare services that they use, without the involvement of any third party in the transaction process. Direct payments known also as “out-of-pocket” payments refer to the process when patients visit the healthcare facilities and they directly pay for the services that they use within those facilities. This method is widely used especially in less developed countries and it is a common phenomenon in Western Balkans as well. Another financing method, which is categorized under the umbrella of private expenditures, is through private health insurance. Through this method, patients purchase their health insurance packages prior to the need for medical services. Then, in case patients need any medical services, they are covered by the third party, being the insurance company that pays for the medical services for the patient who have already purchased health insurance. Yet, another form of healthcare financing is through donations. This method occurs when an organization, whether it is internal or external, offers financial support to the healthcare sector of a specific country. Donations are mostly dedicated for less developed countries as they lack the adequate financial means to properly finance the healthcare sector, and as a result, different organizations are continuously willing to help different countries to establish and maintain their healthcare systems.

Each of the healthcare financing methods that have been explained has its positive and negative effect in the health sector of a country. It cannot be said that a certain method produces a certain result in every country, mainly because what is best for one country does not mean that it would be good for another country since there are many other factors that influence the healthcare state of a country. Nevertheless, the effects of each healthcare financing method will be incorporated and explained further in more details throughout the rest of the paper.

## Background Information and Literature Review

The quality of healthcare that people can get is highly affected by the method how societies choose to finance the healthcare system and how many resources they dedicate for the sake of public health. But, what do we consider public health and what do we mean by healthcare financing? *Public health* is defined as “organized community efforts aimed at the prevention of diseases and promotion of health” that focus “on society as a whole, the community, and the aim of optimal health statuses” (Kovner & Knickman, 2011, p.103) whereas, the World Health Organization (WHO) defines *healthcare financing* as “functions of a health system concerned with the mobilization, accumulation and allocation of money to cover the health needs of the people, individually and collectively, in the health system.” (Islam, 2007, p.1) Moreover, according to Kovner and Knickman, the question of defining the *financing of health care* includes not only the payment method, but also persons who contribute to its payment, how users and providers are involved in transaction, and how much in total is spend on healthcare (Kovner & Knickman, 2011). Consequently, the method of financing the healthcare sector is quite sensitive as it can be a determining factor for various implications in the whole healthcare system.

Most goods and services are paid through a simple payment system, you pay for commodities and services directly as you use them and willingness to pay determinates whether you buy a certain good or service with its certain price. But, throughout different scholarly texts, healthcare is neither defined nor considered as a normal good/service and that is mainly because of two features: 1) individual’s needs vary from one to another and 2) the inability of people to pay with cash for medical services considering the high cost of healthcare (Kovner & Knickman, 2011).

As such, the decision on how to pay for the healthcare services is not only an individual issue, but also a matter of societies as a whole. The potential alternatives of financing the healthcare sector are through public and private expenditures. Public expenditure refers to general revenues from taxes gathered in different levels. Some countries can even introduce a specific tax only for funding the healthcare sector and other countries only distinguish a fund from the overall budget of the state (Glied, 2008). Public expenditures are mainly focused to benefit the poor by enabling them access to healthcare services (“Comparative Advantages...”, 2012). Whereas, businesses are suffering from large public expenditures as they are faced with double costs, once by paying for their own health treatments and once by paying higher taxes in order to ensure sufficient funds for public expenditures in health care (“Universal Health Care”, n.d.). Besides, public expenditures in health system decrease the efficiency level by reducing competition between public and private healthcare providers (“Comparative Advantages...”, 2012). Competition is mainly reduced by the fact the through higher public expenditure; people are getting more services in public health institutions, in this case, the willingness of doctors to operate in private sector reduces.

On the other hand, through private expenditures, main funds are gathered from the out-of-pocket payments and private health insurance funds (Glied, 2008). Private financing contributes to the augmentation of healthcare resources and avoids pressuring the public financing methods (Polton, 2011). Moreover, according to Polton out-of-pocket payments, as a private financing method, enables patients a greater choice and also increases the level of responsiveness from the side of healthcare providers. This occurs as people are flexible in choosing where to receive a medical service, this also increases the responsiveness level of the healthcare providers as they are directly dealing with the patients and there is no third party involved in the process (Polton, 2011). But, Drechsler and Jütting argue that through out-of-pocket payments catastrophic health costs threaten many families that lack the adequate social protection which denies medical treatment to them. They continue that high cost of healthcare have also indirect effect related with illnesses as one household can experience loss of productive capital in order to receive the sufficient medical treatment (Drechsler & Jutting, 2005). On the other hand, they argue that

private health insurance reduces risk-pooling<sup>4</sup> for people who choose to make a pre-payment. Private health insurance can also reduce bureaucratic processes in health sectors and increase efficiency of the system as a whole (Drechsler & Jutting, 2005). Nevertheless, Polton states that private health insurance creates moral hazard problems as people tend to overuse the free or almost free services (Polton, 2011)

It is important to efficiently decide on the financing method of healthcare sector in a country since according to Glied “an efficient system minimizes the deadweight losses associated with raising and disbursing revenue” (Glied, 2008, p.1). However, countries decide on individual levels which system is best fitted for the strategies of the country and for their citizens. For instance, United Kingdom has a “single-player” system in which the health care is directly funded by government. In Germany and France, part of the health sector is funded from the government by collecting taxes, and the other part is paid by the employers and individuals directly. Whereas, countries such as United States have a “market-based” system in financing the healthcare sector, meaning that it is paid by private entities such as companies and individuals, but it is also helped by government by providing healthcare services for vulnerable people (“Financing Health Care” n.d.). According to report published by WHO, United Kingdom’s healthcare system has a first-class health result with slight difference among its population and high marks for financial fairness, though, responsiveness from healthcare providers is relatively low compare to that of United States (Bolnick, 2002). Even though, some financing methods of healthcare system can be ranked higher in specific categories, still no evidence is found to prove that one financial system is the best and most the efficient one by being ranked high in the entire comparison categories, thus, each method has its advantages and disadvantages.

Regardless of the type of financing the healthcare sector, according to the World Bank (“Health System Financing”, 2010), all countries should adjust their financing alternative to attain three elementary principles; 1) “Raise enough revenues to provide individuals with the intended packages of health services that assure health and financial protection against catastrophic

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<sup>4</sup> The World Health Organization: “the practice of bringing several risks together for insurance purposes in order to balance the consequences of the realization of each individual risk” (Smith & Witter, 2004)

medical expenses caused by illness and injury in an equitable, efficient and financially sustainable manner”, 2) “Manage these revenues to pool health risks equitably and efficiently”, and 3) “Ensure the payment for or purchase of health services is carried out in ways that are allocatively and technically efficient” (par.1). Basically, these are the main objectives of providing an efficient method of financing the healthcare sector, whether these objectives are achieved or not, it depends on the economic development and the sustainability of the health sector itself

Considering the overall objectives of healthcare financing methods, can Western Balkan countries provide sufficient evidence to prove that their healthcare financing systems are adjusted towards these objectives? The healthcare sector across the Western Balkans is characterized by a lack of sufficient administrative resources, crucial legislation and regulation, and considerable limits in assuring necessary budget (“Assessing Human...”, 2010). Mendola et al. analysis has shown that in the sub-region, due to geographical locations and economic status, the rates of healthcare utilization are different at a significant level through different socio-economic groups (Mendola, Gragnolati, & Bredenkamp, 2007). Nevertheless, Western Balkan countries are currently undergoing some reforms in health sector with the main objective of improving the state of health through increasing efficiency in expenditures, and offering protection in case of financial costs of illness (Bredenkamp, Gragnolati, & Ramljak, 2008).

The financing system of the healthcare sector in Western Europe is namely a pure “Beveridge” system which is characterized by being funded from general revenues with a collective right to an unbiased range of services (Bredenkamp & Gragnolati, 2007,). Western Balkan countries are also considered as a Beveridge system, but not as pure Beveridge, rather with some significant changes in the overall financing methods (Bredenkamp & Gragnolati, 2007). Basically, three main financial sources are recognized in Western Balkans; social health insurance fund (i.e. mandatory contribution as payroll taxes), governmental revenues (i.e. from the overall budget), and out-of-pocket payments (i.e. paid directly by the user of the service). Yet, voluntary health insurance and donor funds are some other financial sources of the healthcare sector in the region, which can be explained as voluntary payments of individuals to avoid catastrophic healthcare costs and payments offered as donations from different organizations, respectively (Bredenkamp

& Gragnolati, 2007). The above mentioned systems are the financing methods used on the Western Balkans, however, the healthcare financing system in the countries where this paper is focused (i.e. Albania, Bosnia and Herzegovina Montenegro, Macedonia, Kosovo, and Serbia ) is slightly different from one another.

## Albania

Albania is country of Western Balkans whose health sector is financed by a combination of general tax, payroll tax to the mandatory health Insurance Institute (HII), and voluntary expenditures to the Voluntary Health Insurance, out-of-pocket payments, and from various international and domestic donors. Among them, the Ministry of Health (MoH) and Health Insurance Institute (HII) play the most crucial financial role (Makru, 2010). Çopani et al. have shown that Albania has managed an increase in its economic development, but still the healthcare sector remains significantly underdeveloped (Çopani, Lipe, Hobdari, & Schneider, 2010). According to a report published by the World Bank, many indicators have shown that Albanian healthcare have prospered during the last decades, but many other sources have shown that its health sector is not in a favorable place in comparison to the countries of South Eastern Europe (Huppi, 2006). Based on the World Health Statistics published by the World Health Organization, in 2009, Albania's total health expenditure were 6.9% of the overall GDP and health expenditures per capita were US\$260, one of the lowest in the region. Due to low public expenditures on the health care, out-of-pocket expenditures are high, they consist 59% of the total health expenditure and 99.8% of the total private expenditures<sup>5</sup>. The high levels of out-of-pocket payments cause serious “equity, poverty and health sector stewardship implications” (Hajdini & Genard, 2009), (Huppi, 2006). Moreover, a World Bank publication classifies the quality of healthcare in Albania as low, mainly because human capital remains isolated and unable to receive trainings to upgrade their skills (Huppi, 2006).

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<sup>5,4</sup> *World Health Statistics 2012*. (2012). .: World Health Organization.

## Bosnia and Herzegovina

Bosnia and Herzegovina is funded by a compulsory national health insurance, governmental budget, private contribution, and donations. (Ivankovic, Ravlija, Ckobic, & Vasilj, n.d.), (“Health and Development”, 2010). According to a study done by Kutzin, Cashin, and Jakab, healthcare system in Bosnia and Herzegovina is suffering from an inefficient administrative management as the system is facing high numbers of unnecessary staff due to multiple small pools and also different socioeconomic situations among the entities and cantons (Kutzin, Cashin, & Jakab, 2010). Moreover, a report published by WHO shows that the overall economy of Bosnia and Herzegovina burdens the effects of an unsustainable financial system in the healthcare sector (“Health and Development”, 2010). WHO statistics show the financial state of healthcare system in Bosnia and Herzegovina in 2009, where total spending on healthcare was around 10.9% of the GDP whereas per capita expenditures on the same year were US\$ 495. Besides, the statistics show that private expenditures on healthcare compose 38.7% of the total spending, and the concerning fact that 100% of the private expenditure are funded by out-of-pocket payments<sup>6</sup>.

