

# DETERMINATION OF PRIORITY SERVICE SECTORS IN REPUBLIC OF CROATIA

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**ZRINKA LACKOVIĆ VINCEK**  
TEACHING ASSISTANT  
zlackovi@foi.hr

**STJEPAN DVORSKI**  
FULL PROFESSOR  
stjepan.dvorski@foi.hr

**VLADIMIR KOVŠČA**  
ASSISTANT PROFESSOR  
vladimir.kovsca@foi.hr

FOR ALL AUTHORS:  
UNIVERSITY OF ZAGREB  
FACULTY OF  
ORGANIZATION AND  
INFORMATICS  
VARAŽDIN, CROATIA

## ABSTRACT

The purpose of the paper is to present and to explain the method and importance of measuring and determination of the comparative advantages of the national economies. The goal of the paper is to determine the priority service sectors of Republic of Croatia in which the strategy of smart specialization should be implemented, targeted on establishing the strong points and potentials on which the state should focus to create national comparative advantages. The indicator of the revealed comparative advantage (RCA indicator) shows that Republic of Croatia realizes positive values of RCA in all service sectors, and the strongest comparative advantages are in the sector of tourism and services related to travelling, which shows, along with the sector of transportation services, the largest percentage in service export. From the above mentioned it is clear that there is a significant correlation between the sectors with the revealed comparative advantages and its percentage in the structure of the export. Aggregated GL index shows that Republic of Croatia realizes the highest level of specialization in the intra-industrial exchange (exchange of the same services) in ICT sector, which is followed by the transportation services, other business services, and the recreational, cultural and sport services. Other service sectors have the features of the inter-industrial specialization. There is a correlation between the level of specialization and export importance of a particular service sector, since the sector of tourism and travel-related services realizes the largest percentage in the export of all services of Republic of Croatia. After the sector of tourism and travel-related services, the construction services are second on the list of value of indicators of the export competitiveness, followed by the ICT services and the services of transport. From the above mentioned, it can be concluded that the priority service sectors, to which Republic of Croatia should focus because of creation of the national comparative advantage, are the sector of tourism, travel-related sector, transportation sector and sector of ICT services.

**KEY WORDS:** comparative advantages, export competitiveness, service sectors, Republic of Croatia.

## 1. INTRODUCTION

The term "service" relates to the wide spectre of the intangible and heterogenous products and activities. One of the most significant achievements of the Uruguay round of the trade negotiations within the General Agreement on Tariffs and Trade, which was taking place from 1986 to 1993, was the organization of the international trade of the services in common multilateral rules. By organization of the World Trade Organization on January 1st 1995, the General Agreement on Trade in Services – GATS, for the first time the service trade was subjected to the discipline of the international law. The methods of providing of the services are defined by the General Agreement on Trade in Services, by emphasizing the four basic models of the service providing, and these are: (Mlikotin-Tomić, 1999):

1. providing the services across the border,

2. service consummation in the foreign countries,

3. provider provides services directly on the territory of the other member country,

4. the services are provided with the help of temporary employed person.

The service sector is of the exceptional importance for growth and reduction of the poverty in the developing countries. This influence is manifested directly, since the services are a substantial, if not the largest percentage of these economies, but also indirectly, because the services like the finances, communications, transport, education and health, have impact on other sectors of economy and the productivity of the workers. In many countries, some of the fastest growing sectors of service are telecommunication, financial and transport services.

The Croatian economy is service oriented, and according to the data of the World Bank (2013), the largest percentage of the bruto national product of Republic of Croatia (68,97 % of BNP in year 2013) is related to services. The balance of the trade service exchange of Republic of Croatia is positive (total volume of the exported services is larger than the total volume of the imported services), while, on the other side, the balance of the trade goods is deficitary. The second indicator which points to the importance of services in Croatian economy is the level of the Croatian export related to the services (9.3 million of Euros in 2012). In 2013, the service export participated with 51.35% in the total export of Republic of Croatia. Nevertheless, the service export is not treated as the incentive of growth and development. Republic of Croatia exports more than 2/3 of the services into other member countries of EU. Because of that, the bilateral service trade of Republic of Croatia with other countries of EU will be the subject of the analysis of this paper.

