HIGHLIGHTS

Highlights 1. Exports potential of IT services in Serbia

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A strong growth of services exports, but also high positive values in the balance of this account were recorded in the past few years in Serbia, which gives an important contribution to reducing the current account deficit. From 2012 to 2015 almost one-third, and in 2015 almost two-thirds of reduction of the current account deficit is owed to the increase in net services exports. This is to a large extent the result of a strong growth of exports of computer (IT) services, whose level and dynamics are the primary subject of this Highlight. We emphasize that, despite the high value of exports of IT services, there is potential for its further growth, i.e. the possibility of doubling exports of these services in the medium term. In addition, we stress the importance of further development and growth of exports of the IT sector from the standpoint of balance of payments and the fact that this sector has a high added value. Further growth in computer services exports would have significant multiple effects, among others it could contribute to the image of Serbia to be recognized by foreign investors as a country with high-quality human capital rather than a country with cheap labour - which would lead to a desirable influx of foreign investments from the standpoint of the quality of economic growth, job creation (especially for highly skilled workers), increasing productivity, etc. Therefore, the State support to the development of the IT sector and the export of IT services, through general reforms aimed to improve business conditions and educational policy, is particularly important.

1. Scope and structure of exports and imports of

services in Serbia

The current account deficit in the balance of payments has recorded significantly lower levels in recent years. Very often the contribution of reducing the trade deficit to the reduction of the current account deficit is being emphasized. The growth of exports of goods, slower growth of imports of goods, as well as favorable foreign trade relations and other fundamentally important trends and circumstances that lie behind such dynamics of foreign trade flows are being analyzed. The fact that the reduction of the current account deficit in the last 3-4 years has been significantly contributed by an increase of net services exports is emphasized in the public to a lesser extent.

Graph 1 gives an overview of the level of the current account deficit and the balance of service account. Although service net exports are still at a relatively modest level, the graph points out their noticeably growing trend, indicating its potential significance. The importance of service net exports comes to the fore when the dynamic of growth is taken into account in the past few years. Net service exports have contributed to the 27% reduction in the trade deficit and 29% reduction of the current account deficit in the period from 2012 to 2015.

In 2015 net service exports had a very prominent importance in terms of current international transactions. In fact, in 2015 69% of the reduction in the trade deficit was a result of a surplus in the export of services. Also, nearly two-thirds (64%) of the total reduction in the current account deficit represents the amount of improvement of the balance in the service account.





Improvement in the balance of services is the result of an intensive growth in service exports after 2010, while service imports grew much slower. From 2007, since National Bank of Serbia data are available according to the new methodology, Chart 2 shows trends in service exports and imports in millions of euros. In 2007 and 2008, service imports were above the level of exports, taking into account that after the levels from 2007 in the following year, due to the onset of the global economic crisis, their significant decline was recorded. In the following two years, service account was almost balanced (see Graph 3). In 2011, the value of service exports was

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significantly higher than the value of imports. Exports had especially strong pace of growth since 2012, when the increase of surplus occurred, which significantly contributed to reducing the deficit in the foreign trade and the current account balance. The surplus in the balance of services in Q3 2016 covers a third of the trade deficit and this surplus amounts to even 3.1% of the quarterly GDP value. Therefore, we believe that it is important to explore the potential for the development of the service sector in Serbia and the growth of services exports. Namely, the question is what are the chances that the strong growth of service exports will continue in the coming years? Growth of exports and increase in the surplus of the balance of services, with the expected reduction of the trade deficit and standard surplus of the secondary income account (mainly remittances) would significantly contribute to further reduction of the current account deficit, and after that to the eventual surplus. Therefore, the surplus in the services account is an important item of the current account of balance of payments, particularly from the perspective of the fact that there is potential for its further growth in the future.