## Macedonia

In Macedonia healthcare is financed by a combination of public and private expenditures. Public is considered the Health Insurance Fund (HIF) which is funded by a payroll tax, pension fund, unemployment fund, and from general governmental budget. While, out-of-pocket payments consist most of the private expenditures (Kjosev, n.d.) (Apostolska & Tozija, 2010) (Karol, 2007). According to a report published by the Ministry of Health, because of the lack of training of necessary individuals, financial management in the healthcare sector is quite poor, basically, this report noticed an absence of incentives to control the financial sector in the healthcare, this is supported by both patients and doctors, who do not report mismanagements (“Health Strategy...”, n.d.). As a result of poor financial management in the health system, Apostolska and Tozija argue that the already high out-of-pocket payments will continue to increase, thus

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adding up to social inequities between classes of people in regards to health services they receive (Apostolska & Tozija, 2010). Observing for WHO statistics, can be seen that total expenditures in health sector in Macedonia in 2009 were 6.9% of the GDP and the expenditures per capita in the healthcare were US\$ 311. It is also important to mention that out-of-pocket expenditures compose 33% of the overall expenditures and 99.1% of the private expenditures<sup>7</sup>.

## Montenegro

Montenegro is a country in which the healthcare sector is financed through mandatory health contributions, general governmental funds, out-of-pocket payments, and donors (“Health and Development”, 2011) (“Development of Healthcare...”, 2012) (Stonelake, 2011). According to a development plan published by the Ministry of Health in Montenegro, the country has experienced positive steps, but due to weak socio-economic conditions in the country, Montenegro’s health lags behind when comparing it with EU countries (Stonelake, 2011) (“Montenegro 2011...”, 2011). Further, a report issued by WHO on World Health Statistics shows that the total health expenditures in Montenegro in 2009 were 9.4% of the total GDP, whereas health expenditures per capita are US\$ 621. The same report continues to explain that public expenditures are only 71.3 % of the total expenditures, and 28.3 % are private expenditures. The out-of-pocket payments entail 26% of the overall health expenditure and 91% of the private expenditure<sup>8</sup>. High levels of out-of-pocket payments are some negative signals that healthcare system is not functioning in a proper manner.

## Kosovo

Kosovo has a healthcare system financed by the overall budget of the state, private payments, and donors. The government collects different taxes to create the budget, then allocates a small part to the healthcare sector, whereas since there is no mandatory health insurance<sup>9</sup>, most of the private expenditure is paid directly from users of healthcare services (Katsu, 2008) (Percival & Sondorp, 2010) (“Health Support...”, 2010) (Basha, Cahanaj, & Mustafa, 2011). Based on a

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<sup>7</sup> *World Health Statistics 2012*. (2012). .: World Health Organization.

<sup>8</sup> *World Health Statistics 2012*. (2012). .: World Health Organization.

<sup>9</sup> Draft law exist but it needs to be ratified and implemented



report written by Buwa and Vuori, published by the Oxford University Press, due to mismanagement and low levels of healthcare funds, salaries of healthcare providers are low; therefore, their incentives and motivation toward serving in the public hospital are declining (Buwa & Vuori, 2006). To continue, Bislimi et al. on their analysis about the health insurance sustainability presented the fact that healthcare providers are using their position as an opportunity to depart patients from public to their private clinics. Since there is lack of governmental control, citizens are mainly confronted with different prices as the price is negotiated on individual basis. As such, direct private expenditures compose a high proportion of total expenditure (B. Bislimi, Muhaxheri, Demukaj, & F. Bislimi, 2006). According to a report published by the World Bank, total health expenditures in Kosovo in 2006 were 6.7% of the GDP and only 57.1 Euro per capita expenditures in health services is (US\$ 79.94, exchange rate Euro1=1.40 US\$). Additionally, the public spending consists of 47.55 % of the overall spending, 48.21% of private expenditures, and the remaining 4.24% consisting of donations (Katsu, 2008). The publication also presented data that shows that private expenditures are mainly consisted of out-of-pocket payments (Katsu, 2008).

## Serbia

Furthermore, the healthcare system in Serbia is funded by a mixture of public and private contributions. The Republic Health Insurance Fund (HIF) is financed through compulsory contributions and is one of the crucial sources in funding the health sector. Health in Serbia is also financed by governmental budget and out-of-pocket payments, which consist of nearly the entire private expenditures and donations as well (Stevanovic, Dimitrijevic, Vuksa, & Jovanović, n.d.) (Sulovic, 2011). Stevanovic et al. on their report about health system in Serbia found out that the current financial system in Serbia is insufficiently regulated. They argued that due to the absence of private health insurance, the marked system becomes unstable and the prices are negotiated by individuals rather than by an influential institution. This gives power to healthcare providers and the system as a whole gets out of balance or market equilibrium (Stevanovic, et al. n.d.) (Cutler, 2002). To continue, Djurovic disagrees with the notion of the WHO that the health sector in Serbia is progressing. She argues that many studies have shown that the Serbian health system is one of the most corrupted in the country. As a consequence, along with a lack of

integrated healthcare and corruption, the performance of the healthcare actors becomes very poor (Sulovic, 2011). Apart from the mentioned issues, the quality of healthcare in Serbia is ranked as the lowest in the European Region based on the 2012 European Health Consumer Index (EHCI) (Björnberg, 2012). WHO statistics presents that the overall health spending in Serbia in 2009 consisted of 10.5% of the GDP while per capita expenditures were US\$ 576. The same statistics also have shown the high level of out-of-pocket payment, namely 35% of the overall health expenditure and 92.2% of the private expenditure, which consist 38.1% of the total expenditures<sup>10</sup>. According to a study made by Rezayatmand et al., out-of-pocket payments can easily create financial blockades and decline the use of health preventive services due to high cost of healthcare services (Rezayatmand, Pavlova, & Groot, 2012).

## Methodology

Data gathered for this paper are of the type **Descriptive-Qualitative**, meaning that available data and reports published about the healthcare financing in the Western Balkans have been collected for further analysis. The data are taken from reliable and credible sources such as World Bank, International Monetary Fund, World Health Organization, UNDP reports, Ministries of Health, Ministries of Finance, and Statistical Offices of all countries in the analysis. After classifying the data, some categories have been created to identify the differences and similarities between the financing methods used in the region, as well as to compare them with a reference point such as Slovenia. Slovenia<sup>11</sup> is considered as an appropriate base as it has prospered well even though it is a country that has many similarities with the other countries of Western Balkans, and it has gone nearly through the same phase of transition. The analysis is done through measuring the effect of health care financing on the performance measurement variables, being the number of physicians and number of nurses and how the performance variables affect the quality of the healthcare system, being the life expectancy in a specific country. To be as accurate as possible in measuring the relationship and the effects among identified variables, statistical software has been used in running regression analysis with gathered data. Since it was impossible to capture

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<sup>10</sup> *World Health Statistics 2012*. (2012). .: World Health Organization.

<sup>11</sup> Slovenia, as other Western Balkans, was part of ex-Yugoslavia and after the separation of Yugoslavia; Slovenia managed to gain its independence. Thus, Slovenia is a proper base point due to the similarities that Slovenia and other Western Countries have gone through.

and measure the relationship among variables in one model of regression analysis, the paper uses several regression functions in order to accurately establish the results of the relationships. The variables that are proven to be important for financial comparisons among countries are as follows:

**Total Health Expenditure** - Total expenditures spent in healthcare services and institution as a percentage of GDP of each country in Western Balkans.

**Public Expenditure** - The percentage of total expenditures composed by spending classified as public expenditures in each country such as; spending on health care from state budget.

**Private Expenditure** - The percentage of total expenditures composed by spending classified as private expenditures in each country such as; private insurance and out-of-pocket payments.

**Out-of-pocket Payments** - The percentage of private expenditure composed of out-of-pocket payments or direct pay for health care services by citizens of each country.

**Private Health Insurance** - Whether focused countries have mandatory or not mandatory health insurance, as well as the percentage of total population of each country with private health insurance.

**Health Expenditure per Capita** – Total expenditures per capita of each country in the region for one specific year in terms of monetary value such as US Dollars<sup>12</sup>.

While identifying the differences and the similarities among the health care financing system in Western Balkan countries, the research tries to find out whether health care financing methods do affect the quality and the performance of the health care providers. Thus, a set of criteria is established to measure the effect of financial methods on the quality and the performance of the

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<sup>12</sup> Even though US Dollars currency is not an official currency in the region, still by many reports data are only available in this currency.

health care system. As such, the performance of the health care system in the Western Balkan countries is measured based on the following variables:

**Life Expectancy** - The average number of years that a person is expected to live from the reference point, which in this case it is from the birth.

**Mortality Rate** - Number of deaths per 1,000 population that occur during a certain year in a specific country.

**Physicians Ratio** - The number of physicians/doctors per 100,000 population in each of the Western Balkan countries

**Nurses Ratio** - The number of nurses per 100,000 population in each of the Western Balkan countries

**Hospitals Capacity** - The capacity of hospitals is measured by the number of beds per 10,000 population in each of the Western Balkan countries

**Salaries of Health care providers** - The average salary of healthcare providers in public institutions in each of the Western Balkan countries.

**Infant Mortality Rate** - Number of deaths in infants up to 1 year per 1,000 live births in a certain year.

To continue, the paper also considers the option of applying different financing methods from one country to another and to see whether that might have any positive impact on the overall health care system of a country. These are done through by using different numbers in the data set and see whether this affects the result of the regression.

## Stakeholders

The table below refers to the main stakeholders as they have been identified to impact or be impacted by the financing methods of healthcare system in a certain country. The table shows the duties of stakeholders and the requirements in performing their activities in order for the healthcare system to operate as efficient as possible.

