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# Financing Growth through Remittances and Foreign Direct Investment: Evidences from Balkan Countries

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**Abstract:** The ultimate goal of central banks, worldwide, is to promote the foundations for sustainable economic growth. In the case of developing economies, in particular, such objective requires time, huge efforts, attention, and plenty of resources in order to be accomplished to the fullest degree. This paper thoroughly investigates key factors affecting Balkan countries' economic development (as measured by gross domestic product (GDP) growth), focusing especially on the impact of remittances. The analysis was done over an 18-year time interval (2000–2017) and builds on 144 observations. The data figures were retrieved from the World Bank database while two dummies were created to test the impact of the last financial crisis (2008–2012). Econometric tools were employed to carry out a broad analysis on the interdependencies that exist and, in particular, to determine the role of remittance income on growth. The vector auto regressive model was estimated using EViews software, and was used to come up with relevant insights. Empirical findings suggest the following: population growth, remittances, and labor force participation are insignificant factors for sustainable growth. On the other hand, previous levels of GDP, trade, and foreign direct investments (FDIs) appear to be relevant for the predictor. This research provides up-to-date conclusions, which can be considered during the decision-making process of central banks, as well as by government policymakers.

**Keywords:** Balkan countries; remittance flows; economic growth; VAR



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## 1. Introduction

The main motivation behind this study is the examination of the vital role that remittance and foreign direct investment (FDI) inflows play in fostering economic growth in developing economies. In fact, emigration is a phenomenon that has attracted a lot of media attention recently (Bilal et al. 2012; Bălan et al. 2013; Anghelache et al. 2017a, 2017b; Noja et al. 2018; Bunduchi et al. 2019; Kausar et al. 2019; Enkhtaivan et al. 2021). In the post-communism Western Balkans, the people leaving their home countries is relatively high. Under such circumstances, we want at least to know whether these top remittance-receivers benefit from these inflows, and use them to promote economic growth.

The launch of the Sustainable Development Goals has created a major challenge in financing the activities needed to achieve them (Frone et al. 2020). For this reason, specialists and researchers are focused on the importance of various financial flows and their efficiency in achieving ambitious goals for sustainable development. Associative analysis of the effects of remittance and foreign direct investment on economic growth and sustainable development is gaining ground (Comes et al. 2018).

Examining each factor in detail can serve as a basis for economic expansion, and it is crucial for the future since the Balkan countries are also struggling to achieve some stable and positive rates of growth. Moreover, it would be quite informative to check whether the sub-prime mortgage crisis of 2008 had a significant impact on the economic

development in the following group of countries: Albania, Kosovo, Montenegro, Croatia, Macedonia, Greece, Serbia, Bosnia and Herzegovina. It is of interest to “test” the resilience that the sample countries have towards external global shocks, which are considered a mixture of ethnicities, languages, and religions (Hysa 2020). Considering the fact that these economies are still at an early stage of development, and at the same time experiencing political disruptions and high corruption levels (Mansi et al. 2020), it would come as no surprise to find a negative impact of the global financial crisis in the economic environment in countries of this study. This study contributes to her findings and conclusions, regarding the science, as well as the day-to-day decision-making and policy setting of governmental and banking institutions. The above-mentioned would guide such institutions towards the right path to be followed, to fulfill the primary objective of fostering steady economic development. This study adds value to the existing literature by focusing on a recent time interval; using adequate methodology, which covers relatively diverse (but also similar) environments; accounting for the negative external shock of the 2008 crisis, and contributing to the enrichment of the domestic literature.

The liberalization of capital movements and people worldwide, especially in Europe, have generated the reconfiguration of international financial flows. In addition, these phenomena have caused numerous economic, social, and political effects, both in the countries of origin and in the host countries (Gheasi and Nijkamp 2017; Mehedintu et al. 2019). FDI has long been considered a universal panacea that would solve all problems related to the economic development of host countries. In reality, in addition to the expected positive effects, foreign capital has also generated problems, given that we rarely see a reconciliation of national interests, with the interests of transnational corporations (Matei 2004; Popescu 2014). Given the magnitude of the migration phenomenon, in some cases, the value of remittances received by a country exceeds the attracted FDI flows. In this way, migrants even if they no longer produce value in their country or generate direct negative effects (e.g., brain drain), can contribute to the process of economic development, through financial flows and the knowledge exported towards their countries of origin. These could improve financial inclusion, the quality of life of their families, or generate establishment of new companies (Zaman et al. 2007; Goschin 2014; Enkhtaivan et al. 2021).

The objective of this study is to use longitudinal data to check the trend, magnitude, and significance of the impact of remittance flows on economic development as measured by gross domestic product (GDP) growth. We aim to provide robust statistical proof on the potential role that such flows play on economic growth, especially regarding Western Balkan countries. The use of panel data instead of time series is done in an attempt to broaden the scope of the analysis and capture common phenomena or characteristics that prevail in this region. Such objective is achieved by employing the fixed effects model with unbalanced panel data (sample size = 144 observations). Being that the last crisis of 2008 was at the center of every economic discussion, we included the examination of its possible repercussions as a complementary part in our study. This study aims to provide a comprehensive analysis on the role that remittances plays in growing economies, such as in the Western Balkans. Thus, its scope includes eight Western Balkan countries (which had been, for a long period in the past, under a communist regime), and uses them as a sample to provide an econometric analysis on the impact of remittance inflows on the economic progress of these countries (Albania, Kosovo, Montenegro, Croatia, Macedonia, Greece, Serbia and Bosnia and Herzegovina).

## 2. Background

There is empirical evidence that explains the impact of remittance in economic growth based on different models and theories. Rao and Hassan (2012) explains the impact of remittances in economic growth using the Solow model; they found that remittance has a positive impact on economic growth. Others use the endogenous economic growth model to explain the impact of remittances in economic growth. There are three main theories regarding the impact of remittances on development. The first theory is developmental

optimistic school, the second theory is developmental pessimistic school, and the third theory is remittances development pluralists. The first theory has an optimistic view on the impact of remittance in economic growth, the second theory has a pessimistic view, and the third theory highlights that there is no strict positive—or negative—impact of remittance in economic development, but this relationship is much more complex. Considering the empirical literature, and based on the theory of the developmental optimistic school, we consider remittances as one of the main factors that has positive impact on economic growth. We test this impact in the case of Balkan countries.

