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THE SIGNIFICANCE OF ICT SERVICES FOR THE BALANCE OF PAYMENTS IN THE REPUBLIC OF SERBIA

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Review paper

Abstract: The balance of payments deficit is the problem faced by numerous countries. To solve the problem of the balance of payment deficit, the creators of economic policy try to stimulate the sectors that secure the largest inflow of foreign currencies and have a beneficial impact on the reduction of deficit. The international trade in informational, computer and telecommunication services records enormously high growth rates in the 21st century. The specificity of ICT sector opens a perspective even to less developed economies to take part more significantly in the exports, which hold a large percentage of a value-added. The goal of this paper is to determine the significance of ICT services for the balance of trade and the current account adjustment, as well as the contribution to generating the surplus of the total balance of services. In the case of the Republic of Serbia, the surplus of ICT sector covers almost one-fifth of the balance of trade deficit, almost one-third of the current account deficit, while every fourth dollar achieved by the services' exports is achieved by the exports of ICT services. If the same trend of ICT sector's growth continues, the predictions say that the surplus of this sector will be enlarged by almost 60% till the year of 2024, when compared to the level in 2020. Finally, potentially the most significant advantage, which ICT sector brings with itself, is the reduced brain drain, which is the most destructive consequence brought to the less developed countries by the liberalization of workforce's movement.

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1. Introduction

The balance of payments adjustment rarely appears as a priority goal of the total economic policy. It is rather that the maintenance of the balance of payments deficit is within the acceptable limits of the functions of economy preservation from negative external impacts. That also means that the balance of payments should never be neglected, for it can seriously jeopardize the stability of not only the external, but also the internal economic flows.

There are three options which use the state of balance of payments to secure the stability of the external position of the country. The first one is the balance or the surplus of merchandise trade balance. The issues which are secured by it are: the long-term stability of economy and foreign currencies' market, a solid position in the international work share, and, at the same time, it is a warranty that the structure of the economy meets the requirements of the worlds' market. The existence of large and long-term deficit imposes an opposite logic and the implementation of certain measures of the balance of payments policy. The restructuring of economy in favour of the export-oriented production sectors should give the satisfying results in the midterm. In that context, there is an imposed dilemma on whether all the economy branches should be stimulated outwardly, or only those with the biggest chance to significantly increase the inflow of foreign currencies in the short term. The rational approach in economics always rather chooses the second option.

The third and the least painful way to tackle the problem of deficit which appears in the merchandise trade balance is the existence of one or more economic branches which are naturally turned to foreign market. Tourism is the most common example of it. The significance of this sector for the countries of Southern Europe (Spain, Italy, Croatia, Montenegro, and Greece) is only confirmed in the pandemic year of 2020, when the inflow of foreign currencies and the tourism incomes were decimated. The multiplied action of the exports, as well as the dependence of related activities following tourism resulted in high negative growth rates in all these countries.

The problem which occurred in tourist countries in one of the pandemic years is permanently present in the countries which do not have such a distinctly export-oriented economic branch. The chance occurred at the beginning of this century with informational, computer and telecommunication services (ICT). The less developed countries which dispose of highly-qualified ICT-educated workforce have got the chance to cover a part or even the total deficit occurring in the balance of trade by surplus which occurs in this position of the balance of payments[1].

[1] According to the Manual VI of IMF from 2006, ICT services are recorded within the position of telecommunications, computers and information's services.

With that goal, this paper should determine the significance of ICT services for covering the balance of trade deficit. As transactions in the current account contribute to the creation of GDP, the correlating relationship between the balance on the current account and the balance of ICT services will be analysed in this paper. Finally, the great significance lies in the stability of foreign currencies' inflow on this basis, that is, the resistance to negative external and internal impacts.

Finally, the analysis of advantages and disadvantages of ICT sector in the Republic of Serbia will provide a more precise determination of opportunities for further development of this sector, as well as the directions in leading economic policy, which would use an indicated chance for the current account adjustment. For that reason, the competitiveness on the world's market is not inherited, yet it permanently adapts to the opportunities on the market, as well as it upgrades and develops. The flexibility in leading economic policy, the readiness of perspective sectors' stimulus, as well as sacrificing those which do not possess that perspective, is the key to success in the creation of stable and prosperous economy.

2. Theoretically methodological frame of ICT services

In the scientific and expert literature, ICT services have a significant position. If the statistics of the 90s in the 20th century shyly recorded their continual growth, the first two decades of the 21st century are particularly characterized by ICT services' growth, whereby the mentioned decades obtain the label of the most dynamic component of international trade. There is a large number of scientific papers and analysis which are written on the topic of their role, not only on the economic growth and the development of emerging economies, but also on the least developed countries. Particularly sensitive is the analysis of ICT services' impact on the merchandise trade balance. Liu & Nath (2013) used panel data for 40 developing countries for the period 1995-2000, and they came to the conclusion that the increased ICT exports directly lead to the improvement of the state of the balance on goods and services in these countries. Indirectly, the inflow on the basis of ICT exports was beneficial for deficit cover within the trade balance. Yoon (2019) used the standard model of growth which was based on statical panel analysis for 13 Asian-Pacific economies and he concluded that the exports of ICT services have a positive impact on the balance of trade.