**Table 1: Information Requirements for Stakeholders in Healthcare System**

Stakeholder	Examples of needs	Data Requirements
Government	Monitoring the health of the nation Setting Health Policy Ensuring that regulatory procedures are working properly Ensuring that government finances are used as intended Ensuring that appropriate information and research functions are undertaken Monitoring regulatory effectiveness and efficiency	Information on performance at national level information on access and equity if care Information on utilization of service  Population health data
Regulators	Protecting patient's safety and welfare  Ensuring broader consumer protection  Ensuring the market is functioning efficiently	Timely, reliable and continuous information on patient safety and welfare  Information in probity and efficiency of financial flow
Payers (taxpayers and members of insurance funds)	Ensuring money it being spend effectively, efficiently, and in line with expectations	Aggregate, comparative performance measures  Information on productivity and cost-effectiveness Information on access to (and equality of) care
Purchaser Organizations	Ensuring that contracts offered to their pateints are in line with the objectives the patients expect	Information on patient experience and patient satisfaction  Information in provider performance Information on cost-effectiveness of treatments

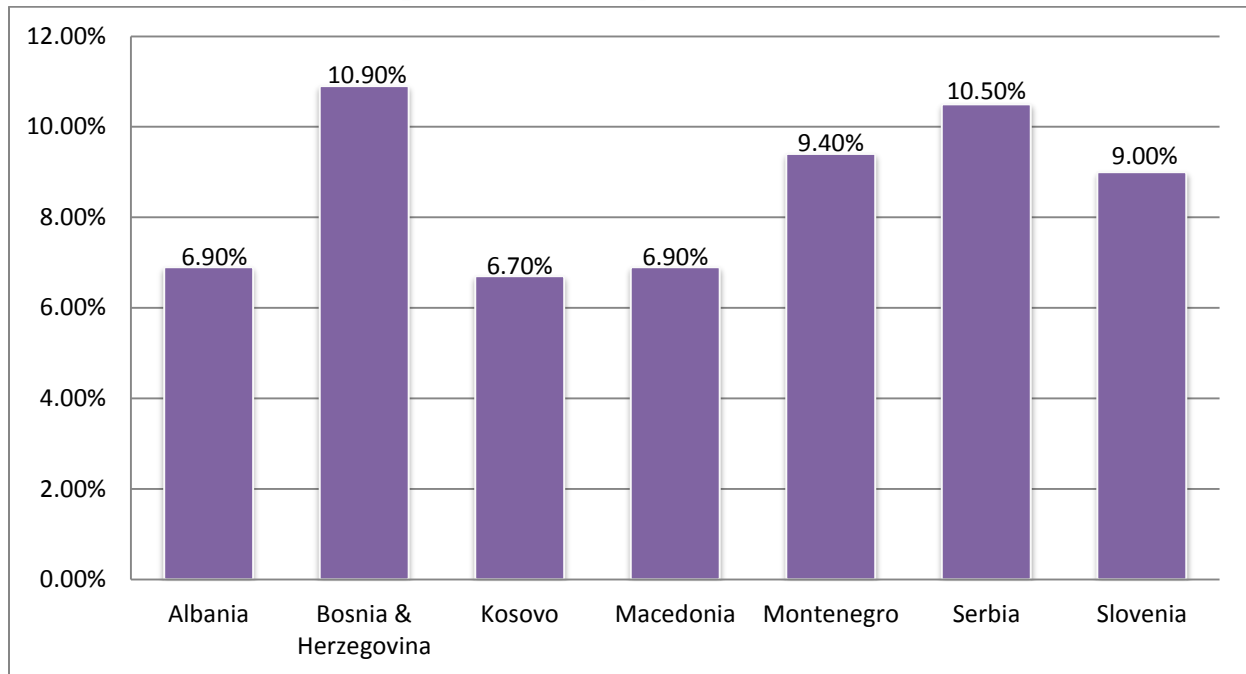
Provider Organizations	Monitoring and improving existing services Assessing local needs	Aggregate clinical performance data Information on patient experience and patient satisfaction Information on access and equity of care Information on utilization of services and waiting times
Physicians	Staying up to date with current practice Being able to improve performance	Information in current practice and best practice Performance information benchmarks
Patients	Being able to make choice of provider when in need Information on alternative treatments	Information on location and quality of nearby emergency health services Information on quality of options for elective care
The public	Being reassured that appropriate services will be available if needed in the future Holding government and other elected officials to account	Broad trends in and comparisons of system performance at national and local levels Efficiency information Safety information

## Analysis

Apart from the variables mentioned above in the methodology section, that will be evaluated further in the paper, there are many other important factors such as; income levels and poverty, education, nutrition and sanitation, culture and social factors, and health-related policies that affect the health care system and the performance of the health care providers (Cichon, 1999, p.17). However, not all these factors will be analyzed, but rather they will be incorporated within the variables mentioned in the methodology section as they are proven to be of less importance in impacting the overall performance and the quality of healthcare sector.

To begin with, the differences and the similarities of financial variables are analyzed. One of the most important financial variables is the total health expenditure as a percentage of GDP in each country. Figure 2 presents the total health expenditure as a percentage of GDP for each country.

**Figure 1: Total Health Expenditure as a percentage of GDP**



Source: WHO- World Health Organization

As it can be inferred by the Figure authorities in Bosnia-Herzegovina, Serbia, and Montenegro consider the healthcare system quite important as they have allocated relatively a large portion of their GDP to provide for the health system of their countries. In 2009, the healthcare systems of Bosnia-Herzegovina, Serbia, and Montenegro accounted for 10.9%, 10.5%, and 9.40% respectively, of their total GDP. Knowing this, it can be argued that in percentage terms these countries stand in the same level with many more prosperities countries, and they even have larger proportions of health expenditures than some countries such as Slovenia. On the other hand, we have countries with lower total expenditures such as Albania, Kosovo, and Macedonia, which are categorized with a similar level of expenditures, namely between 6.70% and 6.90 % . In comparison with other countries, this low percentage of total expenditures might serve as a key factor in determining the health care quality and performance. As such, focusing only on this variable and holding everything else constant (*ceteries paribus*), it can be implied that Bosnia-Herzegovina, Serbia, and Montenegro should have their health systems competitive with developed countries because they are in the same level with Slovenia in terms of total health expenditure as a percentage of GDP, whereas other countries with lower health expenditure

should have a less developed healthcare system since they are quite behind compare to other countries in terms of this variable.

Despite the differences in the expenditures, all countries at issue have a similar status in terms of quality and performance of health care sector (see page 29). Thus, there is a tendency to believe that increased health expenditure in a country do not necessary lead to an improved health quality and performance. In their book on the topic of whether more money translates into better health, Irvine and Ginsberg purport that the issue whether higher expenditures lead to a better health quality and performance is far more complex than it appears as the relationship of health expenditures and health quality is very complex to be measured (Irvine, Ginsberg, Woods, 2004, p.2). They continued further in analyzing this relationship and came to a conclusion that financial resources are quite important in affecting many factors that determine the health quality of a country, however, they argue that more money does not always result in a better health quality due to mismanagement or misallocation of resources (Irvine, Ginsberg, Woods, 2004, p.5). Having said this, some other important questions must be raised; such as where does this money go? How is this money allocated? These questions are of great importance as they are linked to the actors of management of health sector in a certain country, and which are crucial in determining and shaping healthcare policies. For instance, authorities that are responsible for healthcare activities might intentionally or unintentionally misallocate resources towards project that result not to be the best alternative option. Therefore, identifying the effect of management in the overall health system of the country raises a separate issue within itself and poses great interest in understanding the implication of situation where such management was not carried out successfully.

While looking at the total healthcare expenditures as a percentage of GDP of the countries at focus in relation to Slovenia, quite a portion of similarities were noticed. However, if the variable of health expenditure per capita is added, the gap among countries starts to widen. As seen in Figure 2, in percentage terms, three countries of Western Balkans, Bosnia-Herzegovina, Montenegro, and Serbia are in the same level as some more developed countries such as Slovenia. But if analyzed according to health expenditures per capita, it is noticeable that the difference between countries in the region and more developed countries is quite significant, as



presented in Figure 2 below. The reason why there is a difference in financial terms between the variable of total health expenditure and health expenditure per capita is because in the first variable only the overall health expenditure as a percentage of GDP is considered, whereas in the second variable, the total health expenditure is presented in monetary terms rather than as a percentage of GDP while taking into consideration the number of population as well. Specifically, the health expenditure per capita is calculated with the following formula:

$$(1.0) \quad X_i = Y_i / Z_i$$

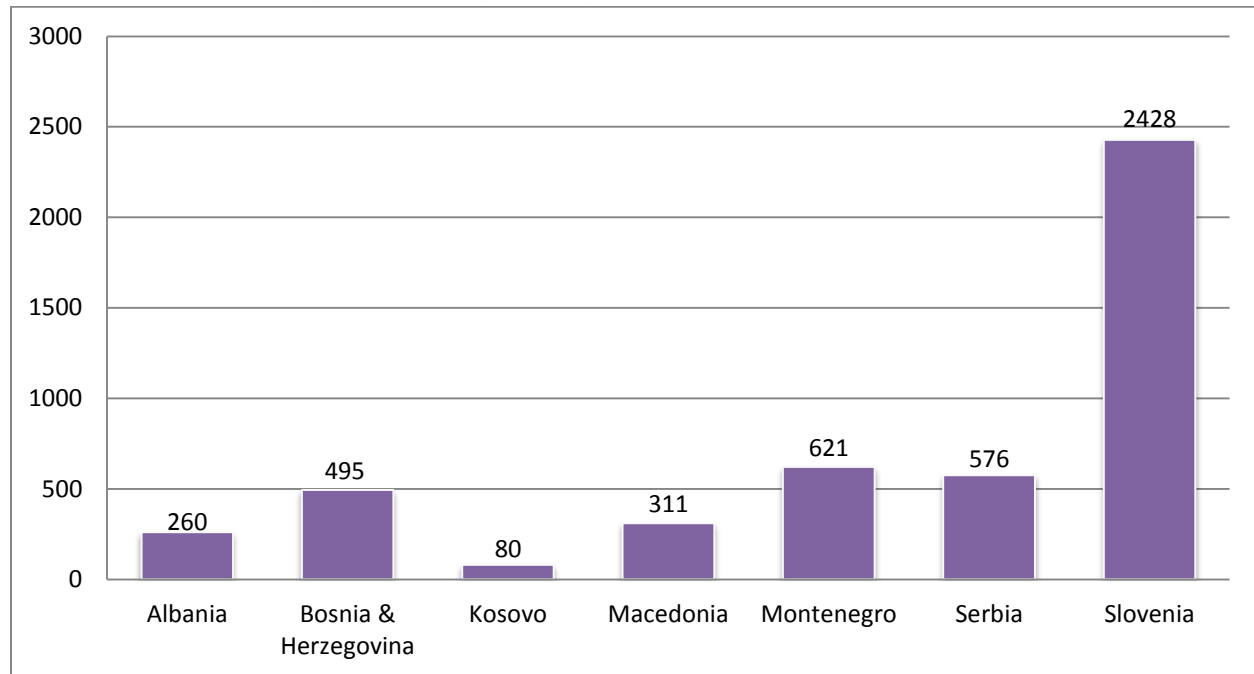
X: Health expenditure per capita of country i

Y: Total health expenditure of country i

Z: Total Number of population of country i

Based on this formula, a conclusion can be made that in terms of percentage of GDP, countries tend to have similar health expenditures, but when the calculation is done in real monetary values, countries tend to differ because GDP is significantly different between countries of our focus and the more developed countries such as the country of reference, Slovenia. Moreover, the population number is also important in calculating the health expenditure per capita. Principally, looking at formula 1.0, it can be said that holding total health expenditure constant, the higher the total number of population, the lower will be the health expenditure per capita, whereas holding the number of population constant, it results that the higher the total health expenditure, the higher will be the portion of health expenditure for each individual.

