



DOES PERSONAL TRANSFERS INFLOW AFFECT ECONOMIC GROWTH? EVIDENCE FROM BOSNIA AND HERZEGOVINA

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ABSTRACT

The purpose of this research is to investigate the connection between the inflow of personal transfers of residents from abroad and the economic growth of Bosnia and Herzegovina. In order to examine the functional connection, the data was analyzed whether and in what way the inflow of personal transfers affects economic growth, on the example of a developing country (Bosnia and Herzegovina) that has significant external population migration. The research problem is sublimated by the question of whether variations of the inflow of personal transfer impact Bosnia and Herzegovina's economic growth. The simple linear regression was conducted on a sample of analyzed country, in the period 2005-2023. The research results show the existence of a positive relationship between the inflow of personal transfers and economic growth, in the short term, *ceteris paribus*. In this way, research hypothesis was confirmed that the inflow of personal transfers has an impact on the compatible components of GDP, and thus on the economic growth of Bosnia and Herzegovina, in the short term, *ceteris paribus*. The limitation of the research is the length of the observation period. Compared to many other studies, the methodological approach was based on testing the direct connection between the inflow of personal transfers and variations in personal consumption, as the most important component of GDP. The mentioned approach provides a social contribution also, in the form of knowledge that enables taking proactive measures of demographic and economic policy in Bosnia and Herzegovina and other developing countries.

Introduction

Bosnia and Herzegovina is a developing country with pronounced external (and internal) migration trends. The large outflow of population to, first of all, the countries of the European Union is a problem that will significantly affect the perspectives of long-term economic growth and development. On the other hand, the outflow of the population generates benefits as well, in the short term, in the form of an increased inflow of personal transfers, that is, remittances, salaries and pensions that residents of Bosnia and Herzegovina earn abroad. Bearing in mind the mentioned trends, a research was conceived that analyzes whether and in what way the inflow of personal transfers has an impact on the economic growth of Bosnia and Herzegovina in the short term. Guided by the stated research problem, the focus of this paper's analysis is the establishment of a functional connection between the inflow of personal transfers and the compatible components of the GDP of Bosnia and Herzegovina. The defined research hypothesis, which will be tested, is the claim that the inflow of personal transfers has an impact on the compatible components of GDP, and thus on the economic growth of Bosnia and Herzegovina, in the short term, *ceteris paribus*. In order to test the established hypothesis, quantitative research will be carried out, using descriptive statistics and simple linear regression method, which will analyze the form and degree of

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association between the independent and dependent variables. In this way, the aim will be to obtain results with a high degree of objectivity, reliability, and representativeness. The choice of methodological approach and research variables represents a partial departure from the same and/or similar research. The research was conceived in five interconnected parts, that is, wholes. After the introductory considerations, a theoretical-respective overview of the relevant studies so far which represents the subject of this research, is given in the first part of this paper. The second part refers to defining the methodological framework. In the third part, the connection and influence of the independent variable on the dependent variable was tested. The results of the research were stated, and the obtained research results were compared with the same and similar studies. The fourth part presents concluding considerations. The paper also provides a contribution to economic science and a social contribution in the form of knowledge that enables taking proactive measures of demographic and economic policy in Bosnia and Herzegovina and other developing countries.

1. Literature review

The convergence of hyper-globalization and hyper-migration represent, in the long term, factors that significantly affect human capital and potential generating economic growth and development in developing countries. In addition to the negative impact on the national economy, accelerated external migration also generates an increase in the inflow of foreign currency to the aforementioned groups of countries. Residents of developing countries who live in developed countries send part of their disposable income to their families. The inflow of all forms of personal transfers leads to the stability of the level of personal consumption in recipient countries, which has implications for economic growth in the short term. Personal transfers, on a global level, had a trend of continuous growth since the beginning of the 21st century, with cumulative values higher than the value of the inflow of portfolio investments and development aid intended for developing countries (World Bank [WB], 2022). The inflow of personal transfers to low- and middle-income countries (least developed countries and developing countries) in 2022 is estimated at 626 billion dollars, which represents a growth of 4.9% compared to the previous year, while global flows of personal transfers amounted to 794 billion dollars (WB, 2022). According to the World Bank's estimates, the trend of growth in personal transfer flows will continue, so that the inflow in the mentioned groups of countries will increase to 639 billion dollars, and at the global level to 815 billion dollars (WB, 2022). Bosnia and Herzegovina belongs to the countries with pronounced trends of population migration, mostly to the countries of the European Union (Germany, Austria, Slovenia and Croatia), which had a trend of rapid growth since 2010 (Academy of Sciences and Arts of Bosnia and Herzegovina, 2019). In the global ranking, Bosnia and Herzegovina is in eight place in Europe and Central Asia for the inflow of remittances in 2023, with an amount of 3.7 billion BAM (CBBH, 2024), which is 10.6% of the country's GDP (WB, 2023). According to the calculations of the CBBH, personal transfers make up about 8% of the country's GDP, which ranks Bosnia and Herzegovina at the top of European countries in terms of the importance and influence of personal transfers in maintaining the level of personal consumption, and creating assumptions for generating economic growth (CBBH, 2022). Many studies have analyzed the existence and strength of the relationship between the outflow of population from developing countries and the impact on the level of personal consumption and economic growth in these countries. By analyzing the connection between the inflow of personal transfers and the economic growth of 72 developing countries, Giuliano & Ruiz-Arranz (2009) proved that the inflow of personal transfers, in the absence of capital, could be a significant channel for generating economic growth. Pradhan, Upadhyay & Upadhyaya (2008) proved the existence of a positive influence of the inflow of personal transfers on the economic growth of 39 developing countries. Nsiah & Fayissa's (2013) panel analysis of 64 countries in three regions (Africa, Asia and Latin America) showed the existence of a positive relationship between inflows of personal transfers and economic growth in all groups of countries. The same result was proven in the analysis by Topxhiu & Krasniqi (2017), Kajtazi & Fetai (2022) and Bucevska (2022), in the case of Western Balkan countries, 10 South-East European countries and 6 South-East European countries, respectively. Also, Meyer & Shera (2017) reached similar results, by analyzing the inflow of personal transfers in 6 developing European countries. The results of the research suggest the existence of a positive influence of the inflow of personal transfers on economic growth, and that the said influence on GDP increases with the growth of the inflow of personal transfers. The same results were reached by Kudaisi, Ojeyinka & Osinubi (2021). In their research, Shiopu & Siegfried