Graph 2. Dynamics of exports and imports of services







Based on this dynamic of services exports and imports growth, Graph 4 provides an overview of the foreign trade balance for six groups of important services.³ It can be noticed that in three observed years balance of services for observed groups significantly changes. In 2008 as many as four groups recorded a deficit in the foreign trade, and in 2015 deficit was recorded only by the tourism services. However, besides the fact that tourism service imports are still higher than exports, deficit was reduced in this area also. The deficit was high in 2008 in transport services, lower in 2011, while in 2015 these services recorded a surplus. We especially emphasize the change in the Telecommunications, computer and information services (on the Chart named short Telecommunications and IT), in which, after a small deficit from 2008, in 2011 a surplus was recorded, which in 2015 reached a very high level. This trend in the balance of foreign trade of services was also influenced by international circumstances, but also by inner potentials of the domestic economy, where the increase in exports of IT services is especially emphasized - which is the subject of the analysis in the remaining part of this text.

Graph 4. Foreign trade balance of services by type of service



Source: Authors based on NBS data

Note: 1) Telecommunication and IT services are telecommunications, computer and information services, 2) Finishing, maintenance and repair services are Processing services on physical inputs owned by others, and Maintenance and repair services not included elsewhere, 3) Other services include: Financial services, Insurance and pension insurance services, Trade in goods and services of the country not included elsewhere, Charges for the use of intellectual property not included elsewhere, Personal, cultural and recreational services.

According to the available data of the World Bank for 2015 for 124 countries of the world⁴, Serbia is on the 66th place in the world by the value of services exports (according to the value of exports of goods Serbia in

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³ See note below Graph 4

⁴ World Development Indicators, data in current prices in US dollars.

2015holds 70th place out of 146 countries). In 2014 and 2013, since the data have been available for a larger number of countries, Serbia's ranking observed by the service exports was 74th and 72nd, respectively⁵. Compared with the neighbouring countries, worse position have only Macedonia, Albania, Bosnia and Herzegovina and Montenegro, while Romania (37th) and Croatia (45th place, because of tourism) are ranked high.

Graph 5 shows the structure of service exports by type of service. Although there have been some changes in the structure from 2008 to 2016, still, the fact that has not changed is that the dominant services we export are in three groups: tourism, transport and so-called other business services. These three groups make up about 70% of the exported value of all services. Within them exports of tourism services make more than a quarter of the value of service exports, and in the observed period recorded a substantial increase of 4 percentage points - from 23.3% to 27.3%. On the other hand, the share of exports of transport services is lower by 1.7 percentage points in 2016 compared to 2008 (from 24.0% to 22.3%).

15.1 23.1 15.6 6.5 Other services 19.8 23.1 Telecommunication and IT n % Other business services Transport 22.3 24.0 Travel 27.3 23.3 2008 201603

Graph 5. Structure of services exports

Note:

1) Telecommunication and IT Services are Telecommunications, computer and information services,

2) Other services include: Processing services on physical inputs owned by others; Maintenance and repair services not included elsewhere; Financial services; Insurance and pension insurance services; Trade in goods and services of the country not included elsewhere; Charges for the use of intellectual property not included elsewhere; Personal, cultural and recreational services and construction services.

Decrease of the share of exports of other business services amounted to 3.3 percentage points during the same period (from 23.1% to 19.8%). In particular, the graph shows a significant increase in the share of exports of so

called Telecommunications and IT services (full name: Telecommunications, computer and information services), from 6.5% in 2008 to 15.6% in 2016. Thus, in Q3 2016, except these four groups of services, exports of other groups individually make much lower percentage of total exports (below 10%). Thus, the sum of exports of *Processing services on physical inputs owned by others, maintenance and repair services, Personal, cultural and recreational services, Construction services and Financial services* accounts for 15% of the value of total services exports (see Graph 5).

This text especially analyses IT services, bearing in mind the importance of their balance of payments –on the basis of the value of exports (comprising 15.6% of the total value of services exports in Q3 2016, see Graph 5), and also on the basis of the realized surplus (total account surplus in 2015 amounted to 725 million euros and a surplus of IT services was 317 million euros). In addition, we believe that there is a potential for exports of IT services to achieve rapid growth in the future, which would have multiple favourable effects on the Serbian economy in the long run.

2. Recent trends and the relative importance of exports of IT (computer) services

Information and communication technologies (ICT) with their rapid development led to revolutionary changes in the world economy. The latest data of the World Bank (2014) suggests that the exports of ICT services in the world amounted to 1.536 billion US dollars⁶. Serbia recorded value of exports of ICT services of 1.76 billion dollars and holds 52nd position in 2014 (i.e. makes 0.11% of world exports of these services), while according to the data for 2015 holds 50th place. Compared with neighbouring countries, just Romania and Bulgaria are better ranked than Serbia.