**Figure 2: Health Expenditure per Capita**



Source: WHO- World Health Organization

Referring to Figure 2, even at first glance it can be noted that Slovenia, which is considered a more developed country than the others, dominates the variable of health expenditure per capita. This difference of Slovenia's health expenditure per capita is more than 4 times higher than Montenegro's health expenditure per capita, which is considered to be the highest in the region, and more than 25 times higher than Kosovo's health spending per capita, which is considered to be the lowest in Western Balkans. Among the Western Balkan countries, the ones with the higher health expenditures per capita are Montenegro with an annual average \$ 621 per person spent on health care, followed by Serbia with an average of \$ 576 per person spent on health care, and Bosnia- Herzegovina, with an average of \$ 495 spent on health care per person. On the other hand, the remaining countries, Albania, Macedonia, and Kosovo have even lower health care expenditures per capita, \$ 260, \$ 311, and \$ 80 respectively. Currently, Kosovo not only has the lowest average health expenditure per person in the region, but it has the lowest health expenditure per capita in entire Europe. Even though, it was mentioned that more financial resources do not mean better health quality and performance, still for many scholars and experts, if the system is managed properly, financial resources are of great importance in the function of health care system. In a study done regarding health care financing, Cichon, Yamabana, and

Normard stated that “financing is a critical element determining the quantity, and quality of health services” (Cichon, 1999, p.34). Having said this and aware of the financial situation that is prevalent in the health sector in Western Balkans, it can be inferred that the overall healthcare systems in the region is in severe conditions since most of the countries stand low in terms of health budget dedicated to healthcare system. Nevertheless, the situation becomes more soften with the fact that the amount of total health expenditures in Western Balkans countries has been increasing over the years, but with the lower rate compare to that of economic growth (Bredenkamp, Gragnolati, Ramljak, 2008, p.26). As such, it can be said that for governments of countries at issue, the health sector is not considered one of the most important factors in the development of the country, and these countries over the years allocate smaller percentages of their GDP to the healthcare system, particularly as the growth in GDP is more rapid than that on total health expenditure (see Appendix 2).

Until now, the discussion was done on how much a country spends on health expenditure in terms of percentage of GDP, and the expenditures in health on individual basis. But, after adding the variable of composition of health expenditures, things tend to be more complex, as now not only the amount spent on health is considered, but also how these expenditures are composed and their effect on the quality and performance of the health care. This variable shows the composition of total health expenditures, meaning that how much of total health expenditure is financed by public expenditures, how much is financed by private expenditures, and how much is financed by donations. The formula for calculating the composition of health expenditure is as follows:

$$(2.0) \quad Y = A + B + C, \quad 100\% = A + B + C$$

Y: Total Health Expenditures

A: Public expenditures

B: Private expenditures

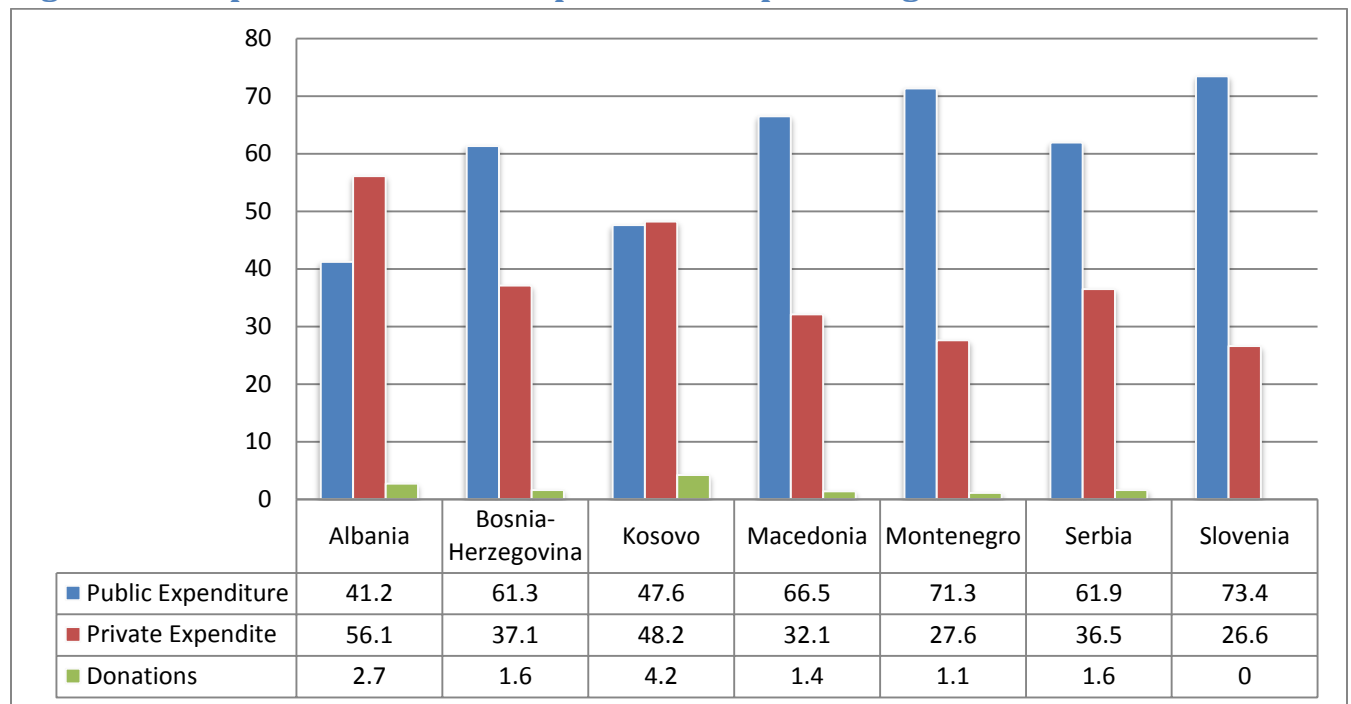
C: Donations

In this case, total health expenditures must always equal to 100 because A, B, and C are presented in percentage terms which show the total composition of Y. Knowing that by adding

A, B, and C the result will always be 100, the independent variables are mutually exclusive when presented as percentages, thus, one's percentage can be increased only if there is a decrease in one of the other independent variables.

Figure 3 below shows the composition of health expenditure in countries of Western Balkans and that of the reference point, being Slovenia. The graph is created by using formula 2.0 for each country individually.

**Figure 3: Composition of health expenditure in percentage terms**



Source: WHO- World Health Organization

Based on the above graph, it is noticeable that in some countries of Western Balkan, public expenditures compose a higher portion of the total health expenditure. Total health expenditures in countries such as Montenegro and Macedonia are mostly financed by public expenditures, specifically 71.3% and 66.5% of the total health expenditure is composed by public financing. Even though these two countries are nearly similar with Slovenia (73.4%) in terms of composition of health care, still in other countries, public expenditures compose a lower portion of the total health spending. In this regards, Albania's and Kosovo's health financing went towards private expenditure rather than public expenditure. Albania's health expenditure is

composed of 56.1% by private expenditures, whereas Kosovo's health expenditure is composed of 48.2% by private expenditures. In these countries more than half of the health expenditures are made up of private expenditures. Besides public and private financing, in Western Balkans, health care is also financed by external sources; however, donations tend to be of less significance in most countries since they only comprise 1-2% of total health expenditure. It is worth mentioning that compared to other countries; donations have a higher impact on Kosovo's health system as they make up more than 4% of total health expenditure, which might be considered as a significant amount especially in relation to the other countries who are part of the study.

Both, public and private expenditures have their positive and negative impact on the health care system of a country. For instance, public expenditures are used with the main purpose of providing health care services to poor households and ensuring equal access to healthcare services for all population of a country ("Comparative Advantages...", 2012). Besides this positive impact, public expenditure is also known as a difficult financing form to manage due to self-interest goals involved in it. But this problem is of different importance level depending on the country ("Comparative Advantages...", 2012). Even though, sources of public expenditure are not regarded as the best financing method of health care sector, still knowing the poverty state of the region, public spending is a proper way to finance health system as it provides medical treatments to people who cannot afford to finance themselves. The universal access to health care is also in compliance with the MDG which clearly point out that the state must ensure the access to essential health care to every citizen (Ataullahjan, Sardinha, Turyahikayo, 2011, p.3).

On the other hand, private expenditure consists of out-of-pocket payments and private insurance. Since in Western Balkan countries there is no policy that would make private health insurance mandatory<sup>13</sup>, a very small percentage of people purchase health insurance packages voluntarily. Health insurance is one of the best ways to finance health care because it is risk averse, meaning that the risk for financial catastrophes is reduced and many other indirect negative effects are

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<sup>13</sup> Kosovo, unlike other countries, has a draft law about the mandatory health insurance but it is not functional since it needs to be approved and ratified by the Assembly of Kosovo.

avoided (Drechsler & Jutting, 2005, p.5). But in Western Balkan countries, this positive impact of health insurance is not felt as a very small percentage of people purchase health insurance packages. Moreover, in this region, private expenditure usually refers to out-of-pocket money, since it consists of more than 90% of the private spending (“World Health Statistics”, 2012). According to Polton, one of the benefits of out-of-pocket payment method on the health care system is that it enables patients a greater choice and also it increases the level of responsiveness from health care providers as patients are directly dealing with the provider and not through a third party. Thus, the provider is responsible to the patient as he/she pays him, rather to any other authority that would pay him (Polton, 2011, p.10). Regardless this positive impact, Drechsler and Jutting argue that out-of-pocket payments denies access to medical treatments to poor household, which do not have the adequate social protection (Drechsler & Jutting, 2005, p.1). Poverty rate in the region is quite high, 6.6% in Montenegro to 34.5% in Kosovo<sup>14</sup>, excluding Montenegro, other countries of Western Balkans have higher rates of poverty as compared to Slovenia. Thus, it can be said that out-of-pocket payment is not a proper financing method of the health care sector as it limits access to healthcare to the households which are living on poverty and which do not have the means to finance their medical treatments.

Further, the analysis shifts towards the question on how the aforementioned financial methods affect the quality and the performance of healthcare sector. The financing methods of healthcare system are linked with the quality and the performance of the health sector through the characteristics identified in Table 2. According to the research organization Brookings; “there is no system in place to efficiently evaluate the quality, effectiveness, and safety of the care that is delivered” (“Overview - Engelberg Center for Health Care Reform”, n.d., par.1). Although, it is very complex to measure the quality and the performance of healthcare systems, still some assumptions can be drawn from theory. The impact of health care budget and financing methods on the variables can be identified in Table 2, while the effect of these variables on the quality and performance of the system can be determined based on theoretical assumptions. This relationship among variables is also presented through regression analysis.

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<sup>14</sup> According to World Bank Database

For instance, Irvine, Ginsberg, and Woods (2004) believe that money dedicated to health care does not have any effects on the mortality rate of a country, but the studies show otherwise. On their study whether mortality is affected by money, Gardner and Oswald emphasize that “income has no immediate effect on mortality risk, though it may operate with a long lag through an effect on health” (Gardner & Oswald, 2004, p.10). In other words, a country cannot immediately affect the mortality rate by deciding to increase spending on healthcare, but through more expenditure, it can provide better health services and protect the health of its citizens over the years, which results in a lower mortality rates.