The similar conclusions were made by Song and Sung (2015) who analysed the impact of ICT services on the quality of total exports in 20 OECD countries for the period 1994 – 2012. The results showed that the increased participation of ICT services' exports in total exports lead to more dynamic growth of exports' incomes in short term. Thus, the creators of economic policy have a wider space for manoeuvring in order to cover the balance of trade deficit on the basis of increased exports' inflows based on ICT services. Bhagwati et al. (2004), as well as Feenstra (2008), noticed that the ICT services' exports via outsourcing, especially with a

high added value directed from growing economies towards developing economies, grow faster than the exports of other services. Their researches were further elaborated by Nasir and Kalirajan (2016), who used a gravity model of international trade for ASEAN countries in order to show that the elimination of the barriers in international ICT services' trade leads to intensifying of mutual exchange. The increased participation of differentiated ICT services' exports finally leads to a more favourable position in the current account.

The research done by Manickam et al. (2021) is particularly interesting, which puts the relation between ICT services and the level of international trade into the centre of the analysis, while real exchange rate, foreign direct investments, the rate of inflation expectations, and research and development expenditure are regarded as additional controlling variables. During the period 2009 – 2019, the ASEAN members showed a significant relationship between the ICT services' growth and the volume of international exchange of the observed countries. With the respect of controlling variables, the significant growth of ICT services in total exports of services in these countries is noticeable, which indirectly contributed to the positive balance on goods and services.

Malik (2021) used the growth models in the analysis of the impact of ICT services' exports on the macroeconomic variables of Indian economics, and he noticed a positive correlation between ICT services and the state of the balance of payments. Namely, in the period 1991 – 2016, the ICT services' exports made three times larger incomes than other positions in India's current account. That practically means that the economic position of ICT services' exports in the balance of payments acted like a unique shock absorber of the deficit of current accounts transactions.

3. The analysis of ICT services' significance

The formation of the sample is done according to the IMF data basis (2022) for the period 2007 – 2020. The sixth manual for The Balance of Payments and International Investment Position was published by IMF in 2006, where the new methodology of assembling the balance of payments is elaborated (IMF, 2006). For that reason, with the goal to unify the calculation, 2007 is taken as the starting year, and since then, the IMF instructions from the manual have been applied.

The first step in the analysis is the examination of the relation of ICT position in the balance of services, as a part of the balance of payments and the balance of trade of the Republic of Serbia. Since the constant deficit is accomplished in the balance of trade of the Republic of Serbia, and the surplus is accomplished in the ICT services' exchange, we will determine the covering level of balance of trade deficit by the surplus of this kind of services. At the same time, the growth rates of

the mentioned positions is also important, which refers to the relaxation trend, or the aggravation of the problem of the excessive imports over exports.

The second step is the analysis of the structure of ICT services' exports and their significance for the structure of the balance of services. In that sense, the total services' exports will be analysed, as well as the total exports of ICT services and their participation in the total exports of services and the belonging growth rate.

The third step will start with the analysis of the balance on current account movement, the coverage of occurred deficit by ICT services' surplus, as well as the calculation of the coefficient of correlation between these values. By Pearson's or Spearman's coefficient, the strength and the direction of the relationship between the observed parameters will be determined. The analysis will be finished by the extrapolation of the balance of payments positions.

3.1. The coverage of trade balance deficit

The balance of trade of the Republic of Serbia is in a constant deficit in the observed period and it varies between 12,501 billion dollars in 2008 and 3450 billion dollars in 2016.

Table 1. The balance of trade and ICT services of the Republic of Serbia, 2007 – 2020