(2006) proved the existence of statistically significant and positive correlations between countries with lower GDP and the sending of personal transfers. Isaković & Ilgün (2015) in their analysis confirmed the existence of a very strong positive correlation between remittance inflow and GDP, in the case of Bosnia and Herzegovina. Research by Catrinescu, Leon-Ledesma, Piracha & Quillin (2006) showed the presence of a positive, not strong, influence of personal transfers in generating economic growth in the long term, and that well-designed economic policies and efficient institutions have a significant impact on long-term growth potential. The positive influence of personal transfers in generating economic growth, and the significant role of well-conceived policies and efficient institutions were also confirmed by Faini (2005). Siddique, Selvanathan E A & Selevanathan S (2012) also emphasized the importance of the role of well-designed economic policy and efficient financial institutions, as significant predictors that have an accelerating effect on the effectiveness of personal transfers in generating economic growth. Mundaca (2009), by analyzing the relationship between personal transfers, the development of financial markets and economic growth in Latin American countries, concluded that the inflow of personal transfers significantly affects economic growth and that the level of development of financial institutions increases the influence of personal transfers on economic growth. Also, Bettin & Zazzaro (2009), by analyzing the inflow of personal transfers, the level of financial development and economic growth on the example of 66 developing countries, proved that the connection between personal transfers and economic growth is conditioned by the development of the financial system. Unlike other studies (Giuliano & Ruiz-Arranz, 2009), they introduced, as an indicator, a qualitative indicator of the efficiency of the domestic banking system and found that the efficiency of personal transfers in creating assumptions for generating economic growth was directly related to (in)efficiency of the specified indicator. Fayissa & Nsiah (2008) determined the existence of a positive influence of the inflow of personal transfers on the economic growth of 37 African countries. However, unlike Catrinescu et al. (2006), they found that personal transfers stimulate economic growth in countries with less developed financial institutions, by providing an alternative way of investing and overcoming liquidity problems. Yang (2008), by analyzing the relationship between the inflow of personal transfers and consumption in the Philippines concluded that the inflow of personal transfers is significant for the national economy and the households that receive them. Also, Yang confirmed that remittances are a more important source of financing for households in rural, compared to urban, areas. Combes & Ebeke (2011) came to the result that the inflow of personal transfers significantly reduces the instability of the level of personal consumption in developing countries, especially in financially less developed developing countries. Also, Lim & Simmons (2015) came to the conclusion that the inflow of personal transfers has a significant positive impact on the level of personal consumption in Caribbean countries, and that it is used more for consumption purposes than to increase productivity in the long run. Similar results were obtained by Senbeta (2013), who, by analyzing the impact of the inflow of personal transfers on economic growth and sources of economic growth (accumulation of capital and the total factor productivity) of 50 developing countries, came to the conclusion that personal transfers have a statistically significant positive impact on capital accumulation while the impact on the total factor productivity is insignificant. Acosta, Lartey & Mandelman (2009) proved in their analysis that the inflow of personal transfers had a statistically significant and positive effect on the level of personal consumption and household well-being. Also, the analysis showed that the inflow of personal transfers affected the reduction of labor supply and the emergence of the Dutch disease. Research by Chami, Cosimano & Gapen (2006) confirmed the existence of a positive influence of the inflow of personal transfers on the level of personal consumption, that is, that the inflow of personal transfers increased the level of disposable income and consumption, and thus the well-being of households, and served as insurance against income shocks. Vargas-Silva, Jha & Sugiyato (2009) analyzed the relationship between the inflow of personal transfers, economic growth and poverty reduction in 20 Asian countries. The direct implication of the analysis is that the inflow of personal transfers has a positive effect on economic growth in the short term. In addition, the results of the analysis show that a 10% increase in the inflow of personal transfers leads to an increase in GDP of 0.9-1.2% and reduces the poverty gap by 0.7-1.4%. The same conclusions were reached by Imai, Gaiha, Ali & Kaicker (2014), in an analysis of 24 countries in Asia and the Pacific. The results of the analysis showed that personal transfers created benefits for economic growth and influenced poverty reduction. Other studies (Adams & Page, 2005; Gupta, Pattillo & Wagh, 2007) have also shown the positive impact of personal transfers on the reduction of poverty of those who receive them, and the growth of well-being. Studies by Yang & Choi (2007), Acosta, Fajnzylber & Lopez (2007), Acosta, Calderon, Fajnzylber & Lopez (2008), Hanson (2010) and Trokić (2012) proved the existence of positive (short-term) macroeconomic benefits from the inflow of personal