Yet, there many other factors that do affect the health and mortality rate directly and indirectly, among is the environmental–related factor. For example, factories which are not environmental friendly cause health damages to people living nearby the “contaminated” areas. A report published by the World Bank illustrates that Kosovo’s Energy Cooperation (KEK) is one of the biggest air pollutants in Kosovo and in the region, as a consequence of which many people get health implications (“Kosovo: Country Environmental Analysis”, 2011, p.21). Such implications are encountered quite often in Western Balkan countries due to a high level of environmental pollution. Nevertheless, how to positively influence the impacts of this harsh reality and abandon these kinds of problems is a topic that needs to be researched, however the focus of this paper is how do governments of Western Balkan countries influence and shape the healthcare financial policies to take care and protect their citizens from such implication through affecting performance variables and quality variables.

**Table 2: Health workforce and infrastructure**

	<b>Mortality Rate per 1,000 people</b>	<b>Hospital Beds per 10,000 People</b>	<b>Life Expectancy (years)</b>	<b>Physicians per 10,000 people</b>	<b>Nurses per 10,000 people</b>	<b>Infant mortality rate per 1,000 people</b>	<b>Overall Ranking</b>
<b>Albania</b>	6	28	73	11.5	39.0	16	56 <sup>th</sup>
<b>Bosnia &amp; Herzegovina</b>	10	34	76	16.4	50.4	8	55 <sup>th</sup>
<b>Kosovo</b>	7	14	69	9.4	26.1	40	N/A
<b>Macedonia</b>	9	45	74	26.3	6.1	10	51 <sup>th</sup>
<b>Montenegro</b>	10	39	75	21.0	55.8	7	53 <sup>th</sup>
<b>Serbia</b>	14	54	74	21.1	45.5	6	61 <sup>th</sup>
<b>Slovenia</b>	11	46	79	25.1	83.9	2	39 <sup>th</sup>

Source: WHO- World Health Organization

To illustrate the point on how the health of people is influenced by healthcare financing policies; a relationship is measured between money and the variables in Table 2. For instance, the model determined the ways in which financial policies influence the number of physicians and the number of nurses in the healthcare sector of a country and how these variables impact the quality and the performance of the services they provide. Financing is used as a compensating incentive for health care providers, meaning that through financial means the management of healthcare can attract human resources to be involved in the health sector. According to an article written by Mark Haglan, money is one of the most efficient incentives in attracting nurses and physicians to serve in the healthcare system of a country (Hagland, n.d., par.1). This implies that a higher financial allocation to the healthcare sector serves as an attraction for people to dedicate their careers to healthcare. To measure the relationship between financial means and the number of physicians and nurses in the health care sector, a regression analysis is used with the available data on Western Balkan countries. It is important to mention that due to the non-linear relationship between these variables, natural logarithmic (ln) function is used to convert this relation in a linear function. Moreover, to be more realistic and accurate, the health expenditure per capita is considered as a financial mean since it captures more factors, such as number of population and total health expenditure and presents real monetary expenditures. The effect of health expenditure per capita on the number of physicians and nurses is considered individually as it is almost impossible to measure its effect on both variables at the same time.



When consulting theory and previous studies over the effect of money on the number of physicians, it turns out that money is one of the most important motivators that push people to be involved in healthcare. Specifically, according to a study published in Medical Education, “money is a major factor in the shrinking number of general practitioners (family doctors or primary care physicians)” (“For Young Doctors, Money...”, 2010, par.2). Moreover, physicians, just like other individuals, are driven by self-interests, and as self-maximizing agents they strive to create a better life and secure future. Even though, many doctors claimed that there are several other indicators that motivate them to be part of healthcare system, still money plays a crucial role in determining the number of physicians in a healthcare sector of a country. In this regard Amundson *et al* (2003) conducted a study where a bonus was promised to physicians who would manage to positively affect a certain patient’s behavior, which in the case at point was to make patients quit smoking. This study found out that the physicians, to whom the bonus was promised, have managed to make a larger number of patients quit smoking (qtd in. Christianson, Leatherman, Sutherland, 2007, p.27). Therefore, more money dedicated to healthcare sector motivates physicians to be committed to healthcare. Having said this, and based on the theoretical assumptions, the relationship between healthcare spending per capita and the number of physicians is expected to be as follows:

$$\log Phy = c + \beta \log Cap$$

*Phy*: Number of physicians per 10,000 populations in healthcare sector of a country

*Cap*: Healthcare expenditures per capita in a specific year

## Model 1: Number of physicians versus health expenditure per capita

Regression Analysis: Log Phy versus Log Cap					
The regression equation is					
Log Phy = 0.481 + 0.290 Log Cap					
Predictor	Coef	SE Coef	T	P	
Constant	0.4815	0.2945	1.63	0.163	
Log Cap	0.2898	0.1104	2.62	0.047	
S = 0.121532 R-Sq = 57.9% R-Sq(adj) = 49.5%					
Analysis of Variance					
Source	DF	SS	MS	F	P
Regression	1	0.10172	0.10172	6.89	0.047
Residual Error	5	0.07385	0.01477		
Total	6	0.17557			

Based on the OLS output, which is in accordance with the expected results drawn from previous studies, it is noticeable that the model that measures the effect of health expenditure per capita on the number of physicians is statistically significant at a 5% level of significance<sup>15</sup>, meaning that at least one variable included in the model has a significant effect on the dependent variable. As expected based on theory, the effect of health expenditure per capita is positive in the number of physicians. This effect of the independent variables is statistically significant as well at a 5% level of significance. Besides the significance level, the model has an adjusted R-square (R<sup>2</sup>) of 49.5%, meaning that nearly 50% of the variation in the number of physicians is explained by the rate of health spending per capita. As such, based on the regression output, while holding everything else constant, for every percentage increase in the health expenditure per capita, the number of physicians will on average increase by 0.29%. On the other hand, according to theory, the number of nurses in healthcare system of a country is affected from financial incentives as it happened in the New York City hospitals, where the number of nurses was increased by offering to them financial awards (“Attracting and Retaining...”, n.d., par.2). However, according to a study financed by Robert Wood Johnson Foundation, the biggest motivator for nurses is “the reality of the actual work environment that determines whether a nurse stays or goes”

<sup>15</sup>  $\alpha=0.05$  is considered as our significance level throughout the paper as it is the most widely used in the academic literature

(“Attracting and Retaining...”, n.d., par.1). Having said this, it is expected that the effect of financial means over the number of nurses to be positive but of less significance when compared to other motivators. The expected regression equation for testing the effect of health expenditure per capita on the number of nurses is as follows:

$$\log Nur = c + \beta \log Cap$$

*Nur*: Number of nurses per 10,000 populations in healthcare sector of a country

*Cap*: Healthcare expenditures per capita in a specific year

## Model 2: Number of nurses versus health expenditure per capita

Regression Analysis: Log Nur versus Log Cap					
The regression equation is					
Log Nur = 0.390 + 0.439 Log Cap					
Predictor	Coef	SE Coef	T	P	
Constant	0.3904	0.8284	0.47	0.657	
Log Cap	0.4387	0.3106	1.41	0.217	
S = 0.341821 R-Sq = 28.5% R-Sq(adj) = 14.2%					
Analysis of Variance					
Source	DF	SS	MS	F	P
Regression	1	0.2332	0.2332	2.00	0.217
Residual Error	5	0.5842	0.1168		
Total	6	0.8174			

As expected according to the theory and previous studies, the effect of money on the number of nurses in healthcare sector resulted to be statistically insignificant at a 5% level of significance. Thus, Model 2 shows that the adjusted R-Sq is 14.2%, meaning that 14.2% of the variation in the number of nurses is explained by the amount of money spent on healthcare.

After identifying the relationship and the effect of financial means on the number of physicians and number of nurses in the countries of our interest, a regression is run with the independent variables being the number of physicians and number of nurses, whereas, the dependent variable being the life expectancy. Through this regression, the impact of the number of physicians and

the number of nurses will be measured over the life expectancy, which is considered as a quality measurement variable by this study, as well as by many other studies since it captures the overall health performance over the years, within a specific country. (Example: a study done by Egidi and Spizzichino (2008) over health quality measurement variables uses Life Expectancy as a quality measurement variable). Moreover, based on the study done by Richard Cooper, it was assessed that the number of human capital that serves in the healthcare sector is linked with the quality and the performance of the system. Cooper purports that “the reality is that states with more physicians per capita, both specialists and family physicians, have better-quality health care.” (Cooper, 2009, p.92). Thus, it can be concluded that holding everything else constant, a country that dedicates more financial resources to the health system has a higher potential number of healthcare providers, which result in a better quality and performance of the system. Therefore, one way how money impacts the quality of health care is through attracting more human resources to be involved in the health system.

The question is, “Is this theory relevant for Western Balkan countries?” Looking at Table 2, it can be said that except Macedonia, other countries lack behind Slovenia in terms of the number of physicians who serve in the healthcare sector. Besides, in terms of the rate of nurses, Western Balkan countries have a significant lower rate compared to that of Slovenia. If we combine these variables with the purpose of seeing their effect on the life expectancy variable, which is used as quality measurement, it can be noted that these variables are positively correlated with the life expectancy variable, meaning that the higher the ratio of physicians and nurses, the better the quality of healthcare, or the longer a person lives. For instance, Slovenia has a higher ratio of physicians and nurses as compared to other countries, and effectively it has higher life expectancy in relation to others. Whereas, the country that has the lowest number of healthcare providers in the region as well as the shortest life expectancy among all countries is Kosovo.