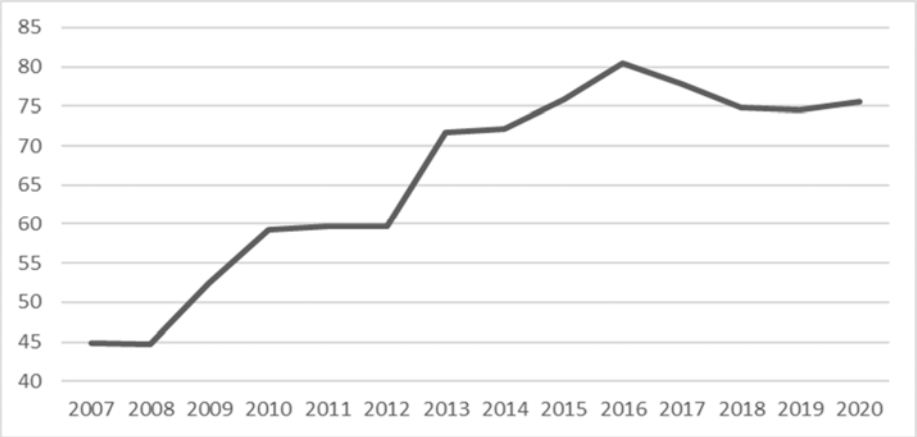
-in millions of USD-

Years	The balance of trade	The balance of ICT
2007	-9.792,03	-48,16
2008	-12.501,04	-51,25
2009	-7.048,33	-16,29
2010	-6.254,00	32,65
2011	-7.629,43	98,07
2012	-7.250,78	138,45
2013	-5.527,62	211,11
2014	-5.447,92	265,68
2015	-4.042,03	351,69
2016	-3.450,10	450,36
2017	-4.533,42	535,02
2018	-5.983,13	723,87
2019	-6.289,19	896,59
2020	-5.940,51	1.038,17

Source: the author's creation on the basis of the Balance of Payments and International Investment Position Statistics (BoP/IIP), Available at: https://data.imf.org/?sk=7A51304B-6426-40C0-83DD-CA473CA1FD52

The export-import ratio of goods ranged between 44.67% in 2008 and 80.43% in 2016. Compared to the rapid growth of the export-import ratio of goods between 2008 and 2016, in the next few years, there will be a slight decline to the level of 75.61% in 2020. In general, the export-import ratio of goods has a growing trend for the entire observed period.

Figure 1. The export-import ratio of goods of the Republic of Serbia (%), 2007- 2020

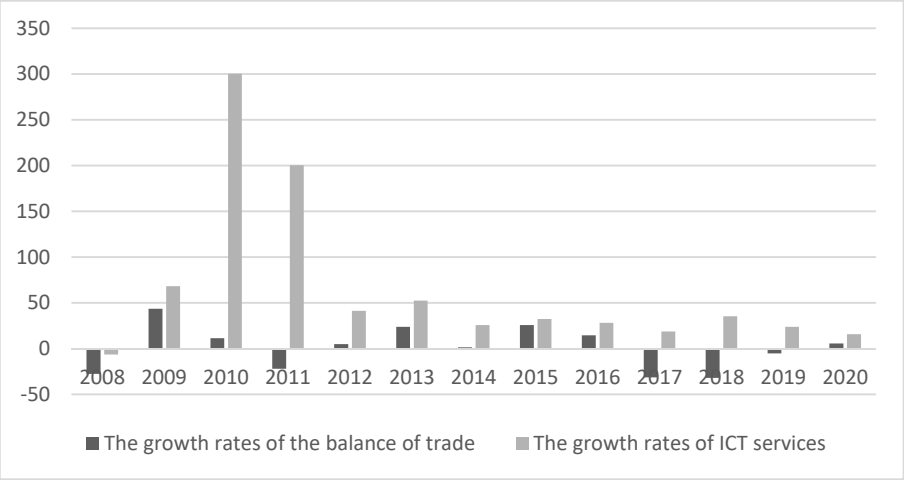


Source: the author's creation on the basis of the Balance of Payments and International Investment Position Statistics (BoP/IIP), Available at: https://data.imf.org/?sk=7A51304B-6426-40C0-83DD-CA473CA1FD52

The balance of trade deficit is significantly annulled by the surplus which arises in the balance of services in 2010, especially in the position of ICT services. The balance of ICT services was in deficit until 2010, and, afterwards, it recorded rapid growth. ICT services recorded the largest deficit which amounts to 51,25 million dollars in 2008, and the largest surplus which amounts to 1,038 billion dollars was recorded in 2020. This position of balance of services has recorded the permanent positive growth rates, which amounted to an unbelievable 300,46% in 2010. Since then, the positive growth rates have had a decreasing trend. Nevertheless, these are still relatively high annual growth rates.

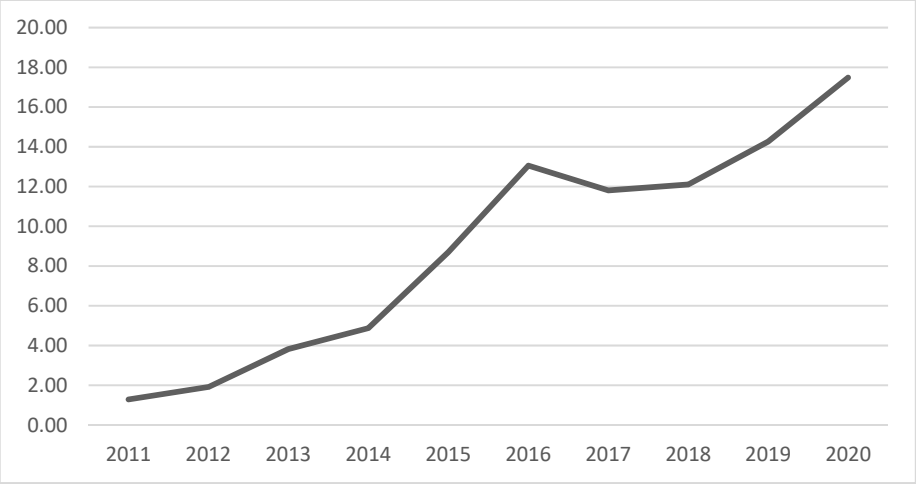
Due to high growth rates of ICT services' exports and and the increasing surplus on this position, the larger and larger coverage of deficit appearing in the balance of trade is secured in the balance of payments of the Republic of Serbia as well. This trend has been significantly stabilizing the economic relations with countries abroad and a long-term external position of the Republic of Serbia. The surplus on the position of ICT services was secured in 2010 for the first time and then, the deficit coverage in the balance of trade amounted to 0,52%. This parameter growth provided the coverage of 17,48% of the balance of trade deficit by the surplus on the position of ICT services in 2020.