### 2.1. Case of Albania

In recent years, Albania has seen high rates of migration towards developed economies, such as Europe (e.g., Germany, Belgium, United Kingdom, France) and America. There has also been a widespread tendency to move to neighboring countries. In this way, the migrant feels that he can still be there for his family when needed. Most importantly, cultural barriers to the migrant are smaller once the proximity of the host country, with his home country, is high. Based on the available statistics at the World Bank, it was calculated that approximately 40% of Albania's population consists of migrant stock. Such a figure translated to 1.15 million in migrant stock in 2017. Generally, families who are barely surviving in their home countries send an adult child abroad in order to provide basic items for the family. This is made possible because, generally, the wages paid abroad are higher than what could be earned in the same job/skillset in Albania.

For instance, based on trading economics, it was reported that, in the third quarter of 2018, remittances were 170 million euro. However, this figure is low compared to other quarters, when it reached up to 295 million euro. Table 1 depicts the respective percentage figures of Albanian migrants in neighboring, European, and other countries. As we can see, the tendency of moving to neighboring countries persists. Italy ranks first with 40% followed by Greece with 37%. We even notice that the United States of America is considered a promising home country for migrants in search of a better life (8%). Such figures are based on calculations for 2017. Remittances were barely stable throughout the years; thus, exhibiting volatile behavior, making it an unreliable source of income for the receiving country as well as the people who rely on it (mainly family members of the migrant).

**Table 1.** Share of Albanian migrants across the globe.

Country	Percentage (%) of Albanian Migrants
Italy	40%
Greece	37%
USA	8%
Macedonia	6%
United Kingdom	3%
Germany	2%
Canada	1%
France	1%
Other	3%

Source: World Bank.

### 2.2. Case of Kosovo

Personal remittances have been high—even in Kosovo. For example, in the winter of 2018, Kosovo had up to 70 million euro in migrant remittances. Based on a report by the Group for Legal and Political Studies ([legalpoliticalstudies.org](http://legalpoliticalstudies.org), accessed on 8 May 2018), the heavy reliance of Kosovo on remittances dates back to the 1960s. Given the poor macroeconomic conditions in the country, such remittance flows are not used in investment projects of any kind, but only as a panacea to the alarming poverty rates. As in any other Balkan country, remittances play an important role in household survival due to poor economic conditions. According to United National Development Programme

(UNDP 2012), in Kosovo, 25% of households rely on remittances—a very high percentage for a family to rely on income that is not generated in their own country. According to Gashi (2018), the value of remittances in 2017 in Kosovo was 759.2 million euro, which also represents an increase of 9.9% from the previous year. The three most important countries from where these remittances come are Switzerland and Germany (with 22.5% of all remittances) and USA (with 7.0% of all remittances).

### 2.3. Case of Montenegro

In the case of Montenegro, the data availability was restricted to some extent. Yet, figures indicate that, in 2007, migrant inflows in the form of remittances reached USD \$86.6 million, while in 2011, the figure was USD \$93.6 million. Based on the information available on the World Bank's website, the number one destination for people from Montenegro is the European Union (and European countries in general).

### 2.4. Case of Croatia

Croatia has a heavy reliance on remittance inflows (as with all other Balkan countries). The impact of such deliveries is seen on a micro- and macro-level. Croats seem to receive the majority of remittances from the following countries: Serbia, Montenegro, Bosnia and Herzegovina, Germany, France, and Austria. Based on data from the website Country Economy, we can state that remittances occupy 2–4% (on average) of Croatian gross domestic product (GDP). According to a European Commission report (European Commission 2015), among the European Union countries, Croatia had the highest net remittances per person, with almost 500 euro in 2013. This high rate of remittance has a positive effect in reducing inequality and moving some households out of poverty, but it also has negative effects, due to currency appreciation, and negatively impacting exports. Table A1 (Appendix A) depicts the annual data on remittances as percentage (%) of GDP, with the monetary amount measured in US dollars.

### 2.5. Case of Macedonia

Macedonia is a small ethnic country, which relies on remittances. Macedonians seem to prefer Italy as its number one migration destination. Proximity, an easier language barrier, and similarity in culture and traditions might be the main forces behind this choice. Immediately after Italy, based on World Bank data, the top three destinations of people leaving Macedonia are Germany, Switzerland, and Austria. The less preferred destinations seem to be Slovenia, Croatia, and France. Again, for the case of Macedonia, the contribution of remittance inflows on GDP growth lies somewhere within the 2–4% interval. According to Kumar et al. (2018), half of the remittance incomes received by households is spent on consumption and family events; the other half is spent on education, health, business, savings, and debt payment. Table A2 (Appendix A) shows the precise values of remittance inflows in annual frequency.

### 2.6. Case of Greece

Greece is one of the top emigrant-hosting countries in the Balkans. It is a preferable destination for Albanians, Macedonians, and Montenegrins. Yet, it seems that Greek people themselves are not into migrating at all. Figures from Country Economy (countryeconomy.com) suggest an extremely low weight of remittances on growth.

### 2.7. Case of Serbia

In the case of Serbia, it can be noticed that a huge percentage of remittances originate from Italy. Out of the eight Western Balkan countries considered in this study, it seems that Serbia benefits the most in terms of migrant flow (together with Bosnia–Herzegovina). Their weight to the total GDP ranges from 6 to 8%, making this the highest amongst its counterparts. If all of these inflows are put to productive use, they can make the difference in terms of an economic situation in the country. Worker remittances for Serbia are also an

important part of the national income. Serbia has a strong linkage with Eurozone; therefore, 80% of remittances coming into this country are from Eurozone (Bussolo and Lopez-Calva 2014). Thus, an economic downturn in Eurozone will cause lower remittances and an increase in poverty rates for Serbia. Serbia has a relatively a larger economy compared to the other Western Balkan countries, and it is understandable that inflow from remittances will be higher.