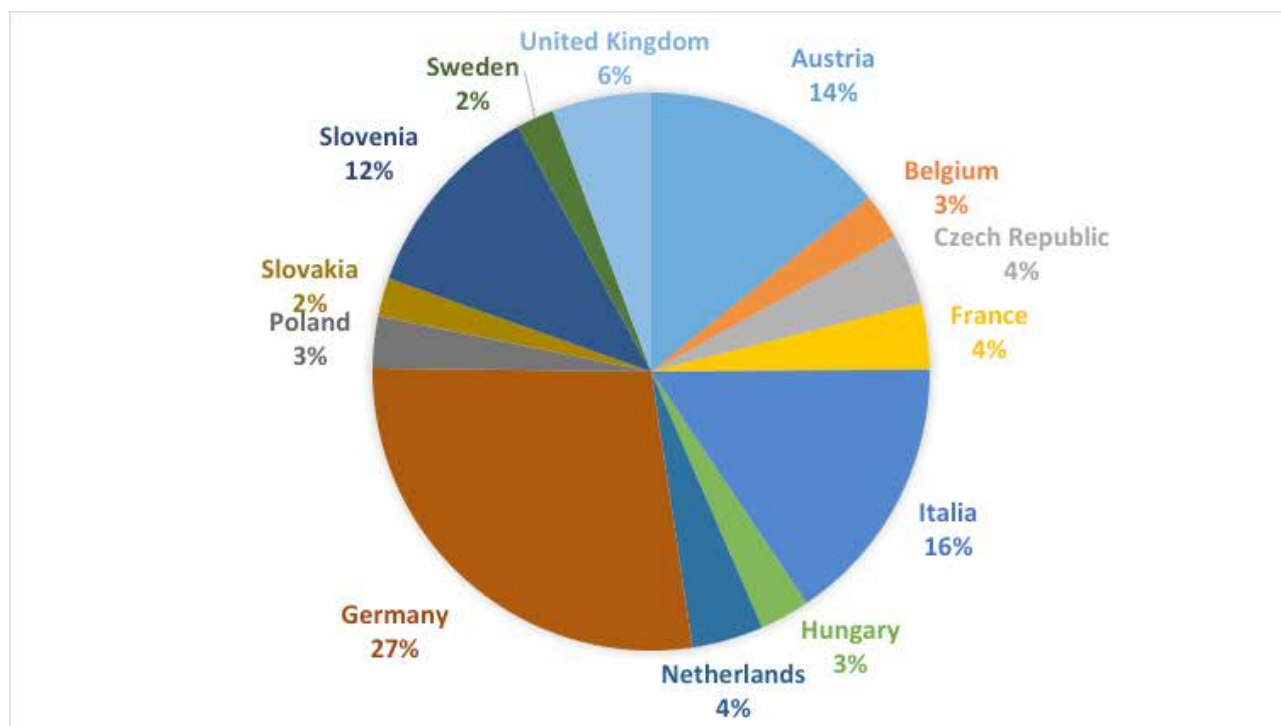
The article is divided into five individual chapters. After the introduction, there is the review of the most important partner countries to the Republic of Croatia

in the service export, and the analysis of the revealed comparative advantages of the service sectors of the Republic of Croatia. The third chapter analyses the level of specialization of the service sectors of Republic of Croatia by the implementation of the aggregated GL index, while the fourth chapter analyzes the export competitiveness of the service sector of Republic of Croatia. The last chapter provides the basic conclusions of the paper.

## 2. REVEALED COMPARATIVE ADVANTAGES OF THE SERVICE SECTORS OF REPUBLIC OF CROATIA

Republic of Croatia is significantly related in trade with other member countries of the European Union, and according to the data of the International Trade Centre in 2012, as much as 77,71 % of the service export from Republic of Croatia was related to the member countries of this regional integration. From Graph 1, it is visible that the service export in the period between 2004 and 2012 was the highest to Germany (27% of the total service export), then Italy (16%), Austria (14%) and Slovenia (12%).

**Graph 1.** Most important partner countries in service export of the Republic of Croatia in period from 2004 to 2012, in %