Figure 2. The growth rates of the balance of trade and the balance of ICT services in Serbia (%), 2007 – 2020



Source: the author's creation on the basis of the Balance of Payments and International Investment Position Statistics (BoP/IIP), Available at: https://data.imf.org/?sk=7A51304B-6426-40C0-83DD-CA473CA1FD52

Figure 3. Balance of ICT services to the balance of trade ratio in Serbia (%), 2010 – 2020



Source: the author's creation on the basis of the Balance of Payments and International Investment Position Statistics (BoP/IIP), Available at: https://data.imf.org/?sk=7A51304B-6426-40C0-83DD-CA473CA1FD52

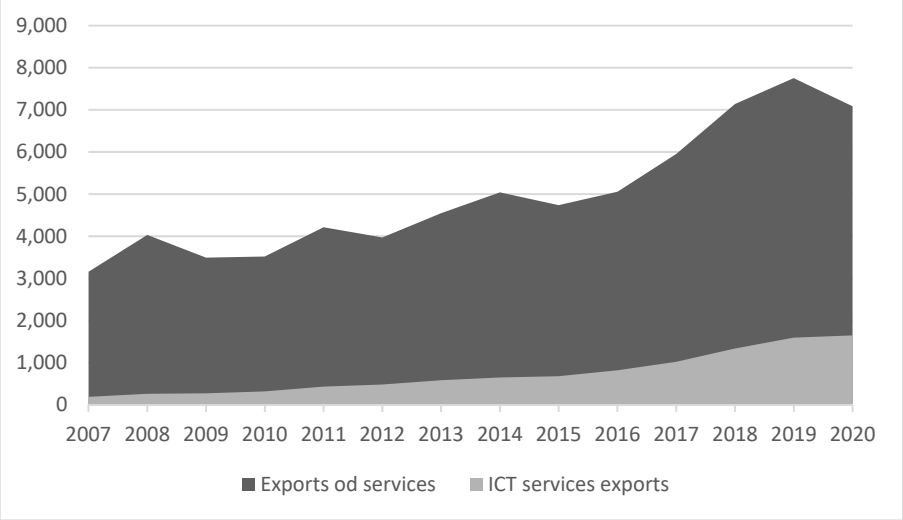
The decrease of the coverage illustrated by Figure 3 is present in 2017, which is the consequence of the rapid growth of the balance of trade deficit which amounted to 31,40%. In the same year, the surplus growth of ICT services was 18, 80%. It is interesting to notice that the coverage growth continued even in the pandemic year of 2020, which refers to the resistance and independence of ICT exports when compared to internal and external shocks. For the sake of comparison, the countries with dominant involvement of tourist services recorded a rapid fall in foreign currencies' inflow on this basis in 2020.

3.2. ICT and the balance of services

Since 2011, the balance of services of the Republic of Serbia recorded a permanent surplus which was enlarged six times for 10 years, from 210 million dollars in 2011 to 1,263 billion dollars in 2020. The average growth rate of surplus in the subbalance of services amounted to 31,67% in the second decade of the 21st century, while in the same period, the surplus growth rate of ICT services amounted to 64, 33%. The mentioned relations of balance are the consequence of faster growth of ICT services' exports when compared to the active side of subbalance of services. The average growth rate of ICT services' exports amounted to 18,65%, while the same data for the total services' exports amounted to 7,13%.

Figure 4. The total exports of services and the total exports of ICT services in the Republic of Serbia, 2007 – 2020