transfers, and the facilitation of macroeconomic adjustment from political and/or economic shocks in developing countries. Adams (2006), by investigating the economic impact of personal transfers in a study of 115 developing countries, proved that the inflow of personal transfers has a significant impact on the level of personal consumption. By analyzing the structure of household consumption, he concluded that personal transfers were spent more on investment goods (education, housing and entrepreneurship). Yang (2011) also confirmed the importance of the inflow of personal transfers to the level and stimulation of investment consumption of the population belonging to the middle-class group. Empirical analysis by Barajas, Chami, Fullenkamp, Gapen & Montiel (2009) showed that the inflow of personal transfers had a weak positive, or even a negative impact on long-term economic growth. The main reason for the above is that personal transfers are not investment-motivated but are intended to overcome social difficulties and are channeled into final consumption. Long-term Buch & Kuckulenz (2010) analyzed the flows of personal transfers, but from the aspect of factors that determine the value of their inflow. The conclusion of their analysis is that the inflow of personal transfers is primarily motivated by socioeconomic characteristics, i.e. the population's need for additional funds in order not to slip into a spiral of poverty. The meta-analysis by Cazachevici, Havranek & Horvath (2020) of the effects and impact of personal transfers on economic growth included 95 analyses. The results show that about 40% of the analyzes indicate the existence of a positive and statistically significant relationship between the inflow of personal transfers and economic growth, about 20% of the analyzes show a negative and statistically insignificant effect, and about 40% of the analyzes do not indicate the existence of a statistically significant influence of the inflow of personal transfers on the economic growth.

2. Methods and data

The subject of the research refers to the analysis of the impact of the inflow of personal transfers on generating economic growth in Bosnia and Herzegovina. Based on the defined research problem, the degree and strength of the connection between the inflow of personal transfers to Bosnia and Herzegovina and economic growth are examined. The modeling of the trend of the inflow of personal transfers is focused on parameters that have a statistically significant impact on the GDP structure, and thus on generating economic growth. The research was conducted on the example of one country (Bosnia and Herzegovina), which has pronounced external migration trends, and which, according to the M49 classification of the United Nations, belongs to the group of developing countries (United Nations [UN], 2023). According to United Nations estimates, Bosnia and Herzegovina will lose 13% of its population by 2050 (Development Initiative Group SeCons, & UNFPA 2020).

Table 1. Personal transfers, Personal consumption and Share of Personal Transfers in the structure of the GDP, Bosnia and Herzegovina, 2005-2023

Year	Personal Transfers (BAM, real prices)	Personal Consumption (BAM, real prices)	Personal Consumption (% of the GDP)
2005	3.174.930.000	16.046.420.940	85.5
2006	3.681.380.000	18.644.697.220	81.6
2007	3.940.010.000	19.385.353.190	79.1
2008	4.094.890.000	23.053.295.520	79.2
2009	3.307.590.000	20.523.600.900	77.6
2010	3.599.580.000	21.463.226.580	78.9
2011	3.469.200.000	21.195.022.520	78.7
2012	3.859.800.000	23.123.812.950	78.3
2013	3.878.700.000	23.292.247.650	77.2
2014	4.127.760.000	23.349.556.880	77.6
2015	3.680.190.000	23.374.822.060	75.0
2016	3.577.140.000	23.584.736.820	73.3
2017	3.945.930.000	24.447.027.340	71.7
2018	4.034.060.000	24.787.087.512	70.6
2019	4.346.030.000	25.889.552.200	70.1
2020	3.794.791.000	24.781.037.281	69.8
2021	4.240.140.000	27.014.121.660	66.3
2022	4.769.000.000	30.372.408.000	66.7
2023	4.990.000.000	35.187.059.000	68.5