### 2.8. Case of Bosnia and Herzegovina

Based on World Bank data, Croatia is a destination that receives the majority of Bosnians. Bosnia and Herzegovina ranks first when it comes to the contribution of remittances on GDP growth. The range varies from 10 to 11% of the total GDP. Immediately after Bosnia comes Serbia, with 6–8% in remittance weight to total GDP. Moreover, in Bosnia and Herzegovina, remittances are mostly used for consumption, and increase each year Trokić (2012). Bosnia–Herzegovina is one of the less developed economies in Europe and remittances have contributed (and continue to contribute) significantly in this economy by increasing their GDP.

## 3. Materials and Methods

### 3.1. Issues, Controversies, Problems

The literature on remittances, and its role at the micro- and macro-level, dates back years ago. In the 1960s, the migration phenomenon and the impact of inflows that came with it, was heavily studied. Many factors are found related to the impact of remittances on growth. It is often suggested that the positive contribution of remittances on GDP expansion is conditional on various external factors, such as investments, financial development, education level, etc. Researchers have paid particular attention to this question: could remittances be the source of economic development in growing economies? Data shows that countries at an early stage of development reap benefits from remittances, which also occupy, in some cases, a considerable proportion of GDP (up to 10–15%). In such countries, remittances mainly serve as a “weapon” or “panacea” against high poverty levels. Being that they serve an effective and necessary role in such underdeveloped regions, plenty of studies have been conducted with a particular focus on them.

It is necessary, not only to be able to set up the existing relationships among remittances, growth, and interacting variables, but also come up with well-thought-out recommendations to policymakers, so they might attract an ever-increasing volume of remittances, and encourage their use in the most productive ways in the recipient countries. Yet, the issue of moral hazard is always present. Could remittances encourage dependency and unemployment? Are they making recipients lazy and unwilling to try to make a living on their own? This issue is also captured in some of the following studies.

Migration as a phenomena dates back many years. People, either willingly or sometimes forced by political, economic, or social forces, have had to give up everything they had in their home country and start a new life abroad. Given the old nature of migration, various theories have evolved over the years, each attempting to shed light on the causes of migration, aims, and desires of the migrants, challenges faced by them, and the result of such an initiative. A prominent figure who laid the basis for deliberate examination of migration phenomenon is Ravenstein (1885). According to the researcher, the main driver behind migration incentive is income maximization. As wage differentials are present in labor markets across the globe, migrants seek labor markets that allow them to maximize their personal incomes. This theory, otherwise known as the neo-classical theory of migration, states that, besides the desire for income maximization, the migrant is also driven by employment conditions. The combination of both of these factors make the migrant leave his own country in search of a better life elsewhere (Andrei et al. 2016; Chivu et al. 2020). Hicks (1932) hinges on similar beliefs when explaining the source of migration based on the wage differences that prevail across diverse labor markets around the globe.

As the years passed, and the complexity of markets and individual-decisions increased, earlier theories were enriched with new thoughts and ideas that incorporated the evolving dynamics of respective labor markets. New theories emerged around the 1990s that would bring up the concept of diversification. The worker (migrant) is not only driven by an income-maximization desire, but also by the need to diversify the income sources. As the markets suffer, from time to time, from national shock and fluctuations, by sending a family member abroad, the family would be able to offset cuts in domestic income sources against raises in foreign sources and vice-versa. Under such arguments, we notice that migration is not a single-person decision; rather, it is a decision that comes after weighing the pros and cons for a broader group, i.e., an entire family. Moreover, the degree of development of capital and insurance markets defines the destination's selection by the migrant. Lastly, migration has, for quite some time, been seen as an inevitable consequence of globalization. With the cultural, economic, social, and political barriers "melting" and/or fading away, the world has seen mobility like never before. Changes in global markets and harmonization would make migrant transitions easier and smoother; thus, removing a lot of the pressure and challenges that used to be perceived by the public and the individual (migrant) himself.

Even though the straightforward thought is to associate migration with financial means and/or lack of them, it is also interesting to account for other elements that play a role in the entirety of situation/process. [Tilly and Brown \(1967\)](#) present a brand-new perspective on the issue. The above-mentioned authors put forward the idea that, not only economic aspects are at play in the decision of the migrant, but also emotional, psychological, and spiritual factors. It is suggested that migrants also consider other issues, including the opportunity to adapt, create friendships, blend with others, and feel "like home". These might even be considered determinants of secondary importance, exerting a strong influence on the migrant and his/her decision-making process. Applied work and real-life evidence supports this logic. For example, many people migrate to neighboring countries precisely for the reasons mentioned above. They feel that they would face fewer barriers, and a more familiar environment, if the proximity with their home county is close.

Network theory is worth mentioning at this stage of the study. Such a theory suggests that current migration lays the foundation for future migration in the same way that past migration created the current migrant stock in respective countries, nowadays. The logic behind this theory is strong but simple to embrace. It hints to non-economic factors, which we mentioned in the preceding paragraph. If in a given country there is already an established society of migrants from country X (a given country), more people from the same country would tend to select same destination, simply because they would have people of the same origin and culture who could facilitate their initial transition. In our opinion, support for this theory can be easily found by looking at migration percentages in a certain country over the years.

In the current literature, we see that remittances are studied, particularly in the case of developing countries. Given the vulnerability of such economies, researchers and practitioners alike try to discover ways in which macroeconomic situations can be ameliorated and the path towards sustainable growth fully guaranteed.

Even though remittances are mostly associated with beneficial contributions, at the micro and macro level, this is not always the case. The main issue related to migrant flow relates to its volatility. Since plenty of people rely on these funds, an immediate cut that is unforeseen would disrupt the balance of people depending on it (the family of the migrant). Nevertheless, this is not the only problem related to such flows. [Koyame-Marsh \(2012\)](#) carried out a study on countries of Sub-Saharan Africa. Using the cointegration technique to capture long-term dependencies, the author found traces of moral hazard. The migrant abroad would not be aware of the behavior of his family back home. That being said, he would continue to send money, even though such deliveries may stimulate laziness, dependency, and unemployment. In such cases, remitted funds do more harm than good, and unfortunately, due to information asymmetry, the phenomenon may continue for long periods without being discovered.