The regression function in the Model 3, reflects the OLS output, which measures the effect of the number of staff in the healthcare system, as it is divided into the number of physicians and number of nurses in the quality of healthcare, specifically in life expectancy. The regression equation is expected to be as follows:

$$\log LE = c + \beta_1 \log Phy + \beta_2 \log Nur$$

*Phy*: Number of physicians per 10,000 populations in healthcare sector

*Nur*: Number of nurses per 10,000 populations in healthcare sector of a country

*LE*: The average number of years that a person is expected to live from the reference point, which in this case it is from the birth

### Model 3: Life expectancy versus Nr. of physicians and nurses

Regression Analysis: Log LE versus Log Phy, Log Nur					
The regression equation is					
Log LE = 1.73 + 0.0827 Log Phy + 0.0241 Log Nur					
Predictor	Coef	SE Coef	T	P	
Constant	1.73037	0.03365	51.42	0.000	
Log Phy	0.08270	0.02258	3.66	0.022	
Log Nur	0.02410	0.01047	2.30	0.083	
S = 0.00943589 R-Sq = 81.4% R-Sq(adj) = 72.2%					
Analysis of Variance					
Source	DF	SS	MS	F	P
Regression	2	0.00156336	0.00078168	8.78	0.034
Residual Error	4	0.00035614	0.00008904		
Total	6	0.00191950			

As in the previous models, in Model 3 the natural logarithmic function is used due to the non-linear function among the depended and the independent variables. Being that the dependent variable in Model 3 is *Life Expectancy*, measured as the average expected age of living in a specific country, is a finite variable, there is a limit in the age of life expectancy. Therefore, logarithmic functions make it possible for the model to capture the effect of independent variables in a non-continues depended variable. After running the regression with the multiplicative function that involves converting variables into natural logarithmic functions, the model resulted to be statistically significant at a 5% level of significance since the P-value of the model is 0.034, thus, it is understood that at least one of the independent variables in the model has a significant effect on the life expectancy variable. Besides the significance level, the model has an adjusted R-Sq of 72.2%, which means that 72.2% of the variation on the life expectancy is

explained by the independent variables in the model, being the number of physicians and number of nurses. However, according to the model, not both independent variables are statistically significant at 5% level of significance. Specifically, the p-value of the number of physicians' variable is 0.022, which makes this variable significant at an Alfa ( $\alpha$ ) level of 5%, whereas, P-value of the number of nurses is 0.083, which results to be insignificant at the same Alfa level. Based on the model, it can be said that for every percent increase on the number of physicians, the age of life expectancy increases, on average by 0.0827% as the relationship appears to be positive. Taking into account that the Life Expectancy variable is a variable that does not continuously increase, at a certain point, the increase of the number of physicians may not result in an increase in life expectancy. On the other hand, since the number of nurses' variable is not significant, it can be interpreted that at a 5% level of significance, the number of nurses has no effect on life expectancy.

Another important variable is the infrastructure of healthcare sector. The overall infrastructure of healthcare sector is significant, but this paper considers the infrastructural capacity of healthcare providers as a crucial factor in determining the quality of healthcare and as it relates to the extent of access that people have to it. In this regard, the effect of financial means on the ratio of beds of a country is evaluated along with the effect that the specific ratio might have on the quality of health. It is logical that with higher financial investments a country can secure a better ratio of beds (more beds per 1,000 population) in healthcare system, but how does the increase of this ratio influence the quality of healthcare services is something that we ought to consider at greater length. According to Green, beds in a hospital must be in accordance with the number of healthcare providers since a larger number of beds may result in an inefficient duty for the providers as they will not be able to take care of all patients. She continued that, on the other hand, a lower number of beds may deny access to healthcare for many citizens as there are cases where hospitals are full (Green, 2002, p.8). Green's theory stands also in the overall country's bed ratio, meaning that the bed ratio within a country must be in accordance with the ratio of providers that operate in the same area. Otherwise, if the ratio is lower than it ought to be as supported by the scholars, it probably creates boundaries to access healthcare for many patients. Similarly, just as a lower bed ratio (beds to patient ratio), a greater bed ratio may lead to an inefficient healthcare system as well, as the amount of the resources that was used to obtain the

excess beds could have been used for different purposes that could pose a significant role in potentially improving the quality of the patients' health.

Nevertheless, referring to Table 2, the results have shown that the difference in bed ratio among all countries is not of great importance, except that of Albania which has a sensitive difference in the regards of bed ratio. Based on the Table 2, the variable of bed ratio is not directly linked with that of life expectancy because there are countries that have higher bed ratios such as Serbia with a total ratio of 54 beds per 10,000 people, but its life expectancy is only 74 years, whereas the bed ratio of Slovenia is 46 and its life expectancy is 79. Nevertheless, the effect of bed ratio in the life expectancy is measured through a regression function which is expected to result like the following:

$$\log LE = c + \beta \log Beds$$

LE: The average number of years that a person is expected to live from the reference point, which in this case it is from the birth

Beds: Number of beds per 10,000 populations in a country

#### Model 4: Life expectancy versus bed ratio

<b>Regression Analysis: Log LE versus Log Beds</b>					
The regression equation is					
Log LE = 1.76 + 0.0701 Log Beds					
Predictor	Coef	SE Coef	T	P	
Constant	1.76275	0.04026	43.78	0.000	
Log Beds	0.07013	0.02600	2.70	0.043	
S = 0.0125047 R-Sq = 59.3% R-Sq(adj) = 51.1%					
Analysis of Variance					
Source	DF	SS	MS	F	P
Regression	1	0.0011377	0.0011377	7.28	0.043
Residual Error	5	0.0007818	0.0001564		
Total	6	0.0019195			

Like in the previous models, Model 4 also considers variables in natural logarithmic function due to the non-linear relation among variables, as well as the non-continuous dependent variable. Model 4 shows the result of the regression function of life expectancy versus bed ratio with a P-value = 0.043 that appears to be statistically significant at a 5% level of significance. The relation among variables shows that for every percent increase in the bed ratio, the life expectancy will increase, on average by 0.0701%. The adjusted R-sq of the model is 51.1%, which means that 51.1% of the variation on the dependent variable is explained by the model.

Finally, after providing information regarding healthcare financing methods in general, and after offering data over financing sources of healthcare in Western Balkans and the state of healthcare sector as a whole in each country of the focus, some important variables have been created in order to further analyze them. With identified variables that are proven to be important in the healthcare sector of a country, a number of analyses have been made to see the relationship between the variables and their effect on one another. Specifically, regression analyses have been used to recognize and measure the direct and indirect effect of financing variable, being the health expenditure per capita, in the performance variables, presented as the number of healthcare providers (i.e. number of physicians and number of nurses) to continue with the impact of the performance variables on the quality variable, being the life expectancy.

## **Recommendations**

After finding the importance of variables in the quality and performance of healthcare sector and also becoming aware of the situation of Western Balkan countries in regards to these variables, this paper offers some recommendations which might tackle issues and policies that are negatively affecting the overall healthcare system in the Western Balkans. Some of the recommendations that are assumed to be crucial in tackling healthcare problems and also vital in determining the quality and the performance of the healthcare sector in Western Balkans are to introduce a mandatory health insurance policy, to lower the amount of out-of-pocket payments, and to attract more human capital.



## Private Health Insurance

As mentioned above in the paper, none of the countries of Western Balkans have formulated and implemented a policy that would make private health insurance mandatory (except Kosovo, which already has a draft law, although it is yet to be approved, ratified, and implemented). Therefore, the number of people who purchase private health insurance in Western Balkan countries is very small and insignificant. Having said this, governments of the focus countries (Albania, Bosnia-Herzegovina, Macedonia, Montenegro, Kosovo, Serbia) should look forward towards formulating and implementing policies that would make private health insurance compulsory. Even though, due to several constraints the law on health insurance has been proven to be quite complex in its formulation and implementation, still it is considered as one of the best ways to finance healthcare system of a country and its implementation in the Western Balkans countries is necessary for the following reasons:

- While implementing such policies, Western Balkan countries would eliminate risk of catastrophic financial crises. Health insurance packages would financially ensure people that have previously bought health insurance packages in case of any unforeseen event that might endanger their health. Through purchasing health insurance plans, people are more financially secure in case any of medical treatment is needed as they are not directly paying for the medical expenses, rather a third party pays the largest portion of the bill.
- The poverty rate in Western Balkan counties is tremendously high and being that in general nearly half of the healthcare services are financed through out-of-pocket payments, it can be understood that the access to healthcare services is denied for a large number of households due to financial constraints. Thus, implementing a law that would make private health insurance mandatory would eliminate the problem of inability to access healthcare services. One might argue that poor households would not be able to pay for health insurance anyway, however, the health insurance law with the support of government has resulted to be quite successful in many countries in overcoming the problem of denied access into healthcare services for relatively poor household (e.g. Switzerland)
- The law on compulsory private health insurance would also contribute to the performance and the quality of healthcare providers by promoting greater competition among

healthcare providers. Since the largest portion of their bill is paid by a third party, people in need would want to visit the best doctors no matter the price as and in this case costs of medical services are covered by the insurance company. Health care practitioners being cognizant that people would want to purchase the best available services, all providers, acting rationally, would try to maximize the number of patients by being fully committed to their profession and offering better and more quality healthcare services.

## **Out-of-pocket payments**

The out-of-pocket method of healthcare financing is considered to be one of the most inefficient and inappropriate ways of financing healthcare. This financing method has some benefits such as making healthcare providers more responsible to the patient as they are dealing directly with each other and the patient being the person who pays for the services rather than a third party. However, in most cases the negative impact of out-of-pocket payments results in inappropriate healthcare services, thus raising the need to shift to other sources of financing with the aim of diminishing the negative effects that this phenomenon entails. The benefits that the healthcare sector would receive by lowering or eliminating out-of-pocket payments are as follows:

- In a relatively poor region, out-of-pocket payments as a financing method compose a barrier to healthcare services for many households. Due to high poverty rates that are prevalent in Western Balkans, the option of out-of-pocket payments denies access to healthcare services to a large portion of the population. Consequently, lowering the quality of the overall healthcare of the country as people cannot afford to receive the adequate medical treatment. Therefore, eliminating this barrier would positively affect the overall health quality of the population and people would be able to receive medical treatment in cases of need.
- Through out-of-pocket payments, patients negotiate directly with the providers of healthcare services, thus, the income of households' matters as they are paying directly for the services. Since the region is composed mostly of low-income households, people would try to find cheap services having in mind they cannot afford to pay for more expensive ones. Therefore, doctors in order to target a large portion of population are willing to offer low quality services for a lower price, in such cases, the overall

healthcare quality of a country would be worse off as both doctors and patients are willing to offer and receive low quality services due to price constraints.

## Human capital

The recommendation that involves attracting more human capital refers to the number of people operating in the healthcare sector, specifically, attracting higher numbers of nurses and of physicians into the workforce, since these groups are the ones that mostly impact the healthcare system of a country. As seen in the regression model, the number of physicians resulted to be significant at an  $\alpha$ -level of 5% and the number of nurses is significant **only at a level of  $\alpha$**  of 10% in relation to life expectancy variable, used as quality measurement variable. Therefore, tackling these variables would positively impact the healthcare quality of country. The ways in which these variables should be scrutinized in order to affect the quality of healthcare are as follows:

- Studies have shown that the number of healthcare providers should be in accordance with the number of population of a country, otherwise, if the number of healthcare service providers is not in accordance with the population number, then it can be said that the healthcare sector of a country is not operating under the principles of efficiency. More specifically, if there is shortage of providers, then the quality of healthcare is negatively affected since with a low number of providers, a healthcare system would not be able to respond to all demands of the patients. On the other hand, if there is excess of healthcare providers, then most probably, the system would be cost inefficient, thus increasing the opportunity cost since those money could have been used for more efficient purposes. Thus, a proper ratio of physicians and nurses to patients should be identified while analyzing countries which have already developed their healthcare sector and are operating more efficiently. Even though studies have shown that there is no certain ratio that would guarantee efficiency, still it is believed that by offering an approximate ratio would drastically impact the efficiency and quality of the healthcare sector on more positive terms.
- Authorities that are responsible for healthcare should also be more focused in attracting human capital as well as train the current providers in order to be adapted to the constant new technological advancements and new discoveries. As previously mentioned, one way

through which human capital can be attracted is through money incentives because in capitalist states money has proven to be one of the most efficient incentives in tracking human capital in any field, including the healthcare sector. The governments of the Western Balkans should dedicate more financial means towards the healthcare sector in order to positively affect the performance variables by attracting human capital and organizing trainings for current providers. In doing this, the overall quality of the healthcare sector would be anticipated to manifest heightened levels of improvement.

