CHAPTER 5
Impact of COVID-19 on International Migration and Remittances

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Abstract
The working migrants in the Diaspora have long been a source of income for their families and contributors to the economic development of their countries of origin. However, since the Coronavirus pandemic (COVID-19) outbreak, many migrant workers have lost their jobs as countries experienced economic recession and struggled to open their economies fully. The loss of employment ultimately affected the remittance volume to receiving countries that have long been dependent on the latter as their source of income, potentially leading to financial problems for recipients of these funds. In this chapter, the author sought to determine the impact of COVID-19 on migration and remittances flow before and during the outbreak of the pandemic in European Union (EU) countries. She adopted the developmental pluralistic theoretical framework in addition to existing literature related to the topic. In this fully quantitative study, secondary data was used for European Union and African countries, and most of the selected countries have records of legal migrant workers. Data were accessed from the World Bank and the International Labour Organization databases from 2012 to 2020 and the United Nations Department of Economic and Social Affairs from 2005 to 2020. The data was analysed using a multiple regression model through 'RStudio' statistical software to verify the association between outward remittances as a dependent variable, unemployment, the number of migrant workers and the Gross Domestic Product (GDP) as independent variables. The results showed that COVID-19 impacted the rate of sending remittances home and decreased migration. These results contributed to the sparse literature on the effects of the COVID-19 pandemic on working migrants and remittances. They provided useful recommendations for policy formulation for both the host and recipient countries.

AASBS Volume #16 DOI: https://doi.org/10.29086/978-0-9869937-6-3/2024/AASBS16
Chapter DOI https://doi.org/10.29086/978-0-9869937-6-3/2024/AASBS16/5 pp. 83 - 111

Keywords: migrant workers, diaspora, remittances, COVID-19 pandemic, socio-economic factors, developing countries, EU countries.

1 Introduction

While there are significant studies on international migration and remittances, many of these studies do not share concerns about the impact of the global COVID-19 pandemic on international migration and remittances (Koczan, Peri, Pinat & Rozhkov 2021). COVID-19 was declared a health crisis by the World Health Organisation (WHO), and it is associated with an economic crisis affecting the incomes of both developed and third-world countries (Devermont & Olander 2020). Existing literature provides evidence on how remittances are influenced by many socio-economic factors, including epidemiological factors (Chaudhary 2020; Rajan & Zachariah 2019). The various government responses to the impact of the novel coronavirus on their economies varied significantly across the globe depending on the size and shape of the respective economy. The African Union Commission (2020) acknowledges changes in financial and labour flows, particularly remittances in developing countries. Apart from the healthcare, retail, and agriculture sectors, tourism, construction and manufacturing sectors were hugely affected. These sectors generally employ a significant number of foreign nationals and were affected in different ways by lockdown measures introduced in different countries to avoid the transmission of COVID-19 (Smith-Bingham & Hariharan 2020).

The working migrants in the Diaspora have long been a source of income to their families and contributors to the economic development of their countries of origin (Bodomo 2013; Lindley 2009; Woldemariam & Yiheyis 2017). Remittances and migration are two crucial factors in enhancing the economic conditions of individuals from their country of origin (Inoue 2018; Siddique *et al.* 2016). Most developing countries depend on financial resources in the form of remittances, which assists them in solving financial problems, taking care of their families, and investing money in some business (Azizi 2021; Hossain 2015; Inoue 2018). Thus, inward remittances address socio-economic issues like low incomes, access to medical care, food, and education.

There is sparse research on the impact of COVID-19 on migration and remittances. Recent findings suggest that international migration and remittances positively impact sending and destination regions (Cuong & Linh 2018;

Howell 2017; De Haas 2007). Furthermore, migration affects individuals, families, and sending and receiving countries. Migration, especially from low-income to high-income countries, has enabled migrants and their families to improve their income by bringing in remittances, a key component of GDP because of their higher-paying jobs in the destination country (Adhikari, Clemens, Dempster & Ekeator 2021; Borjas 2003). Host countries also benefit from migration as they welcome skilled migrant workers who participate in the workforce and add to the economic outcome or human capital (Subbotin & Aref 2021). For instance, migrant scientists (mainly mathematicians, physicians and computer scientists) move from Russia to the United Kingdom, Germany, and France (Antoshchuk 2018; Ball & Gerber 2005; Korobkov & Zaionchkovskaia 2012; Ryazantsev 2013). Hence, host countries benefit from cheap labour and scarce skills posts which skilled migrants fill.