Source: CBBH (2024); BHAS (2024)

The inflow of personal transfers in Bosnia and Herzegovina in the period 2005-2023 had a continuous trend without pronounced oscillations, ranging from 3.1 billion BAM in 2005 to 4.9 billion BAM in 2023 (Table 1). In the structure of personal transfers, the dominant position is held by remittances, followed by salaries and pensions of residents from abroad. The total value of the inflow of personal transfers to Bosnia and Herzegovina in the analyzed period was 74.5 billion BAM (CBBH, 2024). The value of personal consumption in the analyzed period has a trend of continuous growth, of 16.5 billion BAM, comparing 2006 and 2023. In the structure of GDP, the share of personal consumption decreased from 81.6% in 2006 to 68.5% in 2023. However, in addition to the decline in the share in the GDP structure, personal consumption still represents the most statistically significant component of the national GDP of Bosnia and Herzegovina, with an average share of 74.5%. Personal transfers are primarily intended for personal consumption of the population. Which part of the cumulative amount of personal transfers will be directed towards consumption depends on the amount and marginal propensity to spend. Since the inflow of personal transfers represents an addition to disposable income, and taking into account inflationary trends in Bosnia and Herzegovina, most of the disposable income, including personal transfers, is intended for consumption, and a negligible part for savings. Negative migration changes, i.e., population outflow, is directly related to the growth of all types of personal transfers, which are primarily aimed at the families of residents who are abroad as a form of assistance in maintaining the level of personal consumption, i.e. the standard of living. Stimulating personal consumption creates a transmission mechanism for generating economic growth. Influence on the level of personal consumption can be achieved by economic policy measures, by increasing salaries, pensions, other state transfers, and by the inflow of money from residents from abroad, on various grounds. The analysis of the inflow of monetary flows from abroad and their impact on the economic growth of Bosnia and Herzegovina represents the subject of research in this paper. The inflow of personal transfers from abroad to Bosnia and Herzegovina represents an independent variable in the research. The dependent variable in the research is the economic growth of Bosnia and Herzegovina. The measurement indicator of the independent variable is the value of the inflow of personal transfers to Bosnia and Herzegovina, and the value of the dependent variable is the value of personal consumption of the population. The time frame of the research represents a period of 19 years (2005-2023) for independent variable (personal transfers) and 18 years (2006-2023) for dependent variable (personal consumption). A time lag of one year represents the construction, the impact of the independent on the dependent variable would be tested only when it starts to generate effects. All relevant and representative data for indicators of dependent and independent variables are available in the research. Statistical data for the value of personal transfers were taken from the databases of the Central Bank of Bosnia and Herzegovina (CBBH) and for the value of expenditures for personal consumption from the databases of the Agency for Statistics of Bosnia and Herzegovina (BHAS).

The independent variable in the research is personal transfers, that is, their inflow to Bosnia and Herzegovina. The measurement indicator of the independent variable is the value of the inflow of personal transfers from abroad to Bosnia and Herzegovina. The structure of personal transfers, according to the classification of the Central Bank of Bosnia and Herzegovina, consists of remittances from abroad, salaries of residents from abroad and pensions from abroad BAM (Central bank of Bosnia and Herzegovina [CBBH], 2022). The dependent variable in the research is the economic growth of Bosnia and Herzegovina. The value of expenditures for the final consumption of the population was taken as an explanatory indicator of the dependent variable. The analysis of the structure and influence of the components on the GDP value, according to the expenditure approach, has shown that the personal consumption of the population has statistically the most significant influence on the GDP value of Bosnia and Herzegovina. Therefore, the incorporation of the mentioned indicator serves to obtain results with a higher degree of accuracy, objectivity and representativeness. By making the logical connection between the inflow of personal transfers and the consumption of the population in Bosnia and Herzegovina, the role and influence of the mentioned independent variable in creating assumptions for generating economic growth *ceteris paribus*, was tested.

3. Research results and discussion

Before conducting a regression correlation analysis, it is crucial to determine whether the time series data exhibits a trend component. If all observed phenomena share the same trend function, it can be assumed that the remaining variations are a result of the relationship between them, and the form of this