## Limitations

Even though the project was carefully researched, prepared, and analyzed, still some limitations and shortcomings were encountered, which increased the level of difficulty in the process of developing this paper as complete as possible.

One of the limitations that this project encountered is the fact that it considered snapshot data, meaning that data for a particular year were considered without checking their past and how those data evolved over the years. This limitation prevented us from seeing whether the effect of the variables mentioned above has been changing over the years and whether that effect undergoes positive or negative changes. The reason why snapshot data were considered is that the data from the previous years could not be found for each variable and for each country, thus, obliging us to continue using data only for a particular year.

Another limitation is that this project focuses only in the ways in which financial means affect the performance variables as they affect the quality variables without taking into its focus the other factors that do affect the performance and the quality of a healthcare system in a country. However, in order to see only the effect of money, only the financial means were considered.

Further, another limitation is the unavailability of having data through which variables that would best capture performance and quality of healthcare would be created. Instead, the life expectancy variable is used in measuring the quality of the healthcare system, which actually does not always capture the quality of healthcare system as a whole, but in the absence of exact

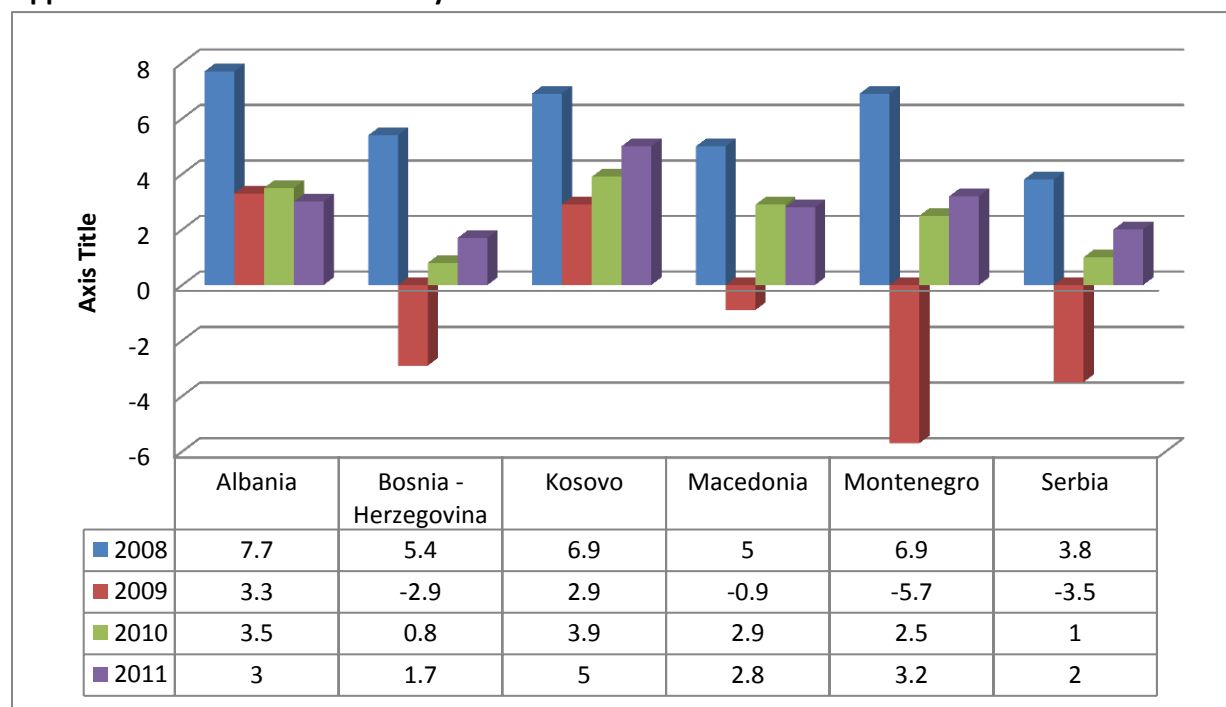
data which would measure quality, the study was obliged to use life expectancy as a quality measurement variable, which is in compliance with other studies as well. Moreover, the number of physicians, the number of nurses, and the bed ratio are considered as the performance measurement variables, which actually do not capture the entire process of performance in healthcare system since there are many other factors that do affect the performance of the healthcare sector. Nevertheless, according to many other studies, among available data, these variables are the ones which do capture most accurately the quality and the performance measurement variables. In line with other studies, a decision was made to use these variables with the purpose of being as accurate as possible in measuring the relationship among these variables.

## Appendices

Appendix 1: Overall healthcare data used in the project

	Albania	Bosnia-Herzegovina	Kosovo	Macedonia	Montenegro	Serbia	Slovenia
Healthcare Budget (% of GDP)	6.90%	10.90%	6.70%	6.90%	9.40%	10.50%	9%
Health Expenditure per Capita (\$)	\$260.00	\$495.00	\$80.00	\$311.00	\$621.00	\$576.00	\$2,428.00
Life Expectancy (years)	73	76	69	74	75	74	79
Number of Physicians per 10,000 People	11.5	16.4	9.4	26.3	21	21.1	25.1
Number of Nurses per 10,000 People	39	50.4	26.1	6.1	55.8	45.5	83.9
Bed ratio per 1000 Population	28	34	14	45	39	54	46
Mortality Rate per 1,000 People	6	10	7	9	10	14	11
Mandatory Health Insurance	No	No	No	No	No	No	No

Appendix 2: GDP Growth over the years



Source: The World Bank

Appendix 3: Map of Western Balkan Countries



Source: Institute for the Study of Civil Society

## References

- Apostolska, Z., & Tozija, F. (May, 2010). Annual National Report 2010. *Analytical Support on the Socio-Economic Impact of Social Protection Reforms*. Retrieved December 10, 2012, from [www.socialprotection.eu/files\\_db/903/asisp\\_ANR10\\_FYR\\_Macedonia.pdf](http://www.socialprotection.eu/files_db/903/asisp_ANR10_FYR_Macedonia.pdf)
- Assessing Human Security in the Western Balkans. (November 2010). *Center for Strategic and International Studies*. Retrieved November 30, 2012, from [csis.org/files/publication/101105.CSIS-EKEM\\_PolicyBrief4.pdf](http://csis.org/files/publication/101105.CSIS-EKEM_PolicyBrief4.pdf)
- Ataullahjan, S., Sardinha, F., & Turyahikayo, P. (2011). Access to Health as a Basic Right. *Inter Parliamentary Union*. Retrieved January 13, 2013, from [www.ipu.org/conf-e/125/3Cmt-dr-rpt.pdf](http://www.ipu.org/conf-e/125/3Cmt-dr-rpt.pdf)
- Attracting and Retaining New Nursing Graduates . (n.d.). *Careerbuilder*. Retrieved January 14, 2013, from [http://www.careerbuilder.com/jobposter/enterprise/article.aspx?articleid=ATL\\_0234NURSING\\_](http://www.careerbuilder.com/jobposter/enterprise/article.aspx?articleid=ATL_0234NURSING_)
- Basha, K., Cahanaj, N., & Mustafa, M. (January 2011). Kosovo Without Health Insurance. *Kosova Democratic Institute* . Retrieved December 10, 2012, from [www.kdi-kosova.org/publications/KosovapaSigurime.pdf](http://www.kdi-kosova.org/publications/KosovapaSigurime.pdf)
- Bislimi, B., Muhaxheri, E., Demukaj, V., & Bislimi, F. (November, 2006). Financial Sustainability of a Health Insurance Fund for Kosovo. Retrieved December 10, 2012,
- Björnberg, A. (2012). Euro Health Consumer Index 2012. *Health Consumer Powerhouse*. Retrieved December 10, 2012, from [www.healthpowerhouse.com/files/Report-EHCI-2012.pdf](http://www.healthpowerhouse.com/files/Report-EHCI-2012.pdf)
- Bolnick, H. (2002). Designing a World-Class Health Care Financing System. *International Actuarial Association*. Retrieved November 25, 2012, from [www.actuaries.org/EVENTS/Congresses/Cancun/health\\_subject/health\\_18\\_bolnick.pdf](http://www.actuaries.org/EVENTS/Congresses/Cancun/health_subject/health_18_bolnick.pdf)
- Bredenkamp, C., & Gragnolati, M. (October, 2007). Sustainability of Healthcare Financing in the Western Balkans. *World Bank Group*. Retrieved November 25, 2012, from [elibrary.worldbank.org/docserver/download/4374.pdf?expires=1355587948&id=id&accname=guest&checksum=1ED71917F33EC7C8D84E0B089](http://elibrary.worldbank.org/docserver/download/4374.pdf?expires=1355587948&id=id&accname=guest&checksum=1ED71917F33EC7C8D84E0B089)
- Bredenkamp, C., Gragnolati, M., & Ramljak, V. (September, 2008). Enhancing Efficiency and Equity: Challenges and Reform Opportunities Facing Health and Pension Systems in the Western Balkans. *World Bank Group*. Retrieved November 25, 2012, from [siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/BredenkampEnhancingEfficiency&Equity.pdf](http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/BredenkampEnhancingEfficiency&Equity.pdf)



- Buwa, D., & Vuori, H. (2006). Rebuilding a health care system: war, reconstruction and health care reforms in Kosovo. *European Journal of Public Health, Vol. 17, No. 2*, 226–230. Retrieved December 10, 2012, from <http://eurpub.oxfordjournals.org/content/17/2/226.full.pdf>
- Christianson, J., Leatherman, S., & Sutherland, K. (2007). Financial incentives, healthcare providers and quality improvements. *The Health Foundation*. Retrieved February 10, 2013, from <http://www.health.org.uk/public/cms/75/76/313/571/Financial%20incentives.pdf?realName=5GmFYW.pdf>
- Cichon, M. (1999). *Modelling in health care finance: a compendium of quantitative techniques for health care financing*. Geneva: ILO.
- Comparative Advantages and Disadvantages of the Public and Private Health Sectors. (2012). *World Bank Group*. Retrieved November 23, 2012, from <https://www.wbginvestmentclimate.org/toolkits/public-policy-toolkit/upload/Comparative-Advantages-of-Public-and-Private-Sector.pdf>
- Cooper, R. (2009). States With More Physicians Have Better-Quality Health Care . *Health Affairs*. Retrieved January 14, 2013, from <http://content.healthaffairs.org/content/28/1/w91.full.html>
- Çopani, V., Lipe, A., Hobdari, F., & Schneider, M. (July, 2010). Regional Health Accounts of Albania. *BASYS* . Retrieved December 7, 2012, from <http://www.basys.de/aktuelles/2010/nha-al.php>
- Culter, D. (2002). Health Care and the Public Sector. *Handbook of Public Economics* (p. 97). ..: Elsevier Science B.V December 10, 2012, from <http://eurpub.oxfordjournals.org/content/early/2012/04/26/eurpub.cks034.abstract>
- Development of Healthcare System of Montenegro. (2012). *Ministry of Health - Montenegro*. Retrieved December 10, 2012,
- Drechsler, D., & Jütting, J. (2005). Private Health Insurance for the Poor in Developing Countries?. *Organization for Economic Co-operation and Development*. Retrieved November 23, 2012, from [www.oecd.org/dev/35274754.pdf](http://www.oecd.org/dev/35274754.pdf)
- Egidi, V., & Spizzichino, D. (2008). Life expectancy: complex measures of the length and the health related quality of life. *Italian Journal of Public Health* , 5, 5.
- Financing Health Care. (n.d.). *Johnson & Johnson*. Retrieved November 23, 2012, from [www.jnj.com/wps/wcm/connect/93ee64004f55687aa020a41bb31559c7/financing-health-care.pdf?MOD=AJPERES](http://www.jnj.com/wps/wcm/connect/93ee64004f55687aa020a41bb31559c7/financing-health-care.pdf?MOD=AJPERES)