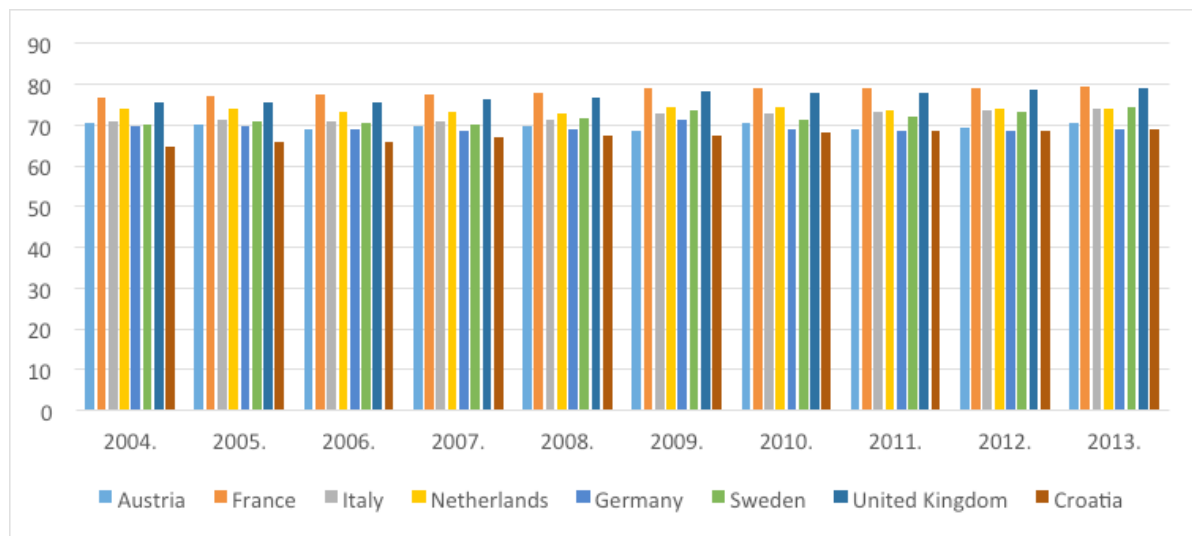


Source: author's calculations based on International Trade Centre [online]. Available at: [http://www.trademap.org/Country\\_SelServiceCountry\\_TS.aspx](http://www.trademap.org/Country_SelServiceCountry_TS.aspx) [11 January 2015]

In the period from 1990 to 2013, Republic of Croatia has shown the continuous trend of the increase of the share of services in BNP, with the exception of the war period from 1991 to 1994, when there was a slight decrease of this share (graph 2). In 2013, Republic of Croatia has realized the similar share of the services in BNP (68,97 %)

as Germany (69,02 %) and Austria (70,50 %). In relation to other reviewed member countries of EU, France has the largest percentage of services in BNP throughout the whole reviewed period (in average, 78.29%), followed by United Kingdom (77,16 %), Netherlands (73,84 %), Italy (72,23 %) and Sweden (71,85 %).

**Graph 2.** Share of the services in the bruto national product in the most important partner countries in the service export of Republic of Croatia, in period from 2004 to 2013, in %

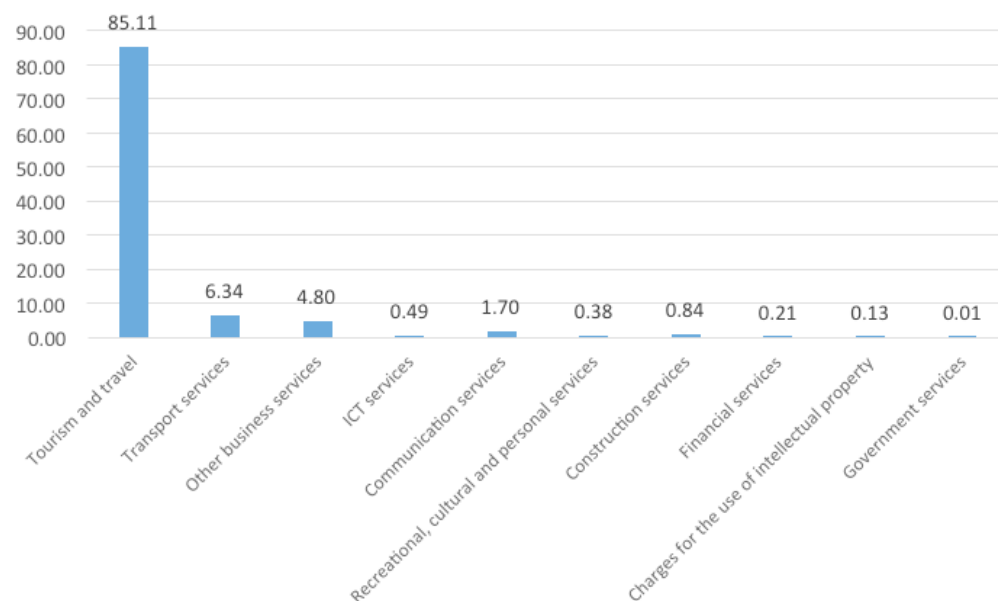


Source: author's calculations based on Eurostat [online]. Available at: [http://ec.europa.eu/eurostat/statistics-explained/index.php/The\\_EU\\_in\\_the\\_world\\_-\\_international\\_trade](http://ec.europa.eu/eurostat/statistics-explained/index.php/The_EU_in_the_world_-_international_trade) [05 December 2014]