-in millions of USD –

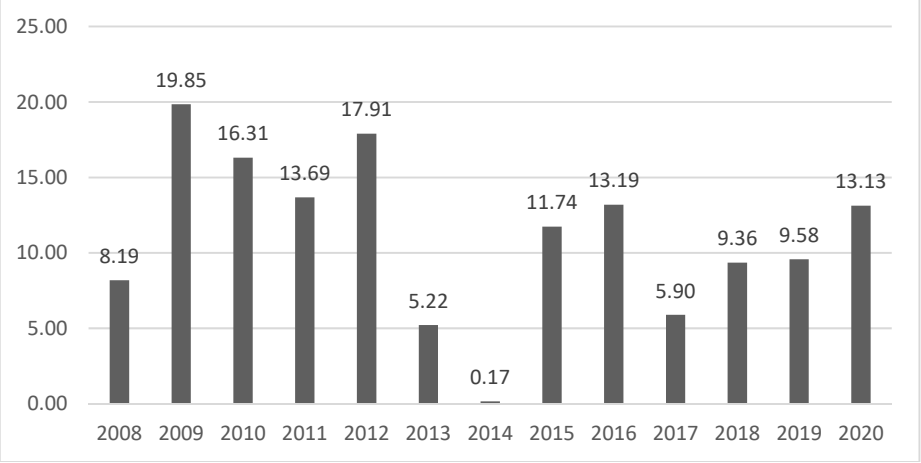


Source: the author's creation on the basis of the Balance of Payments and International Investment Position Statistics (BoP/IIP), Available at: https://data.imf.org/?sk=7A51304B-6426-40C0-83DD-CA473CA1FD52

The positive ICT balance was generated by a large increase in exports from 2007 to 2020. ICT exports amounted to 189,53 million dollars in 2007, while in 2020 it amounted to 1,645 billion dollars. Also, the ICT services exports to the total exports of services ratio recorded a constant growth in the observed period. In 2007, that ratio amounted to 6,0%, while in 2020 it reached the value of 23,22%. That would mean that almost every fourth dollar of foreign currencies' inflow from the services' exports came from the ICT sector. Nevertheless, it has to be noticed that the growth rates for the entire observed period have a slight trend of fall. The last three observed years provide a bit of encouragement (2017 – 2020) when they start to grow again.

In 2013 and 2014, the growth rate of exports recorded a drastic fall, from 17,91% in 2012 to 0,17% in 2014. This interesting phenomenon can be explained by the wandering of the country about the plan on this sector's arrangement in the terms of tax liabilities. A lot of companies exporting ICT services started to operate via foreign banks which resulted in lower foreign currencies' inflow. Nevertheless, that kind of drastic decrease in exports' growth rate did not significantly influence the ICT services exports to the total exports of services ratio which amounted to 12,13% in 2012, while in 2014 – 12,49%. This data again refers to the resistance of the ICT sector towards the unfavorable movements on external and internal plan.

Figure 5. The growth rate of ICT services' exports in Serbia (%), 2008 – 2020



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The mentioned experience should be a lesson to the creators of economic policy not to take the measures of economic policy for granted, since these measures have a great impact on this especially propulsive economy sector.

Nevertheless, as opposed to that, once again, in 2021, there will appear a weird decision about the retroactive taxation of self-employed, which is contradictory to the basic tenets of Roman law according to which the adopted law cannot be applied retroactively.

3.3. ICT services and the current account

The current account as a segment of the balance of payments is important for the economy of a country for it has a direct impact on the enlargement of gross domestic product. As opposed to the capital account, where the created value is redistributed, not only does the current account enlarge, but it also multiplies GDP. This fact is both theoretically and practically proven. Fritz Machlup (1973) processed it theoretically in his work 'International trade and the multiplicator of national income', where he established the concept of external trade multiplicator which actually represented the elaborated Keynes' investment multiplicator on the plan on external trade. His conclusions are, practically, proven by high growth rates of the countries which chose a side of the export-oriented strategy of economic development. This primarily refers to newly-industrialized countries, the Asian 'tigers', South Korea, Singapore, Taiwan, and Hong Kong.

Table 2. The balance on current account in the Republic of Serbia, 2007 – 2020

-in millions of USD-

Year	The balance on current account
2007	-7524,01
2008	-10537,20
2009	-2799,44
2010	-2692,24
2011	-5088,22
2012	-4726,57
2013	-2794,17
2014	-2634,69
2015	-1370,17
2016	-1190,02
2017	-2322,73
2018	-2459,09
2019	-3535,31
2020	-2176,77

Source: the author's creation on the basis of the Balance of Payments and International Investment Position Statistics (BoP/IIP), Available at: https://data.imf.org/?sk=7A51304B-6426-40C0-83DD-CA473CA1FD52

The current account of the Republic of Serbia in the observed period (2007 – 2020) was in constant deficit which reached the highest value in 2008 and amounted

to 10,537 billion dollars. Primarily, the world economic crisis influenced such a high deficit. The deficit had a tendency of lowering and it reached the lowest value in 2016, when it amounted to 1, 190 billion dollars. An even more indicative bit of information was that the balance on the current account to GDP ratio has a lowering tendency. This ratio amounted to 20,19% in 2008, while in 2016 it fell to 2,92%. After the minimum amount, this ratio oscillated between 4% and 6%. Of course, these positive movements are only partly a consequence of deficit lowering, and the GDP enlargement had a more significant impact. Additionally, the increase of surplus in the international exchange of ICT services had a significant impact on the decrease of current account deficit. The direction and strength of these two positions in the balance of payments would be determined by the correlational analysis.