In a similar vein, [Karagöz \(2009\)](#) uses the Johansen cointegration test to see whether remittance and growth are subject to a sustainable relationship in the end. At the end of his study, he determined that due to its volatility, remittance became the source of instability and output fluctuation; thus, posing a detrimental impact on growth. On the other hand, his study suggested that investments and exports play a supporting role on economic development. As for FDIs, their impact was highly insignificant. Evidence from Saudi Arabia leads us to believe the same. Using the auto regressive distributed lag (ARDL) model and error correction model (ECM), [Alkhathlan \(2013\)](#) found that remittances play a negative role in the short-term. In this study, the author puts forward a useful suggestion. He recommends governments apply methods in which remittance receivers are stimulated to invest the funds, or at least use them in private consumption (rather than keeping them idle or saving them). In his paper, Alkhathlan states that government expenditures and exports are positively related to GDP growth. Another study on the economic consequences of remittances comes from [Stratan and Chistruga \(2012\)](#). The authors state that remittances have a significant impact on increasing private consumption, but not investments. That being said, they suggest that such growth is not sustainable. If remittances are stable, and part of them are used in investment projects, then solid foundations of growth are set in place. However, we must note that remittances are not always found to bring negative repercussions. The following studies present cases in which the results of remittances is positive and significant.

[Cooray \(2012\)](#) carried out comprehensive research using three econometric models: ordinary least squares (OLS) panel estimation, generalized methods of moments (GMM), and the fixed/random effect model. Using output per capita as a dependent variable, the author found that both trade openness and remittances are positively related with higher levels of growth. [Mundaca \(2009\)](#) also found remittance to be positive for growth, but only if the country has developed financial markets. Next, we examine a paper on Asia. The authors relied on fixed and random effects estimation to help shed light on the question of interest. [Imai et al. \(2014\)](#) stated that remittances have a double role—on poverty reduction and GDP growth. However, the authors stated that migrant flow volatility is something that must be seen, with special caution given that it brings devastating effects on economic development.

As mentioned earlier, the role of remittances on spurring growth is especially examined in the case of developing countries. Countries such as these are the ones that need “support” in many respects, so trying to reap full benefits of remittance flows for them is quite vital. [Eggoh et al. \(2019\)](#) studied 49 developing countries using the dynamic GMM estimation method. They were able to find the following: both international aid and FDIs are insignificant for growth while remittances are advantageous for sustainable growth, given that they are able to increase consumption and/or investment. In addition, the authors stated that remittances trigger growth in a rapid and successful way only if the country has a satisfactory level of financial development. Therefore, FDIs and remittances are essential factors for the economic development process, especially in countries with a low level of development ([Matei 2004](#); [Subic et al. 2010](#); [Iacovoiu and Panait 2014](#); [Voica et al. 2015](#); [Comes et al. 2018](#); [Ben Ghoul 2019](#); [Vasile et al. 2019](#)).

[Mowlaei \(2018\)](#) focused on randomly selected African countries. The author employed the ARDL model to check the short- and long-run relationship between remittances and growth, as well as between FDIs and growth. At the end, Mowlaei found that remittances occupy an irreplaceable role on growth. On the other hand, FDIs played a supporting role in the economic development. Another study that used the ARDL model comes from Pakistan. [Javid et al. \(2012\)](#) concluded that remittances are key factors for economic development of growing economies, such as Pakistan and others alike. In economies such as these, migrant flow helps to reduce poverty rates by having a direct impact on consumption and, simultaneously, fostering GDP growth. Some evidence on the issue comes from research in the Fiji Islands, where [Makun \(2018\)](#) stated that FDIs and remittances are positively related with higher levels of growth, while imports seem to depress economic development in the

studied sample. [Ang \(2007\)](#) brings some findings on the role of remittances in the case of the Philippines. Using the fixed and random effects model, the author was able to found a positive contribution of remittances on GDP growth.

In these last paragraphs, we focus on some research papers on the case of the Balkans. [Meyer and Shera \(2017\)](#) examined if migrant flows are a significant determinant of economic development in the case of top remittance-receiving countries in the Western Balkan. Via a fixed effects model, the authors found that remittances could foster growth once they are used in private consumption or investment. These two channels can help put remittance funds in productive use, thus stimulating growth. Two other authors carried similar research on the top six remittance recipients mentioned above. Using the pooled regression model, [Topçiu and Krasniqi](#) came up with the following findings: exports, remittance flows, and capital formation are three significant determinants that help boost economic development. Empirical research in the field of remittances in the case of Albania has been rare because of the lack of data. Comparing the different Balkan countries, and determining the remittances and emigration features, according to [Sejdini \(2014\)](#), it was concluded that political, economic, and ethnic reasons motivated the displacement of the population from countries, such as Albania, Kosovo, Bosnia and Herzegovina, and Macedonia.