relationship can be determined. If the observed phenomena exhibit different trend functions, then the trend would need to be eliminated to isolate the variations solely resulting from the relationship between the phenomena. Regression and correlation analysis would then be performed on these transformed data series. The Dickey-Fuller test was utilized to formally test whether the trends in each variable were statistically significant. If the test is significant, it implies that there is a trend in the variable. Based on the Dickey-Fuller test results, we can evaluate whether personal transfers and personal consumption share the same trend function. A null hypothesis was set in the form of $H_0: \rho = 0$ (There is no trend) and an alternative hypothesis in the form of $H_1: \rho \neq 0$ (There is a trend with a constant). The interpretation rules are as follows. If the p-value is less than the chosen significance level (e.g., 5%), we reject the null hypothesis (H_0) and conclude that there is a trend in the variable. If the p-value is greater than the chosen significance level, we cannot reject the null hypothesis and conclude that there is no trend in the variable. Interpretation of results for personal transfers shows that the p-value for the model without trend (constant) is 0.033 and the p-value for the model with a trend is 0.005. The p-values in both models (without trend and with trend) are less than 5%, indicating that we can reject the null hypothesis and conclude that there is a trend in personal transfers. Interpretation of results for personal consumption implies that the p-value for the model without trend (constant) is 0.000 and the p-value for the model with a trend is 0.000. The p-values in both models (without trend and with trend) are less than 5%. This implies that in both cases we can reject the null hypothesis and conclude that there is a trend in personal consumption. Based on the interpretation of the Dickey-Fuller test results, we can conclude that all observed variables exhibit a statistically significant trend. Since all variables share the same trend function, regression correlation analysis can be an appropriate method for investigating the relationship between personal transfers and economic growth in Bosnia and Herzegovina. The form and strength of the relationship between the dependent and independent variables was examined using the simple linear regression method. In the regression equation:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Y represents the dependent variable, X_1 represents the independent variable, β_0 is a constant, β_1 is an unknown parameter along with the independent variable, and ε is an error that reflects influences on the dependent variable that are not caused by the independent variable.

In the correlation analysis procedure, a null hypothesis was set in the form of $H_0: \rho = 0$ (there is no linear correlation in the basic set) and an alternative hypothesis in the form of $H_1: \rho \neq 0$ (there is a linear correlation in the basic set). A significance level of 0.05 was chosen (assuming that there is a 5% probability that the correlation between variables occurred by chance). The Pearson correlation coefficient shows a high value for the dependent variable indicator. A value of 0.86 shows the existence of a strong relationship between the dependent and independent variables, according to the scale of Weiss (2012). A positive sign of the coefficient implies the existence of a positive linear relationship. By testing the existence of potential multicollinearity, the absence of the mentioned problem was confirmed. Values of the VIF coefficient (below 5) and the tolerance (above 0.25) confirm the stated claim.

Table 2. Simple linear regression (Personal transfers- personal consumption)

Variable	Period	Pearson correlation coefficient	Coefficient of determination	Adjusted coefficient of determination	Significance	Analysis of variance (F test)
Personal consumption of the population	18	86.2%	74.3%	72.7%	0.000004	F(1.17)=46.233; p<0.05

Source: Author's calculation in SPSS

After determining the existence of a connection between the dependent and independent variables, it was tested how much changes in the dependent variable were explained by variations in the independent variable. The value of the coefficient of determination shows that 74.3% of the total variability of the dependent variable is explained by variations of the independent variable and that other factors influence the dependent variable in the range of 25.7%. A high level of significance through the F-test (46.233) shows that there is a high level of explanatory variability (Table 2). The evaluated regression model is adequate, which is represented by the results of the analysis of variance. The independent variable predicts the dependent variable well, which implies a lower significance level than the threshold values for the

dependent variable indicator. By observing the t value and the associated significance, it is concluded that the independent variable affects the value of the dependent variable. Since $p < 0.05$ for the dependent variable indicator, the influence of the independent variable on the dependent variable is relevant for the research. Based on the stated results of the variance analysis, the observed t value and the associated significance, the null hypothesis is rejected and the basic research hypothesis that the inflow of personal transfers has an impact on the compatible components of GDP, and thus on the economic growth of Bosnia and Herzegovina, can be accepted in the short term, *ceteris paribus*. Based on the results of the analysis, the defined regression function is:

$$Y = -6.878.254.369,001 + 7.811X_1$$

The direct implication of the aforementioned function is that an increase in the inflow of personal transfers of 1 BAM leads to an increase in personal consumption by 7.8 BAM. Personal consumption, among all observed components, has the statistically most significant share in the GDP structure. Stimulating personal consumption significantly affects the level of economic growth. The mentioned relation shows that the growth of personal transfers has a positive and significant impact on the most important component of GDP, and that it creates the conditions for generating economic growth, *ceteris paribus*. The existence of a strong relationship between the inflow of personal transfers and personal consumption was confirmed in the analysis. Based on the data showing that personal consumption represents the most statistically significant component of GDP, according to the expenditure approach, it is confirmed that the inflow of personal transfers, through the influence on the level of personal consumption, affects the value of GDP, and thus the economic growth of Bosnia and Herzegovina, in short term. By confirming the connection and influence of the inflow of personal transfers and the level of personal consumption, the research hypothesis was confirmed, which represents the construction that the inflow of personal transfers has an impact on the compatible components of GDP, and thus on the economic growth of Bosnia and Herzegovina, in the short term, *ceteris paribus*. The statistically significant share of the level of personal transfers in the GDP of Bosnia and Herzegovina confirms the mentioned connection and the importance and influence in generating economic growth, in the short term, *ceteris paribus*. Other studies have also confirmed the existence of a positive relationship between the inflow of personal transfers and economic growth. It has also been proven that the inflow of personal transfers has an impact on the components that have statistically the most significant impact on GDP, and thus on economic growth. Research by Chami et al. (2006), Catrinescu et al. (2006), Fayissa & Nsiah (2008), Pradhan et al. (2008), Yang (2008), Giuliano & Ruiz-Arranz (2009), Acosta et al. (2009), Mundaca (2009), Vargas-Silva et al. (2009), Combes & Ebeke (2011), Imai et al. (2014), Lim & Simmons (2015), Isaković & Ilgün (2015), Meyer & Shera (2017), Topxhiu & Krasniqi (2017), Kudaisi, Ojeyinka & Osinubi (2021), Kajtazi & Fetai (2022) and Bucevska (2022) show the existence of a positive relationship and impact of the inflow of personal transfers on the level of personal consumption and economic growth of developing countries. In contrast to the aforementioned studies, in this paper a different methodological approach was used. The research idea was to examine the impact of the inflow of personal transfers, in a developing country with a pronounced population outflow, on economic growth, but with a focus on the impact on the level of personal consumption. The previously apostrophized statistical significance of personal transfers and personal consumption in the structure of GDP confirm the importance of the analyzed variables and their influence in creating assumptions for generating economic growth in Bosnia and Herzegovina, in the short term, *ceteris paribus*.

Conclusion

The paper has analyzed the connection and influence of the inflow of personal transfers of residents from abroad on the economic growth of Bosnia and Herzegovina. The basic research motive related to the examination of whether the external migration trends, which are expressed in Bosnia and Herzegovina, in addition to the indisputable negative implications in the long term, also have a certain positive impact in the short term. In this way, inflows of personal transfers and personal consumption of the population are connected, in order to analyze and get an answer to the question of whether the inflow of personal transfers has an impact on the economic growth of Bosnia and Herzegovina. The research results confirmed the existence of a connection and the influence of the inflow of personal transfers on the level of personal consumption of the population. Personal consumption of the population is statistically the most significant

component of the GDP of Bosnia and Herzegovina. By influencing personal consumption, GDP and economic growth are influenced through the transmission mechanism. Stimulating personal consumption represents a powerful mechanism for creating assumptions for generating economic growth in Bosnia and Herzegovina. The rise in the cost of living has created pressure on the level of personal consumption that is sufficient to meet existential needs. Since the growth of the salary level does not follow the growth of the cost of living, the inflow of personal transfers represents a significant additional source of income for many households in Bosnia and Herzegovina, in order to maintain a satisfactory level of living standards. In this way, a logical connection was established which confirms the influence of the inflow of personal transfers on the level of personal consumption of the population. By influencing the most significant component of GDP, a positive pressure is created that affects the value of economic growth. The results of the research will not provide a final answer about the role, importance and impact of the inflow of personal transfers on economic growth. The main research motive was related to the choice of variables and analytical approach that will enable obtaining results with a high degree of objectivity, reliability and representativeness. Limitations in the research refer, above all, to the lack of data on the share of each individual component (remittances, salaries and pensions of residents from abroad) in the structure of personal transfers, in order to obtain a more accurate picture of which of the mentioned inflows has the most pronounced influence on the indicator of the dependent variable. Also, the time series is limited to representative data from 2005, therefore it could not cover the period that would reflect the population outflow in peacetime conditions (since 1995). The research conducted in this paper can serve as a starting point for the same and similar studies. Gaps in the analytical framework can be filled by including more indicators of the independent variable, as well as by extending the time period of observation, in accordance with the availability of relevant data in the future.