Moreover, in Nigeria, the growing, educated, and unemployed youths leave the country for Europe, mostly Germany, the United Kingdom and Italy, searching for job opportunities in the shortage skills industries and strengthening the old growing population in the mentioned countries (Adhikari *et al*. 2021). Nigeria is one of the sub-Saharan countries where 36% (in 2014) to 52% (2018) of the youth population desired to leave due to the high unemployment rate (Adhikari *et al*. 2021). When these young skilled people arrive and start working in Europe or America, part of their income is sent home as a remittance.

Remittances subsidised about 15-20% of GDP globally (Luce 2014). In addition, migration enhances globalisation through international trade (Foreign Direct Investments) and technological transfers (Koczan *et al*. 2021). However, the flip side of migration is that it can be detrimental for sending countries, as they lose human capital, primarily through brain drain (Straubhaar 2018). Based on the migration network effect theory, migration can lead to more future migration (Koczan *et al*. 2021). This study acknowledges that remittances sent home to siblings or networks are hard to be traced as they are channelled through informal systems; hence this was not included in this study.

On the other hand, migration affects the receiving countries, especially the repercussions in the labour markets, through competition for jobs with the host country's citizens (Friedberg & Hunt 2018; Ratha, Mohapatra and Scheja 2011). For many years, international migration and remittances have increased (Barne & Pirlea 2019). However, the COVID-19 pandemic has affected international migration and remittance flows, potentially harming the socio-economic status of migrants in both sending and destination countries (Bisong *et al*. 2020).

This chapter is a conceptual and empirical evaluation of the impact of COVID-19 on migration and remittance flows before and during the outbreak of COVID-19 in EU countries. The primary objective is to investigate socio-economic factors that influence the outflow of international migration and remittances, focusing on the COVID-19 pandemic.

2 Problem Statement

The advent of the COVID-19 pandemic has resulted in developing countries experiencing changing economic landscapes and a shift in inward remittances. Existing literature proves that most developing countries primarily depend on remittances (Escribà-Folch, Meseguer & Wright 2015; Mohapatra, Joseph & Ratha 2012). In addition, remittances are regarded as the source of wealth for most families in developing countries and contribute financially to the household's needs (Cuong & Linh 2018). A thorough evaluation of the pandemic's effects on recipient nations is essential to filling in the literature gaps.

Although migration benefits the destination country through brain gain, the pandemic shifted the global economic landscape. For instance, EU countries imposed several COVID-19 regulations, which impacted the movement of people in and out of their countries. As the recipients of most migrants, the EU countries (Gabriël *et al*. 2015) suffered the most consequences of the pandemic due to travel restrictions. The migration factor works alongside remittances, thereby complementing each other. However, the extent to which COVID-19 affected migration and remittances remains under-researched. Although remittances are driven by migration, COVID-19 and its related regulations, such as travel restrictions, have substantially shifted the migration patterns and the global economic landscape, which calls for further intellectual interrogation.

3 Literature Review

This section gives an overview of the claim that international migration impacted remittances during COVID-19 using arguments propounded by optimistic developmental theorists. The passage describes the current state of international migration and remittance flows by examining annual panel data studies conducted in different countries. Migration and the subsequent remittances lead to expanded wages and diminished destitution, just as improved well-being and schooling develop the country's economy for a sending country

(Chaudhary 2020; Ratha, Mohapatra & Scheja 2011; Siddique, Shehzadi, Manzoor & Majeed 2016; Woldemariam & Yiheyis 2017). In any case, these additions could involve significant social expenses for travellers and their families.

Since many developing nations are likewise significant beneficiaries of global remittances, they face difficulties integrating migrants, rivalry for work among migrants and native specialists (Jaquet, Kohler & Schwilch 2019; Ratha *et al*. 2011), and the expense costs related to providing the arrangement of social administration to migrants. The economic implications of COVID-19 cannot be underestimated, especially for its ability to have caused job losses to general workers and the self-employed, who altogether became unable to gain money to be sent home through remittance.

Scientific evidence further reveals that every pandemic outbreak affects remittances, not just COVID-19. Studies conducted during the Ebola outbreak in some parts of Africa show that incomes were affected negatively in Africa during Ebola (Anderson 2014). Anderson's study shows that many people quit their jobs due to the fear of contracting the disease, thus reducing financial interaction (Anderson 2014). However, during this period, there were rules and regulations, such as a travel ban, to avoid the spread of Ebola (Cohen 2016).