According to another study on Western Balkan countries, conducted by [Petreski and Jovanovic \(2013\)](#), remittances have played an important role in reducing poverty and increasing inequality in Kosovo and Macedonia, but not in Bosnia and Herzegovina. For Albania, one of the reasons why Albanian emigrants send remittances to their homeland, according to [Berhani and Hysa \(2014\)](#), is due to altruistic motives, unity, and traditions of this country. It is interesting how children of the same family who are abroad share moral preconceptions for the family in Albania. [Mendola and Carletto \(2008\)](#), in a very interesting study, show that migration of men positively affects the advancement and empowerment of women in Balkan countries. They become head of households and assume all economic, educational, and social responsibilities in place of their husbands. Based on a study concerning poverty in Albania ([Laçaj and Hysa 2018](#))—from a sample size of 1000 people interviewed, 3.8% of respondents living in urban zones have additional incomes coming from remittances besides their monthly wages. This number increases to 5.3% for people living in rural zones. Kosovo, being the youngest population in the Europe, faces a very high unemployment rate of young people because of its poor economy and dependency on the remittances entering Kosovo from Diaspora ([Hoxhaj et al. 2014](#)). Macedonia experienced a difficult period of economic transition after the division from Yugoslavia in 1991, but these economic fluctuations were mitigated by foreign aid and remittances. In the year 2000, the country's reserves were boosted by privatization ([Hysa and Gjergji 2018](#)). In the study by [Vasa and Angeloska \(2020\)](#), a very weak correlation between FDI inflows and the unemployment rate was found for the case of Serbia. Additional results of their work confirmed a weak correlation between FDI inflows and a positive impact to GDP growth. In 2009, remittances for the first time suffered a decrease for all Western Balkan countries. However, the situation changed in 2010. Officially recorded remittance flows to developing countries were estimated to increase by 6.0% in 2010 ([Hysa et al. 2013](#)). Despite differences characterizing current research on the issue, major similarities exist. Generally, authors use panel data estimation to examine the relationship between remittances and growth. In the majority of examined papers, the role of remittances on growth was found to be positive, but emphasis was placed on its use, especially in investment projects. This is a quick way of putting remittances to productive use. The problem of moral hazard is also present, and must be viewed with care by migrants and policymakers. It suggests a risk that remittances would create unwillingness to work among family members of the migrant. The final problematic issue that can arise due to uncontrolled remittance flows is inflation. Unexpected inflation can be particularly devastating for the economy of the remittance-receiving country, so this must also be treated with special care by respective governmental bodies.

The main objective of this study is to investigate the role of remittances on economic growth for the following countries: Albania, Kosovo, Montenegro, Croatia, Macedonia, Greece, Serbia, and Bosnia and Herzegovina. The primary data analysis strategy of this study relies on the estimation of a regression model with GDP growth as a predictor. A comprehensive analysis through econometric tools (and EViews software) would allow us to make insightful inferences on the issue. A benefit of this study is the considerable time interval considered: 2000–2017 and the sample size (144 observations). With respect to the econometric model, a panel-data model is used to carry out our analysis. Reliance on fixed- or a random-effect model is decided based on the outcome of the Hausman Test.

### 3.2. Data and Data Gathering Strategy

This study follows a positivist approach, thus relying on quantitative secondary data of annual frequency. All data on which this study builds were retrieved from the World Bank. The selected variables consist of macroeconomic indicators from the most recent period, 2000–2017. The data falls in a longitudinal category, thus allowing us to examine all eight Western Balkan countries across an 18-year time-interval.

The predictor variable of econometric equation was selected based on research questions and overall objective of this study. Given that our analysis attempts to shed light on the links between economic growth and several macroeconomic and financial variables, particularly focusing on the potential role that remittances play in sustainable growth, we use, as a proxy, GDP growth. Such a ratio allows measuring the change in the market value of all goods and services produced within borders of a country within a year. GDP growth is a variable widely used in estimating the economic growth of a country (Bergheim 2008). GDP might not be the best measure of well-being, but it is the best tool to measure growth in numerical terms. Therefore, based on this literature, this study used, as measure of growth, GDP growth. GDP growth is the annual percentage growth of GDP for each of these countries, and the data for this variable are retrieved from the World Bank.

The variables that we use in the estimation of our multiple regression model are labor force participation, personal remittances received by the home country, and current trade balance expressed as a percentage of GDP. The selection of the above-mentioned regressors was made only after a deliberate examination of the current literature on this issue. The first regressor of our model is labor force participation. We obtained annual data on the percentage of working-age individuals who are part of the labor force and use this variable in our analysis of GDP growth. Based on common sense, we expect higher levels of labor force participation to be associated with economic development, especially under the circumstances of good human capital (hard-working educated and trained workers). It is noteworthy to emphasize that trade openness is a vital factor that defines growth. To account for the impact of trade openness on GDP growth, we used as a proxy the ratio of trade to GDP (measured in percentage terms). In line with current literature on the topic, we assume that the higher the trade volume (imports and exports included) the better the GDP growth. This is logical given that trade is predicted to always benefit all parties involved. Lastly, we turn our attention to the main regressor. Given that the central focus of this study is on remittances and their impact on the growth rate of developing countries (Western Balkan countries, which are among the biggest remittance receivers), we added to the equation a final variable representing personal remittances received, measured in current US dollars. Even though this link has been extensively studied, we feel that this study will help get some updated insights on the situation in Albania and its neighboring countries. Based on literature-based findings, we expect the role of remittances on growth to be positive.

In this subsection, we focus on the selected variables, their proxies, and expected signs, as well as on descriptive statistics analysis. Table 2 depicts all factors that are part of our analysis. Moreover, it provides some background information on what we expect to find based on current research on the issue. Next, we present the descriptive statistics for the

full set of regressors in Table 3. The main focus is on the following elements: arithmetic mean, maximum, and minimum values, and standard deviation.

**Table 2.** Explanatory variables and the expected relationship.

Variable	Proxy/Description	Expected Sign
Labor force involvement	Labor force participation rate, total (% of total population age (15–64)	+
Trade openness	Trade (% of GDP)	+
Immigrant remittance flows	Personal remittances, received (current US\$)	+
Foreign fixed capital investment	Foreign_Direct_Investment_Net_Inflows_BOP_Current_US\$	+ / -
Population	Population growth (%)	+ / -

Source: Author’s work.

**Table 3.** Descriptive Statistics.

Indicator	TRADE_%_GDP	PERSONAL_REMITTANCES	LABOR_FORCE_PARTICIPATION	GDP_GROWTH	FDI	PG
Mean	84.21988	$1.46 \times 10^9$	61.55461	2.481462	$1.14 \times 10^9$	-0.11788
Median	83.25299	$1.39 \times 10^9$	63.4855	3.193101	$6.18 \times 10^9$	-0.03364
Maximum	132.3403	$4.65 \times 10^9$	68.574	8.759257	$5.73 \times 10^9$	1.041533
Minimum	47.74385	73,439,228	40.36	-9.132494	-8,200,000	-2.85097
Std. Dev.	18.29079	$1.02 \times 10^9$	6.009515	3.310256	$1.25 \times 10^9$	0.514871
Skewness	0.202041	0.880824	-1.980324	-1.080934	1.800486	-1.05841
Kurtosis	2.660444	3.464424	7.649185	4.373558	5.816517	7.750065

Source: authors’ work.