Computer services are by scale, but also the pace of growth, of great importance at the global level. In the period between 1995 and 2014, according to the World Trade Organization⁷, the world's exports of computer and information services were increasing significantly faster than exports of any other service sector - the growth rate of 18% per year on average. It is estimated that the value of exports of computer and information services was recorded in Asian countries (from 8% in 1995 to 29% of total world exports in 2014, primarily in India and China). Europe is still the leader in the world, with exports of these services exports of these services of these services of these services of these services in 2014, primarily in India and China).

Source: Authors based on NBS data

⁵ According to the export of goods between the countries of the world for which data is available, Serbia is at the 73rd place in 2013 and 72nd place in 2014.

⁶ Including telecommunication services. Source: World Development Indicators data in current prices in US dollars.

⁷ https://www.wto.org/english/res_e/statis_e/its2015_e.pdf

vices of 58% of total world exports⁸. In addition, besides pronounced dynamics of growth of foreign trade, additional importance of the IT sector is its resilience during the crisis.

According to the methodology of Balance of Payments of the International Monetary Fund⁹, computer services are comprised of services related to hardware and software, and data processing services. They include:

(a) sales of customized software (however delivered) and related licenses to use;

(b) the development, production, supply, and documentation of customized software, including operating systems, made to order for specific users;

(c) non customized (mass-produced) software downloaded or otherwise electronically delivered, whether with a periodic license fee or a single payment;

(d) licenses to use non customized (mass-produced) software provided on a storage device such as a disk or CD-ROM with a periodic license fee (non custo-mized software on storage devices with licenses that convey perpetual use is included in goods);

(e) sales and purchases of originals and ownership rights for software systems and applications; (f) hardware and software consultancy and implementation services, including the management of subcontracted computer services;

(g) hardware and software installation, including installation of mainframes and central computing units;

(h) maintenance and repairs of computers and peripheral equipment;

(i) data recovery services; provision of advice and assistance on matters related to the management of computer resources;

(j) analysis, design, and programming of systems ready to use (including web page development and design), and technical consultancy related to software;

(k) systems maintenance and other support services, such as training provided as part of consultancy;

(1) data-processing and hosting services, such as data entry, tabulation, and processing on a times-haring basis;

(m) web page hosting services (i.e., the provision of

server space on the Internet to host clients' web pages); and

(n) provision of applications, hosting clients' applications, and computer facilities management.

Telecommunications, computer and information services a have significant share in exports and in net exports in Serbia. Within them, computer services are very important. The surplus in the trade of computer services in 2015 covered even 7.2% of the trade deficit, and this figure is as high as 11.5% for the first nine months of 2016. The exported value of computer services accounts for a significant part of the total value of services exports: 8.6% in 2013, 9.0% in 2014, 10.6% in 2015, and even 12.7% in the first nine months of 2016. In addition, in recent years there was a large increase of the share of the value of exports of IT services in GDP (Graph 6), from 0.4% in 2010, to 1.4% of GDP in 2015 (in the first nine months of 2016 this share amounted to 1.7 % of GDP). In recent years, exports of IT services has pronounced rapid growth, while on the other hand, imports recorded minor fluctuations around a constant level, which has led to a sharp increase in the value of the realized surplus (Graph 7). Such rapid growth in exports of computer services, and thereby increase the surplus represents a significant trend for the balance of payments. After a deficit of 8 million euros in 2010, the following years - from 2011 to 2015 recorded a surplus of 44, 72, 135, 172 and 288 million, respectively. Therefore, in the period between 2012 and 2015, about a tenth of the reduction of the current account and the trade deficit is a result of the increase in the surplus of IT services.