Literature

1. Acosta, P. P., Fajnzylber, P., & Lopez, J. H. (2007). *The impact of remittances on poverty and human capital: evidence from Latin American Household Surveys* (Vol. 4247). Washington: World Bank Publications. <https://doi.org/10.1596/1813-9450-4247>.
2. Acosta, P. P., Calderón, C., Fajnzylber, P., & Lopez, H. (2008). What is the Impact of International Remittances on Poverty and Inequality in Latin America? *World Development*, 36(1), 89-114. <https://doi.org/10.1016/j.worlddev.2007.02.016>.
3. Acosta, P.P., Lartey, E. K., & Mandelman, F. S. (2009). Remittances and the Dutch Disease. *Journal of International Economics*, 79(1), 102-116. <https://doi.org/10.1016/j.jinteco.2009.06.007>.
4. Adams Jr, R. H., & Page, J. (2005). Do International Migration and Remittances Reduce Poverty in Developing Countries? *World Development*, 33(10), 1645-1669. DOI:10.1016/j.worlddev.2005.004.
5. Adams Jr., R. H. (2006). International Remittances and the Household: Analysis and Review of Global Evidence. *Journal of African Economies*, 15(2), 396-425. <https://doi.org/10.1093/jafeco/ej028>.
6. Agency for Statistics of Bosnia and Herzegovina. (2022). National Accounts. Downloaded on April 10, 2024 from <https://bhas.gov.ba/Calendar/Category/12>.
7. Barajas, A., Chami, R., Fullenkamp, C., Gapen, M., & Montiel, P. J. (2009). Do Workers` Remittances Promote Economic Growth. *IMF Working Paper Series*, 09(153), 1-23. DOI: 10.5089/9781451873009.001.
8. Bettin, G., & Zazzaro, A. (2009). Remittances and Financial Development: Substitutes or Complements in Economic Growth? *MoFIR Working Paper* 28, 1-21. Downloaded on April 11, 2024 from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1240659.
9. Bucevska, V. (2022). Impact of Remittances on Economic Growth: Empirical Evidence form South-East European Countries. *South East European Journal of Economic and Business*, 17(1), 79-94. DOI: 10.2478/jeb-2022-0006.
10. Buch, C. M., & Kuckulenz, A. (2010). Worker Remittances and Capital Flows to Developing Countries. *International Migration*, 48(5), 89-117. doi: 10.1111/j.1468-2435.2009.00543.x.
11. Catrinescu, N., Leon-Ledesma, M., Piracha, M., & Quillin, B. (2006). Remittances, Institutions and Economic Growth. *IZA Discussion Paper* 2139, 1-26. Downloaded on April 10, 2024 from <https://www.econstor.eu/bitstream/10419/34110/1/512343977.pdf>.
12. Cazachevici, A., Havranek, T., & Horvath, T. (2020). Remittances and Economic Growth:

- A Meta-Analysis. *World Development* 134, 105021. <https://doi.org/10.1016/j.worlddev.2020.105021>.
13. Central Bank of Bosnia and Herzegovina. (2022). Annual Reports. Downloaded on April 15, 2024 from <https://www.cbbh.ba/Content/Archive/36?lang=en>.
 14. Central Bank of Bosnia and Herzegovina. (2024). Annual Reports. Downloaded on April 15, 2024 from <https://www.cbbh.ba/Content/Archive/36?lang=en>.
 15. Chami, R., Cosimano, T. F., & Gapen, M. (2006). Beware of Emigrants Bearing Gifts: Optimal Fiscal and Monetary Policy in the Presence of Remittances. *IMF Working Paper, 06(61)*, 1-49. Downloaded on April 12, 2024 from <https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Beware-of-Emigrants-Bearing-Gifts-Optimal-Fiscal-and-Monetary-Policy-in-the-Presence-of-18882>.
 16. Combes, J. L., & Ebeke C. (2011). Remittances and Household Consumption Instability in Developing Countries. *World Development*, 39(7), 1076-1089. <https://doi.org/10.1016/j.worlddev.2020.20.006>
 17. Čičić, M. (2019). *Studija o emigracijama: Bosna i Hercegovina*. Akademija nauka i umjetnosti Bosne i Hercegovine. DOI: 10.5644/PI2019.182.00.
 18. Development Initiative Group SeCons, & UNFPA. (2020). Analiza stanja stanovništva u Bosni i Hercegovini. SeCons, 1-204. Downloaded on April 15, 2024 from https://ba.unfpa.org/sites/default/files/pub-pdf/psa_bih_final_november_2020_bcs.pdf.
 19. Faini, R. (2005). Migration, Remittances, and Growth. In: Borjas, G. J., Crisp, J. (eds) *Poverty, International Migration and Asylum* (pp. 171-187). London: Palgrave Macmillan. https://doi.org/10.1057/9780230522534_8.
 20. Fayissa, B., & Nsiah, C. (2008). The Impact of Remittances on Economic Growth and Development in Africa. *The American Economist*, 55(2), 1-20. DOI: 10.1177/056943451005500210.
 21. Giuliano, P., & Ruiz-Arranz, M. (2009). Remittances, Financial Development and Growth. *IMF Working Paper, 2005(234)*, 1-39. <https://doi.org/10.5089/9781451862539.001>.
 22. Gupta, S., Pattillo, C., & Wagh, S. (2007). Impact of Remittances on Poverty and Financial Development in Sub-Saharan Africa. *IMF Working Paper, 07(38)*, 1-43. <https://doi.org/10.5089/9781451866025.001>.
 23. Hanson, G. H. (2010). International migration and the developing world. In *Handbook of development economics* (Vol. 5, pp. 4363-4414). Elsevier.
 24. Imai, KS., Gaiha, R., Ali, A., & Kaicker, N. (2014). Remittances, Growth and Poverty: New Evidence from Asian Countries. *Journal of Policy Modeling*, 36(3), 524-538. <https://doi.org/10.1016/j.jpolmod.2014.01.009>.
 25. Isaković, N., & Ilgün, E. (2015). Cyclical Properties of Workers' Remittances: Evidence from Bosnia and Herzegovina. *International Journal of Economics and Financial Issues*, 5(1), 172-187. Downloaded on July 8, 2024 from <https://dergipark.org.tr/en/download/article-file/362982>.
 26. Kajtazi, K., & Fetai, B. (2022). Does the Remittance Generate Economic Growth in the South East European Countries? *Scientific Annals of Economics and Business*, 69(1), 57-67. DOI:10.47743/saeb-2000-0004.
 27. Kudaisi, B. V., Ojeyinka, T. A., & Osinubi, T. T. (2021). Financial Liberalization, Remittances and Economic Growth in Nigeria (1990–2018). *Journal of Economic and Administrative Sciences*, 38(4), 562-580. <https://doi.org/10.1108/JEAS-09-2020-0164>.
 28. Lim, S., Simmons, W O. (2015). Do Remittances Promote Economic Growth in the Caribbean Community and Common Market? *Journal of Economic and Business*, 77, 42-59. <https://doi.org/10.1016/j.jeconbus.2014.09.001>.
 29. Meyer, D., & Shera, A. (2017). The Impact of Remittances on Economic Growth: An Econometric Model. *Economia*, 17(2), 147-155. <https://doi.org/10.1016/j.econ.2016.06.001>.
 30. Mundaca, B. G. (2009). Remittances, Financial Market Development, and Economic Growth: The Case of Latin America and the Caribbean. *Review of Development Economics*, 13(2), 288-303. DOI: 10.1111/J.1467-9361.2008.00487.x.
 31. Nsiah, C., & Fayissa, B. (2013). Remittances and Economic Growth in Africa, Asia and Latin American-Caribbean Countries: A Panel Unit Root and Panel Cointegration Analysis. *Journal of Economics and Finance*, 37(3), 424-441. DOI: 10.1007/s12197-011-9195-6.
 32. Pradhan, G., Upadhyay, M., & Upadhyaya, K. (2008). Remittances and Economic Growth in Developing