As we see from the data in Table 3, GDP growth seems to have been poor for the period under study. Mean value indicates that, on average, the Western Balkans had an annual growth rate equal to 2%, with a relatively high standard deviation of 3%. Growth in fixed capital seems to be approximately 4% for the eight countries of our analysis. The fact that minimum value is negative calls for attention by policy setting bodies. The labor participation rate ranges from 62% (on average) to 69% in the best-case scenario. Figures show that migrants contributed  $1.43 \times 10^9$  \$ to their home countries during 2000–2017. Still the variable seems to vary a lot over the time interval included in this study. A potential reason could be the instability that prevailed in international markets throughout the Great Recession (2007–2012). Table 3 demonstrates a negative change in population levels while trade occupied nearly 83% of total GDP in respective countries during 2000–2017. We see that levels of population growth reflect a decreasing trend in the number of births per woman, which comes from the lack of work–life balance, quick pace of life, and insufficient monetary opportunities to adequately provide for the child. On the other hand, figures for trade seem to be promising. Based on the above-mentioned value of the trade openness coefficient, we can say that these countries are following the right path, with respect to the trade volume and policies that they implement to support international trade. Turning to FDIs, it seems that, typically, countries hit  $1.14 \times 10^9$  \$ in foreign investments. It is alarming to see that figures of FDIs exhibit high levels of variability, i.e., fluctuations over the course of years. It would be good for growth and development if FDIs remain stable, if not steadily increase from one year to the next.

### 3.3. Econometric Specification

This study employs a multiple linear regression model as shown below to help in the analysis of the “GDP-Remittance flows” link. As mentioned earlier, we employed an unbalanced panel data comprised of 144 annual country-specific observations to determine findings that would be relevant for governmental bodies and science.

$$GDP\ Growth_{it} = \alpha + \beta_1 \times LFP_{it} + \beta_2 \times PR_{it} + \beta_3 \times Trade_{it} + \beta_4 \times PG_{it} + \beta_5 \times FDI_{it} + \epsilon_{it}, \tag{1}$$

In the aforementioned econometric model  $\alpha$ ,  $\varepsilon$ , and the other abbreviations stand for:

- The constant term (intercept) ( $\alpha$ );
- The normally distributed disturbance term ( $\varepsilon_{it}$ );
- FDI—Foreign direct investments;
- PG—Population growth measured in % terms for each consecutive pair of years;
- LFC—Labor force participation rate;
- PR—remittances received by each country  $i$  over the time period  $t$ ;
- TRADE—trade as a % of gross domestic product.

It is of crucial importance to ensure that our estimates are unbiased and consistent. To ensure that our data fulfill the necessary assumptions, we ran the following: unit root test, lag length criteria check, and correlation matrix to see if perfect collinearity between regressors was present. We checked for stationarity of regression variables in order to address potential spurious regression problems, which could cause our estimates to be misleading. We can see in Table 4 the results from correlation analysis. As depicted in the table, each pair of variables has a correlation value below 0.8. Knowing that literature suggests using 0.8 as a threshold for collinearity between regressors, we can say that such a problem is not present in our model, so it would be safe to continue with the estimation of our model.

**Table 4.** Correlation Matrix.

	FDI	PG	LFP	PR	TRADE
FDI	1				
PG	−0.1144	1			
LFP	0.35317	−0.2014286	1		
PR	0.48017	−0.299834	0.032963	1	
TRADE	−0.19142	0.02039096	−0.19031	−0.10223	1

Source: Author’s work.

As stated earlier in this section, the last issue to consider is the nature of the time-series variables. If variable results have a unit root (are strongly persistent/non-stationary) then it would be impossible to provide reliable results. That said, we ran a unit root test individually for each variable and checked whether we had enough evidence to reject the null hypothesis of long-term memory. Luckily, our variables appear to be weakly dependent, which indicates that our model would have high accuracy.

#### 4. Results

In this section, we present our estimation output. We applied the vector autoregressive model (VAR). As far as the regressors are concerned, we noticed that lags of some of the variables are highly significant based on t-stats, so the dynamic estimation seems to be appropriate. With respect to the explanatory power of the model, we see that R2 equals 36%. Such coefficient of determination reveals to us that 36% of the current variation in GDP growth is explained through our set of regressors. Moreover, we observe that the adjusted R2 is equal to 30%. This is lower, since the adjusted coefficient of determination disregards irrelevant variables. See Table 5 for the final estimation results.

To ensure the statistical significance of the model, we also need to check the F-statistic, an indicator of the overall explanatory power significance of our final estimation. For this model, the F-statistic is 6; thus, suggesting that the model is highly significant (statistically speaking). To reach such a conclusion, we compared the test statistic vs. coefficient of variation tests (i.e., 3) suggested by the literature. The test value exceeds the threshold, thus allowing to reject the following null hypothesis:

**Hypothesis 1.** *The model has no ability to explain any relationship (statistics-wise).*

Regarding the visual representation of the significant variables, they are presented in two forms. Variables of the main model (the one with GDP growth as a dependent) are

presented, highlighted in yellow if significant; while for the rest of the models, significant regressors are presented in bold (Table 5).

In general, we see that only previous values of GDP (i.e., its first lag) help to predict current GDP growth, coupled by the first lag of trade volume and FDI. The selection of lag length was done based on Aikaike’s information criterion (AIC) criteria—the lower the better. Therefore, it seems that a VAR of order two needed to be estimated to capture, besides others, the impact of remittances. The specific explanation is given in the following paragraphs.