In order to conduct the correlational analysis, it is necessary to subject the data on the balance on current account, as well as the balance of ICT services to normality test. In this way, we will determine whether there is a normal distribution of values of these variables in the observed period. The conclusion will give us the answer to the question whether we should use Pearson's or Spearman's coefficient of correlation. In case both variables have a normal distribution, Pearson's coefficient will be used. On the contrary, unless one or both variables have not a normal distribution, Spearman's coefficient will be used.

Table 3. The normality test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Balance on current account**	0,281	14	0,004	0,794	14	0,004
Balance of ICT services	0,144	14	.200*	0,905	14	0,135
*. This is a lower bound of the true significance.						
**The balance of ICT services is excluded from the current account balance						
a. Lilliefors Significance Correction						

Source: Author's calculation in Statistical Package for the Social Sciences (SPSS)

The normal distribution is tested by Kolmogorov-Smirnov and Shapiro-Wilk tests. Both of these tests have a null and alternative hypothesis. A null hypothesis means that variables do have a normal distribution, while an alternative hypothesis means that there is no normal distribution. If the tests show that p- value is larger and 0,05, then we accept the null hypothesis, which means there is a normal distribution. Shapiro – Wilk test and Kolmogorov - Smirnov test have p-value of 0,004 for the balance on the current account, which refers to the fact that we have to accept the alternative hypothesis because there is not normal distribution for the current account balance. The values of the balance of ICT services show the normal distribution because the p- value of the Shapiro-Wilk test amounts to 0,135, while it amounts to 0,200 in the case of the Kolmogorov-Smirnov test. Since these

two values are larger than 0,05, we accept the null hypothesis. On the general basis, since there is a normal distribution for one variable and not for the other, the correlation coefficient is determined by Spearman's coefficient.

Table 4. Spearman's correlation coefficient

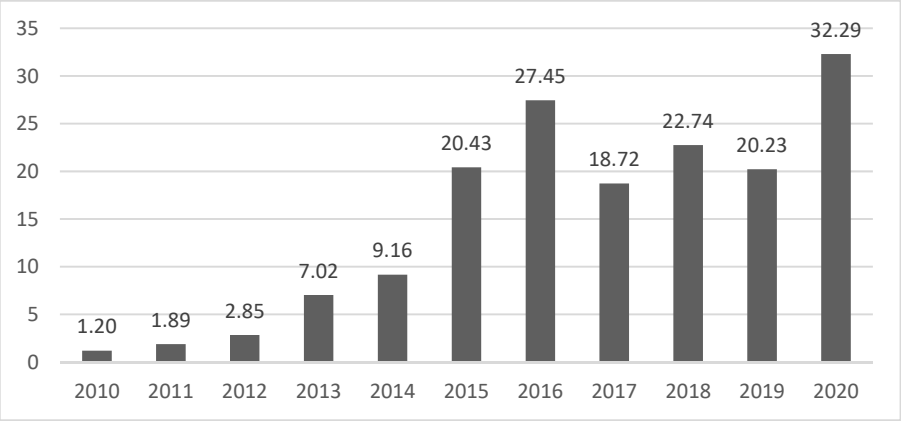
			Balance on current account	Balance of ICT services
Spearman's rho	Balance on current account***	Correlation Coefficient	1,000	.697**
		Sig. (2-tailed)		0,006
		N	14	14
	Balance of ICT services	Correlation Coefficient	.697**	1,000
		Sig. (2-tailed)	0,006	
		N	14	14
**. Correlation is significant at the 0.01 level (2-tailed).				
*** The balance of ICT services is excluded from the current account balance				

Source: Author's calculation in Statistical Package for the Social Sciences (SPSS)

The conducted analysis shows that the value of Spearman's correlation coefficient amounts to 0,697, which refers to the positive and middle strength of a relationship between the observed variables. The strength of the relationship is determined on the basis of the scale given by Cohen (1988, pp 77-81). The author takes the correlation coefficients ranging between 0,30 and 0,70 as the middle strength of the relationship. It would be more precise to say that it is about a middle-strength relationship since it misses only 0,003 to reach the strong relationship, and the very division on weak, middle-strength and strong relationships is more of a conditional character. P- value amounts to 0,006 on the significance level of 0,01. As the p-value is less than defined risk of error of 0,01, we can conclude that there is a statistically significant correlational relationship between the balance on current account and the balance of ICT services.

The balance of ICT services to the current account balance ratio is majorly determined by the movement of the current account. While ICT services mainly have constant surplus growth, there are larger oscillations in the deficit of the balance on current account. That is why ICT services' surplus with the largest percentage (27,40%) will cover the occurring deficit, when the deficit of the current account happens to be the lowest. And the totally opposite situation is the year 2010, when the deficit of the current account amounted to 2,692 billion dollars, and the ICT services' surplus amounted to 32,65 million dollars, which represents the ratio of only 1,20%. The most significant data for 2020 is that the continual growth of ICT services' surplus covered the growing deficit in the balance on current account. The coverage for 2020 amounted to 32, 29%. Therefore, the surplus in only one position of the current account covered almost one-third of current account's deficit.