Graph 6. The share of exports of computer services in GDP

Source: Authors based on the data of the EUROSTAT and NBS Note: By 2013, data from the Eurostat base, after 2013 from the NBS database

⁸ Same 9 IMF BPM 6, https://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6. pdf



Graph 7. The level and dynamics of imports and exports of computer services

We believe it is particularly important to expand the potential that exists in the IT sector in Serbia. One of the arguments is the dynamics of the growth of exports of IT services, i.e. a possible contribution to balancing the external imbalances in the future. Also, numerous effects that the development of IT sector carries, such as, the development of education, recruitment of skilled work force, tracking of global trends, the fact that the exports of IT services proved to be very resistant to the crisis, and others, indicate its special significance in terms of providing long-term sustainable economic growth. These are high value added services that require a small initial investment. Also, growth in exports of computer services could contribute to the image of Serbia to be recognized by foreign investors as a country with high-quality human capital - rather than a country of cheap labour - which would lead to an influx of foreign investments desirable from the standpoint of the quality of economic growth, job creation (especially for highly skilled workers), increase of the level of technology and productivity in the economy, and others. Serbia is now comparatively well placed in terms of the development of the IT sector, but also has significant potential - skilled workforce.

3. The potential growth in exports of IT services

Countries of the European Union exported IT services worth 179 billion dollars in 2013, which was 68% of the exported value of these services in 10 world's largest exporters¹⁰. Significant annual growth rates of this EU exports were also recorded: 6% in 2012 and 9% in 2013.

According to Eurostat data, the total exports of computer services of the Baltic States, countries of East-central and South-East Europe with Serbia in 2014 amounted to 9.5 billion euros (Table 1). The average annual exports growth of these services in the period from 2010 to 2014 was very high and amounted to 16.8%.11 Exports of IT services grew at a rate slightly below the average for the countries of Central and South-eastern Europe (average annual growth rate for 2010-2014 period of 16.3% and 16.4%, respectively), while the Baltic countries recorded below-average growth (rate of 18.3%). In Serbia, the value of exports of IT services reached very high value of 344 million euros in 2014 (Table 1) and 455 million euros in 2015. These exports recorded particularly high average annual growth rates of 25.5% in the period 2010-2015. So expressed rapid exports growth of the IT sector in Serbia is obvious, compared with the initial level, and comparatively, in relation to the dynamic of growth of these exports in separated European countries. Serbia, in the observed five-year period, observed by the speed of growth of exports of IT services, was in second place among the countries of Central and Eastern Europe, just behind Lithuania.

Table 1. The value of exports of computer services in Serbia and selected European countries

	2010	2011	2012	2013	2014	Average annual growth rate
		in %				
Estonia	146	163	206	217	238	12.1
Latvia	91	117	138	168	184	17.6
Lithuania	28	39	68	87	131	38.6
Total Baltic States	265	320	412	472	553	18.3
Czech Republic	954	1,309	1,592	1,618	1,757	15.3
Hungary	968	1,002	1,084	1,226	1,375	8.8
Poland	1,054	1,389	1,737	2,064	2,640	22.9
Slovakia	-	-	-	409	386	-5.5
Slovenia	92	84	109	99	106	3.5
Total Central Europe*	3068	3784	4522	5416	6265	16.3
Croatia	152	193	184	176	277	15.0
FYR Macedonia	37	41	51	52	59	11.3
Bulgaria	237	312	391	452	487	18.0
Romania	-	-	-	1,272	1,482	16.5
Total Southeast Europe**	426	546	627	1952	2305	16.4
Serbia	127	171	221	296	344	24.9
Total Baltic States, Central						
Europe, Southeast Europe and Serbia***	3887	4821	5781	8136	9466	16.8

Source: Eurostat

Note: * The sum for the period 2010-2012 without Slovakia, and in 2013 and 2014 with Slovakia, ** The sum for 2010-2012 excluding Romania, and in 2013 and 2014 with Romania, *** The sum for the period 2010-2012 without Slovakia and Romania, and in 2013 and 2014 with Slovakia and Romania

However, a clearer picture for comparison of selected countries is obtained when the level of exports of IT services is put in relationship to the number of inhabitants and the size of the economy (GDP level). According to the data given in Table 2.,the value of exports of IT services per capita, we can conclude that Serbia in 2014 was "near the bottom" of the list, among the observed countries. According to the level of this indicator

¹⁰ https://www.wto.org/english/res_e/statis_e/its2015_e/its2015_e.pdf, page 142.