Viewed according to the sectors in period between 2004 and 2013, in service export of Republic of Croatia, the most substantial share is tourism sector and travel-related services (84,90 % of the total services export), and the rest is related

to the transport services (6,33 %), other business services (4,78 %), communication services (1,69 %), construction services (0,84 %) etc.

**Graph 3.** Service export from Republic of Croatia according to sectors, in period from 2004 to 2013, in %



Source: author's calculations based on International Trade Centre [online]. Available at: [http://www.trademap.org/Country\\_SelServiceCountry\\_TS.aspx](http://www.trademap.org/Country_SelServiceCountry_TS.aspx) [11 January 2015]

This section of the paper asks whether the increased openness and volume of the service exchange causes the expected positive change of the exchange structure. Positive change of the structure of international exchange means the change of the comparative advantages toward the services of greater additional value, as well as the higher level of specialization (Buturac, 2008). The following part analyzes the question of the change of the comparative advantages, while the problem of specialization is analyzed in the next chapter.

The usage of the indicators of the revealed comparative advantage – RCA, defined by B. Balassa in 1965, will determine the comparative advantages of the service sectors. Many researches were conducted with the purpose of development of the methodology of the calculation and implementation of RCA indicators (Aquino, 1981; Balassa, 1965; Lafay, 1992; Laursen, 1998). The concept of RCA indicators is organized in such way that the country realizes the comparative advantages in those products and services in which the value of the export is

larger than the value of the import. The indicator of the revealed comparative advantage of an individual service sector in the total export is calculated in following manner:

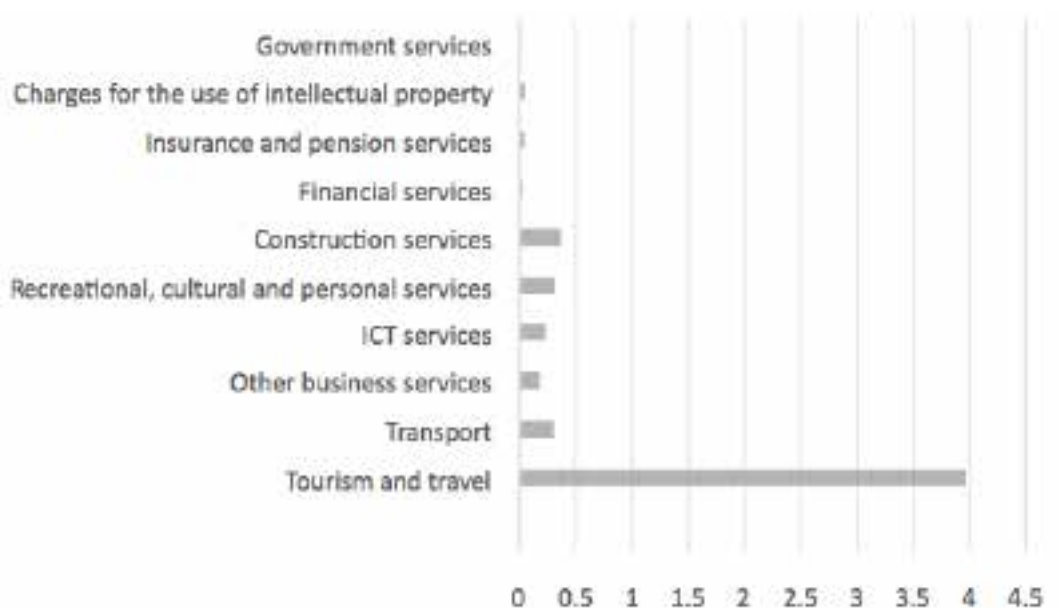
$$RCA = \frac{\frac{X_{ij}}{X_{is}}}{\frac{X_{nj}}{X_{ns}}}$$

in which X is the value of the export services, i is the country which exports (Republic of Croatia), j represents the individual service sector, n represents other member countries of European Union (EU-27), and s represents all service sectors together. The above mentioned indicator is also called “original index of the revealed comparative advantages” since all variables in the formula are related

to the export (Brkić and Balić, 2014). Positive value of RCA indicators for particular sector of the services shows that the country has revealed comparative advantages in the exchange of that service. Conversely, the negative indicator shows that the country does not have comparative advantages.