**Table 5.** Estimation output for gross domestic product (GDP) Growth—Vector Auto Regressive.

	GDP_GROWTH	D(LFP)	L(PR)	D(TRADE)	PG	FDI
GDP_GROWTH(-1)	0.3723 −0.125 [2.97] 0.091133	0.0401 −0.0398 [1.008] −0.0757	0.0106 −0.0075 [1.412] 0.0001	−0.1158 −0.3342 [−0.346] −0.7226	0.0251 −0.011 [2.209] 0.0011	0.001 −0.0366 [0.099] −0.0155
GDP_GROWTH(-2)	−0.11519 [0.79] 0.246575	−0.0366 [−2.06] −0.0361	−0.0069 [0.017] −0.0056	−0.3072 [−2.352] 0.90041	−0.0107 [0.108] 0.0268	−0.0331 [−0.46] −0.0889
D(LABOR_FORCE_PARTICIPATION_RATE(-1))	−0.32836 [0.75]	−0.1043 [−0.34]	−0.0198 [−0.28]	−0.8757 [1.028]	−0.0305 [0.873]	−0.0944 [−0.94]
D(LABOR_FORCE_PARTICIPATION_RATE(-2))	0.185643 −0.33134 [0.56]	−0.3267 −0.1052 [−3.10]	0.0035 −0.0199 [0.17]	0.8390 −0.8838 [0.94]	0.0235 −0.0308 [0.76]	0.0949 −0.0953 [0.99]
PERSONAL_REMITTANCES(-1)	1.46 −1.95 [0.75]	−0.79 −0.62 [−1.27]	1.23 −0.12 [10.50]	3.18 −5.20 [0.61]	−0.278598 −0.18136 [−1.53]	−0.054496 −0.56082 [−0.09]
PERSONAL_REMITTANCES(-2)	−1.51 −1.87 [−0.80]	0.95 −0.59 [1.59]	−0.26 −0.11 [−2.32]	−2.56 −4.99 [−0.51]	0.1767 −0.1741 [1.01]	0.4251 −0.5384 [0.78]
D(TRADE____OF_GDP_(-1))	−0.082654 −0.04117 [−2.00]	0.0204 −0.01308 [1.56]	−0.0015 −0.00248 [−0.63]	−0.2978 −0.1098 [−2.71]	−0.0054 −0.00383 [−1.42]	0.0144 −0.01184 [1.21]
D(TRADE____OF_GDP_(-2))	−0.024992 −0.04149 [−0.60]	0.0216 −0.0131 [1.61]	−0.0010 −0.0025 [−0.43]	−0.1616 −0.1106 [−1.46]	0.0011 −0.0036 [0.28]	0.0132 −0.0119 [1.11]
PG(-1)	−0.745842 −1.16915 [−0.63]	1.4975 −0.3715 [4.03]	0.0330 −0.0703 [0.47]	0.8899 −3.1180 [0.28]	0.7488 −0.1087 [6.88]	0.3080 −0.3363 [0.91]
PG(-2)	−0.575565 −1.01481 [−0.56]	−0.6947 −0.346 [−2.15]	−0.039 −0.061 [−0.64]	−2.685 −2.7063 [−0.99]	−0.039 −0.0941 [−0.42]	0.1804 −0.2994 [0.61]
FDI(-1)	−0.533685 −0.38453 [−1.38]	0.084 −0.1221 [0.69]	−0.0095 −0.0231 [−0.41]	−0.4580 −1.0255 [−0.44]	0.0202 −0.0357 [0.56]	0.3841 −0.1106 [3.47]
FDI(-2)	−0.667978 −0.33116 [−2.01]	−0.0535 −0.1052 [−0.50]	0.0063 −0.0199 [0.08]	−1.4039 −0.8838 [−1.59]	0.0176 −0.0308 [0.57]	0.0817 −0.0952 [0.85]
Intercept	26.32108 −8.2235 [3.20]	−3.4246 −2.6130 [−1.31]	0.7705 −0.0495 [1.55]	28.0851 −21.931 [1.28]	1.2156 −0.765 [1.58]	3.4341 −2.365 [1.45]
R-squared	0.452105	0.2800	0.9670	0.23331	0.6894	0.4764
Adj. R-squared	0.369921	0.172003	0.9620	0.1183	0.6428	0.3979
Sum sq. resids	568.3035	57.379	2060	4042.1	4.9186	47.032
S.E. equation	2.665294	0.8469	1.060	7.10818	0.247	0.7667
F-statistic	5.501123	2.5926	195.55	2.02871	14.801	6.0665
Log likelihood	−216.1289	−109.5	45.275	−307.5	4.7281	−100.25
Akaike	4.927503	2.6345	−0.6941	6.88936	0.1778	2.4356
Schwarz	5.281522	2.9885	−0.340	7.2433	0.5319	2.789
Mean dependent	2.158675	0.1509	2008.2	1.02662	−0.2131	20.562
S.D. dependent	3.357745	0.9307	0.0823	7.57006	0.4149	0.9881

−T statistics in []. Source: author’s work.

Initially, we want to exclude from the explanation the following variables: remittances (PR), population growth (PG), and labor force participation (LFP). All three of them appear to be highly insignificant in the equation above (even though we considered a

dynamic vs. a static relationship). It seems, at least based on our analysis, that individually speaking they have no effect on the economic development of a country.

Knowing that variables, which are insignificant in reality, play no role on the outcome variable, only significant variables are mentioned in the explanations to come (that appear in yellow). Labor force participation (LFP) seems to be insignificant, both in the first and second lag. It may be the case that economic growth is not yet influenced (in a positive way) by this regressor due to numerous factors, such as the lack of workers' productivity, experience, adequate training, and proper education. Since these countries are developing economies, they lack the potential to prepare skillful workforce and are sometimes faced with its repercussions. Governments must focus on providing the necessary infrastructure and implementing reforms that mitigate problems related to unskilled workforce. Next, we focus our attention on the variable of main interest.