Pandemics such as Cholera and Typhoid fever have had a high incidence in Sub-Saharan countries and other countries such as India, South-East Asia, and the Arabian Peninsula. Individuals from these countries could not travel unless they took the necessary precautions to prevent spreading these diseases (Amicizia *et al*. 2019). These precautions subsequently affected migration and remittances (Bisong *et al*. 2021).

Although there have been significant studies about the impact of a pandemic on migration and remittances separately, the contribution of this chapter is unique in that it looks at the recent pandemic, COVID-19 and its effects on migration and remittances in the EU countries. It compares it to previous studies that considered Africa only and looks at this from a policy perspective.

3.1 Remittances Flow from Europe

A World Bank report shows that remittances to low- and middle-income countries hit a new high in 2019 [USD 554 billion or EUR 503 billion] (World Bank 2019). In 2020, they were expected to reach USD 574 billion (EUR 521 billion). The EU, non-EU and the Organization for Economic Cooperation and

Development (OECD) countries combined account for 55% of global remittances (European Migration Network 2020). The top sending countries globally are the United States, Switzerland, Germany, France, and Luxembourg. The net sending European countries of personal transfers are predominantly from the western half of the EU. The top five sending nations in the EU are France, Germany, Italy, Belgium, and Ireland.

As the impact of COVID-19 on the economic growth of EU countries is unclear, the outlook for the value of remittances to the source country remains uncertain. In the past, remittances were countercyclical. Workers sent money to their homes in times of crisis. However, the COVID-19 pandemic affected all countries by creating additional uncertainty and significantly slowed immigration payments to families in developing countries (Soava, Mehedintu, Sterpu & Raduteanu 2020). Another effect of COVID-19 was that the employed population decreased, and investments were the main factors that led to the reduction of the GDP growth rate.

According to Saova *et al*. (2020), lower remittance flows had severe and lasting effects on households that depend on this income to meet their basic needs. COVID-19 was a big shock to the European economy, and the EU Member States took budgetary and political measures to support the sectors particularly hard hit and, implicitly, citizens.

The European Commission created an Investment Initiative in response to COVID-19 to help member states fund their response to the COVID-19 crisis. The initiative combined mobilising immediate financial support from structural funds to meet the most pressing needs and maximum flexibility in using funds (Castellarin 2020). Unfortunately, for the remittances-receiving countries in Africa, the complexity of financial challenges that the continent faced before the pandemic would not allow the governments to create such an investment initiative in response to COVID-19 as did their European counterparts. Ultimately, the economic stability of Europe and its ability to tackle financial challenges are some of the pull factors for migrants.

3.2 Migration in Europe

In Europe, three distinct factors largely influenced worldwide migration patterns in the second part of the 20th and early 21st centuries (Aldcroft & Morewood 2012). The lack of skilled labour in Northern and Western Europe, European decolonisation, and the development and subsequent fall of the Communist bloc

in Central and Eastern Europe have substantially impacted migration patterns (Aldcroft & Morewood 2012). Several northern and western European countries have recovered from the devastation of the Second World War (WWII), unprecedented economic development after 1950, the 1973-1974 economic slumps, or the impact of the global financial crisis (Aldcroft & Morewood 2012). The increased need for labour in these countries was due to post-war recovery and rapid economic growth, which the country's workforce could not meet. In non-communist Europe, three big overlapping migratory waves may have been witnessed due to the Second World War: labour migration, the family movement for reunion, and post-industrial migration (Naydenov 2018). Post-colonial migration movements should be examined in addition to these three migratory waves.

Migration is an essential source of remittances for emerging economies. Remittance flows are a fundamental component of the welfare of citizens in emerging economies, as millions of households exceed self-sufficiency levels and contribute to improving health, education, living conditions and even entrepreneurship (Mehedintu, Soava & Sterpu 2019). The EU's freedom of movement allows migrants to return home frequently and directly bring home their money earned abroad. Hence, the actual remittance flow will likely be significant and higher than the official data flow.

3.3 Current Trends of International Migration and Remittances

Kalantaryan and McMahon (2020:6) highlight that remittances are an integral element 'for economic growth and poverty alleviation by ensuring a flow of financial resources from migrants in Diasporas to households and communities in other countries'. According to the Balance of Payment Statistics Yearbook (BOPSY), the International Monetary Fund (IMF) report provides statistics on remittances derived as the sum of three remittance categories (IMF 1993). The latter comprises 'workers' remittances', which are payments made by migrants who live and work in a different country, and 'workers' remuneration', which includes all costs and other financial benefits accrued by migrant workers. Finally, migrant transfers are financial assets acquired through moving from one country to another (International Monetary Fund 1993).