The indicator of revealed comparative advantage shows that Republic of Croatia realizes positive values of RCA indicators in all service sectors, and the most significant comparative advantages are those in the sector of tourism and travel-related services, which has, together with the sector of transport services, the largest share in the service export. From the above mentioned, it is obvious that there is a significant correlation between the sectors with revealed comparative advantages and their share in the export structure.

**Graph 4.** RCA indicator of the service sectors of Republic of Croatia in period from 2004 to 2013



Source: author’s calculations.

### 3. SPECIALIZATION OF THE SERVICE SECTORS OF REPUBLIC OF CROATIA

By implementation of the aggregated GL index, developed and implemented by Grubel and Lyod in 1975, we will analyze the level of specialization in intra-industrial exchange, and establish the correlation between the level of specialization and the export significance of a particular service sector. Intra-industry exchange relates to the simultaneous export and import of the same services. With the openness of the economy, the specialization could be an important indicator of the level of economic integrations (Buturac, 2008).

Aggregated GL index is calculated according to the following formula:

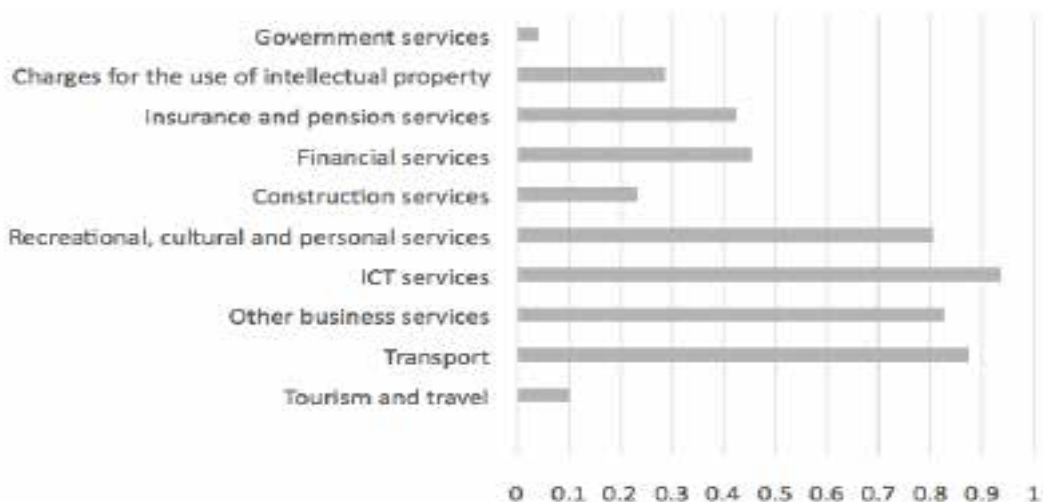
$$GL = 1 - \frac{|x - m|}{x + m}$$

in which x is the value of the export of services of a particular sector, and m the value of the import of the

services of a particular sector. The value of the index can be found within the scope from 0 to 1; the larger value of the index points to the higher level of specialization in intra-industrial exchange.

The empirical calculations of the index of specialization of the service sectors of Republic of Croatia are shown in the Graph 5. The value of the aggregated GL index points to the fact that Republic of Croatia realized the highest level of specialization in intra-industry exchange (exchange of same services) in ICT sector; it is followed by the transportation services, other business services, and recreational, cultural and sport services. Other service sectors have features of inter-industrial specialization. We can conclude with the fact that the service sectors which have extremely emphasized specialization in intra-industrial exchange do not have the significant share in the structure of the service export in Republic of Croatia. In other words, there is no correlation between the level of specialization and the export significance of a particular service sector.