We notice that impact of remittances is insignificant at the preselected significance level of 5%. Even though the impact would be thought positive, statistically speaking it is not. A potential reason may be the volatility of such cash flows. Remittances are influenced by the country-specific factors of the welcoming country as well as international shocks. That being said, they provide no stable income source, thus their contributions are somehow inexistent in the economic development of the home country. [Sutradhar \(2020\)](#) also found a negative impact of remittances in economic growth in Bangladesh, Pakistan, and Sri Lanka. They explain this finding by highlighting that most of the remittances are used for non-productive purposes, such as consumption. [Anetor \(2019\)](#) has the same finding for Nigeria.

To conclude, it can be seen that trade is significant, together with the first lag of GDP growth. It seems that an increase of one percentage point in current GDP signals an increase of 0.53 percentage points 1 year after, *ceteris paribus*. Thus, GDP levels exhibit a certain level of persistence from one period to the next. Furthermore, trade openness seems to exhibit a negative impact on GDP growth. Moreover, this finding contradicts the majority of existing findings in the literature. The reasons for such findings might be related to the following explanations:

- Current levels of trade openness are yet far from the optimal levels; thus, insufficient to foster growth.
- Trade volume varies with the macroeconomic and political climate in Albania, and this volatility causes trade to exert a negative, rather than a positive, role on GDP growth.
- The majority of trade-related activities relates to imports rather than exports. Imports cause the majority of products (local products) to stay as stock in warehouses across country; thus, driving domestic firms out of the market. An export-oriented strategy could foster growth, but Albania need to invest a lot in technology and R&D for domestic products to be competitive in European markets and beyond.

Volatility of FDI can also be the cause of why this variable is significant, but negative. Low levels of FDI (at least insufficient for the state in which our country currently is), coupled with severe fluctuations from one year to the next, cause such variables to have a marginal impact of 0.66 percentage points (negative), *ceteris paribus*, after two periods.

## 5. Conclusions

This study focuses on the role of migrant remittances on the economic development for Western Balkan countries. The analysis brings insights from a recent period (2000–2017), which insures the relevance of findings and recommendations. This study draws on quantitative annual data, which are collected for the eight Western Balkan countries. Data were retrieved via the World Bank database, on eight cross-sections, over a considerable time interval (18 years), and used to estimate a panel-data multiple regression model. In the model's estimation, a total of 110 observations were used to contribute some new findings on the topic of GDP growth and its determinants. Vector autoregressive is used in an attempt to capture the dynamics behind this matter. Such a model has the advantage

of allowing for dynamic, rather than a static, modeling of our original regression equation. At the end, we found remittances; population growth and labor force participation were not key determinants of growth. Impact of FDI and trade was negative yet highly significant. As far as GDP growth, it exhibited strong persistence from one year to the next. Trying to keep stable remittances, FDI, and trade over time can make these factors have a positive significant contribution on growth, which is consistent with the study by [Hysa and Mansi \(2021\)](#). To conclude, we suggest, to the respective authorities, to create an adequate environment for new, successful investments, and good use of incoming remittance flows. Implementing new policies, which ensure a stable “attraction” of remittances and their ejection in the economy, can bring these economies one-step closer to stability and development. Misuse of remittances in these countries could be the reason for their insignificance.

Research of this category is important for the financial system as a whole, as well as for science, and governmental authorities. Given that the ultimate objective is economic development, it could be helpful to examine what current research (this research included) has discovered, and use results and conclusions to adapt an adequate attitude towards socio- and macroeconomics.

This study attempts to provide a comprehensive picture of the “migration-remittance-growth” circle for the case of the eight Western Balkan countries. Migrants have a considerable contribution to the intensification of trade and capital movements between recipient countries and countries of origin. As living standards in countries of origin increase and the presence of foreign capital generates well-paying jobs in the host economy, migrants may have good reason to return to the country and set up their own businesses. Therefore, the relationship between remittances and FDI is very complex, taking in account the complementarity and substitution effect of migration on foreign capital. Thus, public authorities must also consider the use of specific instruments to stimulate foreign capital in order to reduce migration and brain drain.

Migrants must not only be seen as a source of financial funds, but also as a source of innovation and knowledge that can be exploited internally. In addition, they are a significant contribution to the information asymmetries between the country of origin and destination. In addition, the adoption of open policies for migrant returns can lead to an intensification of the positive effects that migration has on countries of origin.

Given the complexity of the phenomenon and its many economic and social implications, migration has become a sensitive political issue. For migrant countries of origin, the phenomenon is not a zero-sum game; in some cases the net effects of migration being negative if we take into account the costs related to education, social problems generated by the breakup of families, and the abandonment of children. These negative externalities have long-term effects and can generate dysfunctions in the labor market.

Despite the serious efforts to come up with a study of good quality, this study is not free of limitations. Due to data unavailability and time constraints, it was not possible for us to extend the analysis over larger samples to increase the consistency of regression estimates. It would be interesting if successive research firstly categorizes countries in developed and developing categories, and then carries out a similar analysis on a global scale rather than only in the Western Balkans. The addition of other regressors might be an additional benefit, which can lead to new useful insights. Lastly, a dynamic model might be considered to see the magnitude of impact of each independent variable on predictors over the course of years.

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## Appendix A

**Table A1.** Remittances received by Croatia (annual data).

Date/Year	Remittance Balance (M\$)	Remittance Received (% of GDP)	Remittance Received (M\$)
2010	543.2	2.15%	1287.4
2011	556.1	2.21%	1378.4
2012	585.6	2.46%	1389.1
2013	278.1	2.57%	1496.6
2014	161.8	2.47%	1427.5
2015	958.5	4.25%	2103.6
2016	1128.1	4.24%	2189.5
2017	1145.7	4.18%	2306.8

Source: country economy.

**Table A2.** Remittances received by Macedonia (Annual Data).

Date/Year	Remittance Balance (M\$)	Remittance Received (% of GDP)	Remittance Received (M\$)
2010	226.1	4.12%	387.9
2011	272.7	4.07%	433.7
2012	253.7	4.03%	392.9
2013	251.1	3.47%	376.1
2014	242.8	3.22%	366.5
2015	185	3.05%	307
2016	174.4	2.72%	291.1
2017	185.6	2.78%	314

Source: country economy.

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