- For Young Doctors, Money May Be A Motivating Factor In Field Of Practice . (2010). *Chicago Personal Injury Lawyer*. Retrieved January 14, 2013, from <http://www.salvilaw.com/blog/in-the-news/2012/10/young-doctors-money-motivating-factor-field-practice/#axzz2OkiwVKad>
- Gardner, J., & Oswald, A. (2004). How is mortality affected by money, marriage, and stress?. *Journal of Health Economics*, 12, 27.
- Glied, S. (March, 2008). Health care Financing, Efficiency, and Equity. *The National Bureau of Economic Research*. Retrieved November 23, 2012, from [www.nber.org/papers/w13881.pdf?new\\_window=1](http://www.nber.org/papers/w13881.pdf?new_window=1)
- Green, L. (2002). How Many Hospital Beds?. *Weatherhead School of Management*. Retrieved January 14, 2013, from <https://weatherhead.case.edu/departments/operations/research/seminar2003fall/Green%20-%20DRO-2002-06.pdf>
- Hagland, M. (n.d.). Financial Incentives - How Does Your Doctor Get Paid?. *PBS: Public Broadcasting Service*. Retrieved January 14, 2013, from <http://www.pbs.org/wgbh/pages/frontline/shows/doctor/care/capitation.html>
- Hajdini, Genard. (2 April 2009). "Health in Albania." *The Western Balkan Countries INCO NET*. N.pWeb. 7 Dec. 2012. [http://wbc-inco.net/attach/0\\_NationalBackgroundReportonHealthforA](http://wbc-inco.net/attach/0_NationalBackgroundReportonHealthforA)
- Health and Development. (2010). *World Health Organization*. Retrieved December 10, 2012, from [www.who.int/countryfocus/cooperation\\_strategy/ccsbrief\\_bih\\_en.pdf](http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_bih_en.pdf)
- Health and Development. (May, 2011). *World Health Organization*. Retrieved December 8, 2012, from [www.who.int/countryfocus/cooperation\\_strategy/ccsbrief\\_mne\\_en.pdf](http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_mne_en.pdf)
- Health Strategy of the Republic of Macedonia. (n.d.). *Ministry of Health - Republic of Macedonia*. Retrieved December 10, 2012, from [www.moh.gov.mk/uploads/media/Health\\_Strategy\\_of\\_the\\_Republic\\_of\\_Macedonia\\_2020.pdf](http://www.moh.gov.mk/uploads/media/Health_Strategy_of_the_Republic_of_Macedonia_2020.pdf)
- Health Support Programme in Kosovo. (March, 2010). *Ministry of Health - Kosovo*. Retrieved December 10, 2012, from [www.msh-ks.org](http://www.msh-ks.org)
- Health Systems - Financing. (2010). *World Bank Group*. Retrieved November 23, 2012, from <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTHEALTHNUTRITIONANDPOPULATION/EXTHSD/0,,contentMDK:22523961~menuPK:376799~pagePK:148956~piPK:216618~theSitePK:376793~isCURL:Y,00.html>
- Huppi, M. (February, 2006). Albania Health Sector Note. *World Bank Group*. Retrieved December 7, 2012, from [www](http://www.worldbank.org)

.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2006/04/26/000160016\_20060426172842/Rendered/PDF/32612.pdf

Irvine, B., Ginsberg, I., & Woods, K. J. (2004). *England vs Scotland: does more money mean better health?*. London: Civitas.

Islam, M. (2007). Health Financing Modul. *Health systems assessment approach: A how-to manual* (p. Chapter 7). Arlington: World Health Organization

Ivankovic, A., Ravlija, J., Ckobic, H., & Vasilj, I. (n.d.). Health Status of Population in Federation of Bosnia and Herzegovina in 15 Years of Transitional Period. . Retrieved December 10, 2012, from [hrcak.srce.hr/file/79205](http://hrcak.srce.hr/file/79205)

Karol, K. (July, 2007). Health Sector Management Project. *Ministry of Health - Republic of Macedonia*. Retrieved December 10, 2012, from [www.mohhsmp.gov.mk/uploads/media/Co-Payment\\_Policy\\_-\\_Final\\_Report\\_by\\_Karl\\_Karol.pdf](http://www.mohhsmp.gov.mk/uploads/media/Co-Payment_Policy_-_Final_Report_by_Karl_Karol.pdf)

Katsu, S. (May, 2008). Kosovo Health Financing Reform Study. *World Bank Group*. Retrieved December 10, 2012, from [http://siteresources.worldbank.org/INTKOSOVO/Resources/Health\\_Financing\\_Reform\\_Study.pdf](http://siteresources.worldbank.org/INTKOSOVO/Resources/Health_Financing_Reform_Study.pdf)

Kjosev, S. (n.d.). Health Care System in the Republic of Macedonia. *University "Ss. Cyril and Methodius"*. Retrieved November 10, 2012, from [feaa.ucv.ro/RTE/011-09.pdf](http://feaa.ucv.ro/RTE/011-09.pdf)

Kosovo: Country Environmental Analysis. (2011). *The World Bank*. Retrieved February 10, 2013, from [siteresources.worldbank.org/INTKOSOVO/Resources/KosovoCEA.pdf](http://siteresources.worldbank.org/INTKOSOVO/Resources/KosovoCEA.pdf)

Kovner, A., & Knickman, J. (2011). *Health Care Delivery in the United States, 10th Edition*. New York: Springer Publishing Company.

Kutzin, J. (2001). A descriptive framework for country-level analysis of health care financing arrangements. *Health Policy*, 56(3), 171-204.

Kutzin, J., Cashin, C., & Jakab, M. (2010). Implementing Health Financing Reform. *World Health Organization*. Retrieved December 10, 2012, from [www.euro.who.int/\\_\\_data/assets/pdf\\_file/0014/120164/E94240.pdf](http://www.euro.who.int/__data/assets/pdf_file/0014/120164/E94240.pdf)

Marku, M. (July, 2010). PRELIMINARY ANALYSIS ON ALBANIAN HEALTH SYSTEM FINANCING AND CORRUPTION. *Council of Europe*. Retrieved December 3, 2012, from [www.coe.int/t/dghl/cooperation/economiccrime/corruption/projects/albania/technical%20papers/1917-PACA-TP-Marku-July10.pdf](http://www.coe.int/t/dghl/cooperation/economiccrime/corruption/projects/albania/technical%20papers/1917-PACA-TP-Marku-July10.pdf)

Mendola, M., Gragnolati, M., & Bredenkamp, C. (November, 2007). The impoverishing effect of adverse health events: Evidence from the Western Balkans. *Indian Statistical Institute*.

- Retrieved November 30, 2012, from  
<http://www.isid.ac.in/~planning/ConferenceDec07/Papers/MariapiaMendola.pdf>
- Montenegro 2011 Progress Report. (12 October, 2011). *European Commission*. Retrieved December 10, 2012, from  
[ec.europa.eu/enlargement/pdf/key\\_documents/2011/package/mn\\_rapport\\_2011\\_en.pdf](http://ec.europa.eu/enlargement/pdf/key_documents/2011/package/mn_rapport_2011_en.pdf)
- Overview - Engelberg Center for Health Care Reform. (n.d.). *Brookings*. Retrieved January 14, 2013, from <http://www.brookings.edu/about/centers/health/data-infrastructure-overview>
- Percival, V., & Sondorp, E. (April, 2010). A case study of health sector reform in Kosovo. *National Center for Biotechnology Information*. Retrieved December 15, 2012, from  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2864221/>
- Polton, D. (2011). Public / private mix in health care financing. *European Health Management Association*. Retrieved November 23, 2012, from  
<http://www.ehma.org/files/2.%20Plenary%20Session%20-Polton.pdf>
- Rezayatmand, R., Pavlova, M., & Groot, W. (2012). The impact of out-of-pocket payments on prevention and health-related lifestyle. *Oxford Journals*, 10.1093/eurpub/cks034. Retrieved
- Smith, P., & Witter, S. (September, 2004). Risk Pooling in Health Care Financing. *World Bank Group*. Retrieved November 23, 2012, from  
[siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/Chap9SmithWitterRiskPoolingFinal.pdf](http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/Chap9SmithWitterRiskPoolingFinal.pdf)
- Smith, P., Mossialos, E., & Papanicolas, I. (2008). Performance measurement for health system improvement: experiences, challenges and prospects. *World Health Organization*. Retrieved January 14, 2013, from  
<http://www.who.int/management/district/performance/PerformanceMeasurementHealthSystemImprovement2.pdf>
- Stevanovic, M., Dimitrijevic, S., Vuksa, A., & Jovanović, D. (n.d.). Health care system and spending in Serbia. *www.batut.org.rs*. Retrieved December 15, 2012, from  
[www.batut.org.rs/download/nzr/8%20Health%20care%20system%20a](http://www.batut.org.rs/download/nzr/8%20Health%20care%20system%20a)
- Stonelake, P. (February, 2011). Integrity Assessment of Health Care System in Montenegro. *UNDP*. Retrieved December 8, 2012, from  
[www.undp.org.me/files/reports/ijr/Integrity%20Assessment%20of%20the%20Health%20Care%20System%20in%20Montenegro.pdf](http://www.undp.org.me/files/reports/ijr/Integrity%20Assessment%20of%20the%20Health%20Care%20System%20in%20Montenegro.pdf)
- Sulovic, M. (2011). Primary Care in Serbia. Retrieved December 10, 2012, from  
[nv1007.nivel.nl/euprimarycare/column/primary-care-serbia](http://nv1007.nivel.nl/euprimarycare/column/primary-care-serbia)

Universal Health Care. (n.d.). *BalancedPolitics.org* . Retrieved November 25, 2012, from [http://www.balancedpolitics.org/universal\\_health\\_care.htm](http://www.balancedpolitics.org/universal_health_care.htm)

*World Health Statistics 2012*. (2012). .: World Health Organization.