¹¹ The average annual growth rate of these countries without Romania and Slovakia, for which no data is available for the initial year of the observed period.

in the observed countries, Serbia is just above Lithuania and Macedonia. Although the growth rate of exports of IT services per capita in Serbia is very high, the level indicates that there is considerable potential for growth of exports in the future. Estonia, Czech Republic and Hungary had the highest level of exports of computer services per capita in 2014. Export of services per capita in 2014 in these three countries amounts to 162 euros, which is 3.4 times more than Serbia.

Table 2. Exports of computer services per capita inSerbia and selected European countries

_	2010	2011	2012	2013	2014	Average annual growth rate	
	EUR per capita						
Estonia	110	123	155	165	181	12.5	
Latvia	43	57	68	83	92	18.9	
Lithuania	9	13	23	29	45	40.0	
Average Baltic States	54	64	82	93	106	16.8	
Czech Republic	91	125	151	154	167	15.1	
Hungary	97	100	109	124	139	9.1	
Poland	28	36	46	54	69	23.0	
Slovakia	-	-	-	76	71	-5.6	
Slovenia	45	41	53	48	51	3.4	
Average Central Europe*	65	76	90	91	100	12.4	
Croatia	35	45	43	41	65	15.3	
FYR Macedonia	18	20	25	25	28	11.1	
Bulgaria	32	43	54	62	67	18.6	
Romania	-	-	-	64	74	17.0	
Average Southeast Europe**	29	36	40	48	59	15.8	
Serbia	17	24	31	41	48	25.5	

Source: Calculation of the authors based on EUROSTAT data

Note: * The average for the period 2010-2012 without Slovakia, and in 2013 and 2014 with Slovakia, the average annual growth rate without Slovakia ** The average for 2010-2012 excluding Romania, and in 2013 and 2014 with Romania

_	2010	2011	2012	2013	2014	Growth	
	in % of GDP in pp						
Estonia	1.0	1.0	1.1	1.1	1.2	0.2	
Latvia	0.5	0.6	0.6	0.7	0.8	0.3	
Lithuania	0.1	0.1	0.2	0.2	0.4	0.3	
Average Baltic States	0.5	0.6	0.7	0.7	0.8	0.2	
Czech Republic	0.6	0.8	1.0	1.0	1.1	0.5	
Hungary	1.0	1.0	1.1	1.2	1.3	0.3	
Poland	0.3	0.4	0.4	0.5	0.6	0.4	
Slovakia	-	-	-	0.6	0.5	0.0	
Slovenia	0.3	0.2	0.3	0.3	0.3	0.0	
Average Central Europe*	0.5	0.6	0.7	0.7	0.8	0.3	
Croatia	0.3	0.4	0.4	0.4	0.6	0.3	
FYR Macedonia	0.5	0.5	0.7	0.6	0.7	0.2	
Bulgaria	0.6	0.8	0.9	1.1	1.1	0.5	
Romania	-	-	-	0.9	1.0	0.1	
Average Southeast Europe**	0.5	0.6	0.7	0.8	0.9	0.3	
Serbia	0.4	0.5	0.7	0.9	1.0	0.6	

Table 3. The share of exports of computer services inGDP in Serbia and selected European countries

Source: Calculation of the authors based on EUROSTAT data

Note: * The average for the period 2010-2012 without Slovakia, and in 2013 and 2014 with Slovakia, the growth without Slovakia ** The average for 2010-2012 excluding Romania, and in 2013 and 2014 with Romania, the growth without Romania

Ratio of exports of computer services and the value of the GDP (see Table 3) suggests that Serbia has better position within selected European countries. In 2014, exports of computer services in Serbia accounted for 1.0% of the GDP, based on which Serbia was ranked as the fifth country of the 13 observed countries, behind Hungary (1.3%), Estonia (1.2%), Bulgaria (1.1%) Highlights

and Czech Republic (1.1%). However, according to this indicator also, Serbia had the largest growth in exports of IT services during the observed period, which was 0.6 percentage points of the GDP.