Figure 6. The balance of ICT services to the balance on current account in Republic of Serbia (%), 2010-2020



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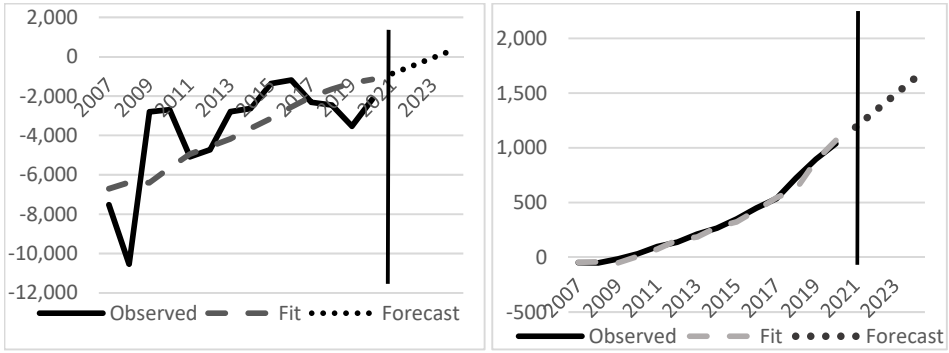
This information is a sufficient reason for the creators of economic policy to engage in the stimulation of this propulsive branch to the maximum, which is very resistant to external and internal shocks. The correctness of that kind of approach is also proven by the extrapolation of the analysed variables.

Figure 7. The extrapolation of the balance on current account and the balance of ICT services from 2021 to 2024

-in millions of USD -

The balance on current account (7a) The balance of ICT services (7b)



Source: Author's calculation in Statistical Package for the Social Sciences (SPSS)

The extrapolation of the data for the balance on current account is less reliable because there are great deviations of empirical data from the trend line. Statistically observed, the standard deviation is high which is clearly discerned in Figure 7a. Contrary to that, the balance of ICT services is more reliable to extrapolate since there are less deviations of empirical data from the trend line. Actually, the line of empirical data and the trend line are almost overlapping, and therefore, the extrapolated values are more certain (Figure 7b). In that context, it can be expected that till 2024 the ICT services' surplus will be enlarged by almost 60%. In 2020, the ICT services' surplus amounted to 1,038 billion dollars, and the extrapolated value for 2024 amounts to 1,636 billion dollars.

4. The advantages and disadvantages of ICT services in the Republic of Serbia

The obvious significance of the surplus occurring in the ICT services' trade and covering the balance of trade and the current account deficit is the chance which the Republic of Serbia can exploit even more. The competitive values existing in this sector imply that, and they refer to:

- The price competitiveness considering the lower prices of highly-qualified IT-educated workforce; the average income of ICT sector employees is slightly higher than the half of the average income in the EU, with a growing tendency;
- A great diaspora, which is into ICT services, is an ideal distribution channel for the breach in the large markets of Western Europe and North America. The difference in price opens the space for income and the mediators who are motivated to search the new buyers of ICT services across the world;
- Relatively small investments into the opening and the furnishing of the ICT company represent a serious advantage of ICT sector. Besides, these kind of services can be done even at home;
- On the national plan, it is very important for the services of ICT sector to contain the major part of value-added in percentage terms. They practically contain the maximum of highly intellectual work
- On the national plan, it is even more significant to reduce brain drain. More precisely, high incomes are accomplished even by working from Serbia, and by selling services abroad;
- The market of these services shows a growing tendency of even greater demand for ICT services, although the supply is growing, which opens the perspective of this sector's further development
- ICT sector is very resistant to external, and to a great extent to internal shocks, which shows a constant and relatively high growth rate;

This sector is followed by certain disadvantages, which limit the ICT sector development. These are some of the disadvantages:

- The ICT sector's capacities are pretty limited due to a low number of citizens and potential workers in this IT sector;
- Unregulated legal status of the sector and wandering within the legal regulation, in terms of tax liabilities, as well as the stimulation of ICT sector;
- The work in the companies founded abroad, primarily because of the business security;
- The real threat lies in the markets with even lower work price and the price of ICT services which are more and more present on the world market. In that sense, India is exceptionally present for its highly qualified and IT-and technically-educated workforce, as well as the low work prices;
- The continual growth of work prices lowers the price competitiveness of ICT sector of the Republic of Serbia on the world's market;
- There are more and more foreign ICT companies founded in Serbia. Their motive is making a profit based on low work price. The investments are negligible, and the profits are high;
- Insufficient care of the country for the economy sector with probably the best perspective. There is almost no stimulation, the country sees them primarily as taxpayers, and in some kinds of stimulation, the benefit for the country could be greater by far.