- Countries. *The European Journal of Development Research*, 20(3), 497-506. <https://doi.org/10.1080/09578810802246285>.
33. Senbeta, A (2013). Remittances and the Sources of Growth. *Applied Economic Letters*, 20(6), 572-580. DOI: 10.1080/13504851.2012.718057.
34. Shiopu, I., & Siegfried, N. (2006). Determinants of Workers` Remittances: Evidence from the European Neighbouring Region. *ECB Working Paper*, 2006(688), 1-37. DOI: 10.2139/ssrn.936947.
35. Siddique, A., Selvanathan E. A., & Selevanathan, S. (2012). Remittances and Economic Growth: Empirical Evidence from Bangladesh, India and Sri Lanka. *Journal of Development Studies*, 48(8), 1045-1062. <https://doi.org/10.1080/00220388.2012.663904>.
36. Topxhiu, R. M., & Krasniqi, F. X. (2017). The Relevance of Remittances in Fostering Economic Growth in the West Balkan Countries. *Ekonomika*, 96(2), 28-42. DOI: <https://doi.org/10.15388/Ekon.2017.2.10989>.
37. Trokić, A. (2012). The Negative Long Term Effect of Remittance Inflow in Bosnia and Herzegovina. *Analytical*, (09), 58-73. Downloaded on July 8, 2024 from https://www.analyticalmk.com/files/2012/02/Amela%20Troki_.pdf.
38. United Nations. (2022). *Country and Area Codes (M49)*. Downloaded on April 15, 2024 from <https://unstats.un.org/unsd/methodology/m49/>.
39. Vargas-Silva, C., Jha, S., & Sugiyato, G. (2009). Remittances in Asia: Implications for the Fight Against Poverty and the Pursuit of Economic Growth. *Asian Development Bank Economic Working Paper Series*, 2009(182), 1-28. DOI:10.2139/ssrn.1618025.
40. World Bank. (2023). *Leveraging Diaspora Finances for Private Capital Mobilization*. Migration and Development Brief, 39, 1-60. Downloaded on April 15, 2024 from <https://www.knomad.org/publication/migration-and-development-brief-39>.
41. Weiss, N. A. (2012). *Introductory Statistics, 9th Edition*. Boston: Addison-Wesley.
42. Yang, D., & Choi, H. (2007). Are Remittances Insurance? Evidence from Rainfall Shocks in the Philippines. *The World Bank Economic Review*, 21(2), 219-248. <https://doi.org/10.1093/wber/lhm003>.
43. Yang, D. (2008). International Migration, Remittances and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks. *The Economic Journal*, 118(528), 591-630. <https://doi.org/10.1111/j.1468-0297.2008.02134.x>.
44. Yang, D. (2011). Migrant Remittances. *Journal of Economic Perspectives*, 25(3), 129-152. Downloaded on April 10, 2024 from <https://www.aeaweb.org/articles?id=10.1257/jep.25.3.129>.