**Graph 5.** GL index of the service sectors of Republic of Croatia in period from 2004 to 2013



Source: Authors' calculations

**4. EXPORT COMPETITIVENESS OF THE SERVICE SECTORS OF REPUBLIC OF CROATIA**

The competitiveness has become a natural law of the modern economics (Kitson, Martin and Tyler, 2004). Export competitiveness is often mentioned as the necessary item in the solution of the economical problems (Stojanov, Bezić, Galović, 2011). The original competitiveness will be analyzed through the implementation of the indicators of the original competitiveness, which represents the ratio of the share of export of the particular service sector *i* into the observed country *c* and the total import of that service sector by the observed country *c*, according to the formula:

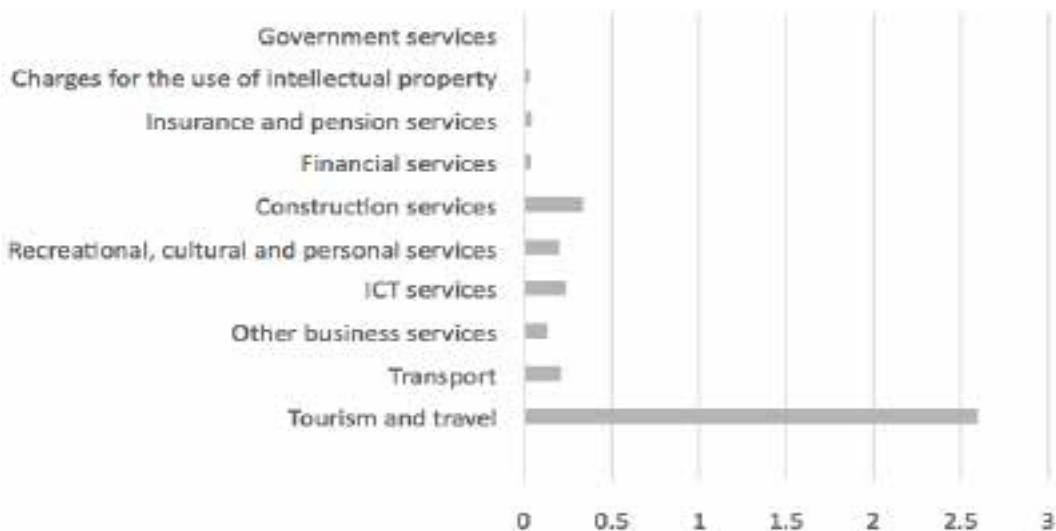
$$Ic_i(a, c) = \frac{EX_i(a, c)}{\sum_{i=1}^n IM_i(c)} * 100$$

in which  $EX_i(a, c)$  is the export of the service sector *i* of country *a* (Republic of Croatia) into the country *c* (other European Union countries), and  $\sum_{i=1}^n IM_i(c)$  represents the total import of the services of the sector *i* from the

country *c*. The indicator of the export competitiveness will provide the insight into the trends of the change of the export competitiveness. If the indicator of the export competitiveness is more than 1, the increasing export competitiveness is present. Contrary to that, realized value of the indicator less than 1 implies the negative trend of the export competitiveness.

From this calculation of the indicators of export competitiveness, it can be concluded that the sector of tourism and services related to travel has shown growing export competitiveness, since it is the only of the rest of analyzed service sectors which has realized the value of the indicator of export competitiveness higher than 1. After the tourism sector and travel-related services, the construction services are on second place by the value of indicator of the export competitiveness, followed by the ICT services, and transport services, but all the above mentioned service sectors realize the value of the indicator of export competitiveness lower than 1, which points to the negative trend of the export competitiveness.

**Graph 6.** Indicator of the export competitiveness of the service sectors of Republic of Croatia in the period from 2004 to 2013



Source: author's calculations.

## 5. CONCLUSION

For small economies like Croatian, the export competitiveness is of extreme importance for the sustainable growth and vitality of the economic activity. The export enables the domestic production to achieve the effects of the economy of volume. Orientation toward technology, innovations, development and research has a visible effect on the increase of the level of competitiveness. The economy of Republic of Croatia is service oriented – most of the bruto national product consists of the services, and more than half of Croatian export is service related. Nevertheless, the export of the services is not treated as the incentive for growth and development. The most important export-import partners of Republic of Croatia in the service export are other member countries of European Union, especially Germany, Italy, Austria and Slovenia.

Analysis of the revealed comparative advantages, specialization and export competitiveness has shown that the most prominent comparative advantages are realized by the sector of tourism and travel-related services, the highest level of specialization in intra-industrial exchange has the ICT sector, and the growing export competitiveness the tourism sector and travel-related sector. From all the above mentioned, we can conclude that the strategy of smart specialization should be implemented in the tourism sector, travel-related services, ICT sector and transportation service sector, and that the state should focus on the above mentioned service sectors to create national comparative advantages.

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