5. Conclusion

The permanent balance of trade deficit, as well as the deficit of the current account, is the problem faced by many countries. It is up to the creators of economic policy to influence the change of the economy structure, so it can suit the needs of the world's market. This task isn't easy at all. The emphasis should be on finding and developing a sector secured by the largest inflow of foreign currencies and lowered by the pressure cause by the balance of trade deficit.

The Republic of Serbia is chronically fighting the constant balance of trade deficit and the current account deficit. The exports of agricultural products have been considering the main generator of foreign currencies' inflow for a long time, which has been supposed to alleviate the deficits which occurred in other positions of the current account. Nevertheless, in the second decade of the 21st century, the ICT services' sector is developed and it can generate higher surplus rates in the exchange with the world, and, in that way, it can alleviate the shocks which occur due to the balance of trade deficit, and it can also lower the total deficit of the current account. In the second decade of the 21st century, the average growth rate of agricultural products' exports amounted to 6,28%, while the same rate in the case of ICT services reached the value of 18,61%. Therefore, ICT sector can take over the main role in the current account adjustment of the Republic of Serbia. The results shown in this paper prove that.

The enormous growth rates in ICT services' sector provide the increasing coverage of the deficit occurring in the balance of trade. Therefore, for the total of ten years, the coverage level of deficit in the balance of trade by ICT services' surplus grew from 0,52% in 2010 to 17,48% in 2020. The surplus generated by the ICT sector covers almost one-fifth of the total deficit which occurs in the exchange of goods with the world.

The significance of ICT services is visible even in the balance of services. The surplus which occurs in the balance of services is predominantly a consequence of surplus growth in the position of ICT services. The average growth rate of the surplus of this position amounts to 64,33% for the period 2010 – 2020, while the growth rate of the balance of services surplus amounts to 31,67%. The ICT sector provides almost a quarter of total inflow of foreign currencies on the basis of services' exports in 2020. The value of total services' exports amounts to 7,085 billion dollars in 2020, while the value of ICT exports amounted to 1,645 billion dollars.

A positive and statistically significant relationship is determined between the balance on current account and the balance of ICT services. This is particularly important for the Republic of Serbia, since the surplus of ICT services covers one-third of the total deficit which appears in the current account in 2020. The significance of the ICT sector for the current account adjustment is even greater by the very fact that it is expected from the ICT surplus to grow up to 60% by 2024 when compared to 2020.

The advantage of this sector is not only seen in large growth rates, but also in greater resistance to external and internal shocks when compared to other sectors. The pandemic year can be taken as a proof, when the majority of service sectors record a large fall in exports. In the same year, ICT sector accomplished record exports of 1,645 billion dollars, with growth rates of exports of 13,13% (the year 2020). The high growth rates are provided due to the price competitiveness accomplished by ICT services on the foreign market, as well as in a more qualified workforce and distribution channels.

Beside the great significance, which ICT has in the balance of payments adjustment in the Republic of Serbia, the creators of economic policy cannot limitlessly rely on this sector. The threats on the foreign markets occur due to other countries which manage to offer quality services for lower prices. The current situation has to be used and it has to start the development of other export-oriented sectors on time, the sectors which should help the balance of payments adjustment of the Republic of Serbia.

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ZNAČAJ ICT USLUGA ZA URAVNOTEŽENJE PLATNOG BILANSA REPUBLIKE SRBIJE

Apstrakt: Deficit platnog bilansa je problem sa kojim se suočava veliki broj zemalja. U cilju rešavanja problema deficita platnog bilansa kreatori ekonomske politike pokušavaju da stimulišu sektore koji obezbeđuju najveći devizni priliv i blagotvorno deluju na smanjenje deficita. Međunarodni promet informacijskim, kompjuterskim i telekomunikacionim uslugama beleži enormno visoke stope rasta prometa u 21. veku. Specifičnost ICT sektora otvara perspektivu i manje razvijenim ekonomijama da uzmu značajnije tržišno učešće u izvozu koji nosi veliki procenat novododate vrednosti. Cilj rada je da utvrdi značaj ICT usluga za uravnoteženje robnog bilansa i tekućeg bilansa, kao i doprinos u generisanju suficita ukupnog bilansa usluga. U slučaju Republike Srbije, suficit ICT sektora pokriva skoro petinu deficita bilansa roba, skoro trećinu tekućeg bilansa, dok je svaki četvrti dolar ostvaren izvozom usluga ostvaren izvozom ICT usluga. Ukoliko se nastavi isti trend rasta ICT sektora, predviđanja su da će se do 2024. godine suficit ovog sektora uvećati za skoro 60% u odnosu na nivo u 2020. Konačno, možda najznačajnija prednost koju ICT sektor donosi je smanjeni odliv mozgova što je najpogubnija posledica koju je liberalizacija kretanja radne snage donela manje razvijenim zemljama.

Ključne reči: ICT usluge, bilans roba, ravnoteža bilansa usluga, prilagođavanje tekućeg bilansa, korelaciona analiza

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