All these data indicate that Serbia is in a good position when it comes to the level and dynamics of growth of exports of computer services compared to most countries in transition. However, there are countries in Central and Eastern Europe which have significantly higher exports of computer services per capita, as well as in GDP, such as Hungary, Czech Republic and Estonia, which in this area could represent a desirable benchmark for Serbia. Therefore, we believe that there is still a lot of potential for Serbia to continue to record high growth of exports of IT services in the coming years, and to repeat the success in terms of growth of these services recorded in previous years. This would provide a significant contribution to balancing the balance of payments in the future. In addition, if the computer services per capita in Serbia in the coming period grow at a rate of about 25% on average per year, Serbia would reach the current level of per capita exports of IT services of Estonia in 5-6 years, and the EU-28 average(which is 318 EUR per capita) in7-8 years. This indicates the great potential for further growth and a high level of these services in the future. Therefore, we estimate that as a result of favourable trends in the global IT services market, as well as appropriate policies in the country, Serbia could double the exports of IT services in the next few years.

4. Possible measures to encourage exports growth of the IT sector

The IT sector is one of the few areas of high technology which does not require a large capital investment per job, and therefore the potential for its development exists also in countries which do not have significant amounts of own capital, as is the case with Serbia. Key factors for the development of this sector are skilled workforce, good telecommunication infrastructure and good overall economic environment. Telecommunication infrastructure in Serbia follows the world trends so it does not presents effective limit for the development of the IT sector and increase of its exports. However, increase of the volume of activity and exports growth of the IT sector requires a continuous increase in the number of IT professionals. The increase in the number of IT professionals is limited from one side by demographic factors and the percentage of members of the young generation who have a talent and interest in this activity, and the capacity of the educational system. The State can encourage the interest of young people for information technology by increasing the number of

students who hold the scholarship of the Government of Serbia at universities and courses which educate IT experts. However, increasing the number of trained IT professionals will be beneficial for the economy and society only if their massive production does not lead to a decline in the quality of education. Therefore, it is justified for the State to invest additional funds in order to increase the capacity of the state universities for education of IT professionals. These investments would include recruitment of additional teaching staff, including experts from abroad, expansion of physical capacities of some faculties and higher investments in equipment. Higher investments in education of IT professionals would be provided by the redistribution of resources from universities and courses for which there is lower demand on the market. If the state universities do not have sufficient human resources and other capacities for education of IT professionals, it would be appropriate to introduce the possibility of scholarships for students who are receiving IT education in private universities. Of course, in this case the scholarships would be granted only to those universities that educate professionals who are easily employed in the IT sector.

Given that the number of members of the young generation who can, and want, get the education in IT is limited, it is reasonable to introduce programs of retraining and additional training for young people who graduated at the faculties which represent a suitable basis for working in IT sector. Retraining could be organized in the form of specialist or master studies, and the State support would consist of ensuring budgetary funding for education, as well as approving additional funds to faculties for education of IT experts.

The development of the IT sector, similar to any other sector, to a large part depends on the general economic environment in Serbia. Over the past few years there was a progress in the area of macroeconomic stability, interest rates dropped, the reform of the labour market was realized and a relatively modern tax system has been introduced. However, general business conditions in Serbia are still considerably weaker than in the countries of the Central Europe. According to the rankings of competitiveness of the World Economic Forum Serbia is on the 90th place while most countries of Central and Eastern Europe are above the 50th place. According to the rankings of the World Economic Forum's Networked Readiness Index (NRI), which measures

the willingness of the country to be included in the IT sector, Serbia is better positioned and is on the 75th place out of 139 countries of the world. It is relevant that the position of Serbia on this list has been improved over the last few years. However, on this list in 2016 Serbia is ranked lower than the majority of the countries of the Central and Eastern Europe, as shown by the following data: Czech Republic (36), Poland (42), Slovakia (57), Hungary (50), Romania (66), Bulgaria (69). The main reasons for the relatively modest ranking of Serbia on the list which measures benefits for the development of the IT sector are related to weak general characteristics of the economic environment (low independence of the judiciary, weak protection of contracts, weak copyright protection, underdevelopment of the financial sector), low overall quality of the educational system, low ability of the company to acquire and create new technologies, and others. From the abovementioned, it can be concluded that the IT sector in Serbia faces the same barriers for development as other activities (for more details see From the editor section of this issue of QM). Therefore, for its development, not only changes in the sector of education of IT staff are necessary, but also reforms aimed at improving general business conditions.

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