As Figure 1.1 shows, remittances rapidly increased, especially in developing countries, before the advent of COVID-19. Remittances attained an annual real growth rate of approximately 13% between 1991 and 2008, more

than the actual yearly growth rate of Foreign Direct Investment (FDI) at 11% and Official Development Assistance (ODA) at approximately 6% (Yang 2011). Between 2005 and 2012, remittances roughly doubled, according to the World Bank (Larsson & Ångman 2014). Remittance inflows to sub-Saharan Africa (SSA) were estimated to reach USD 46 billion in 2019 (Bisong *et al*. 2020).

With the advent of the COVID-19 pandemic, remittance inflows were expected to decline by approximately 23% in 2020 (Bisong *et al*. 2020; Quinn 2020). However, remittance flows were stable during the COVID-19 crisis despite these predictions. For example, remittances to low- and middle-income countries (LMICs) only fell by roughly 2% in 2020, from USD 548 billion in 2019 to USD 540 billion (World Bank 2020). Instead, remittances increased by 6.5% in Latin America and the Caribbean in 2020 (World Bank 2020).

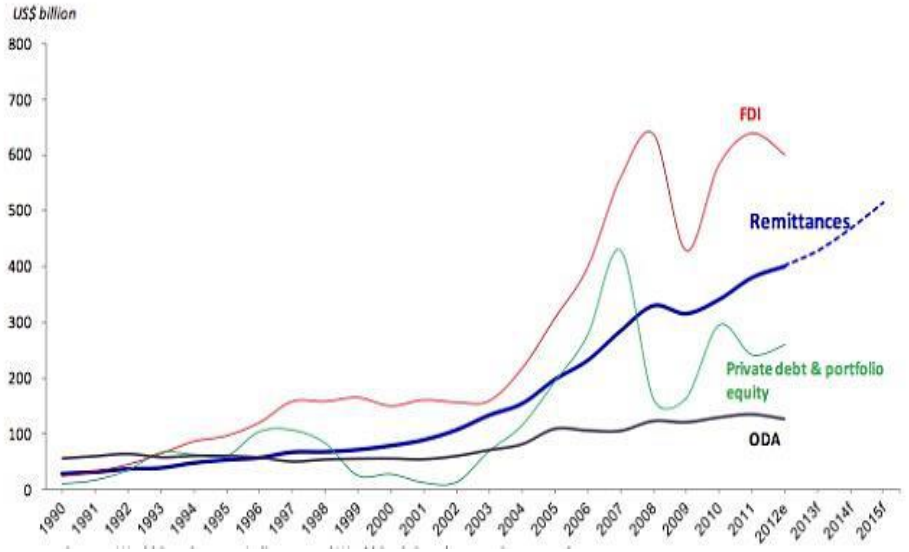


Figure 1.1: The rapid growth of remittances over two decades. Source: World Bank Migration and Development Brief

Regarding the US dollar, India, China, Mexico, the Philippines, and Egypt were the top five remittance-receiving economies in 2020. In contrast, Tonga, Lebanon, Kyrgyz Republic, Tajikistan, and El Salvador topped the recipient countries list regarding GDP share (World Bank 2020).

In 2019, the following countries received remittances that accounted for more than 10% of their GDP: South Sudan 34.4%, Lesotho 21.3%, Gambia 15.5%, Zimbabwe 13.5%, Cabo Verde 11.7%, Comoros 11.5% and Senegal at 10.5% (Kalantaryan & McMahon 2020). However, in 2020, the United Arab Emirates, Russia, Saudi Arabia, and the United States of America topped the list of source countries for remittances (World Bank 2020). According to 2012 remittances statistics, East Asia and the Pacific topped the list of receiving more remittances at 31%, followed by South Asia at 22%, Latin America and the Caribbean at 17%, Europe and Central Africa at 11% (World Bank 2019); the Middle East and North Africa at 11%, and SSA at 8% (Ratha *et al*. 2020).

Certain studies argue that outward remittances negatively affect GDP growth (Al Akayleh 2016; Chami, Jahjah & Fullenkamp 2003; Meyer & Shera 2017). Conversely, one study found that GDP positively affected outward remittances (Lambovska, Sardinha & Belas 2021). The literature explored indicated that remittances' effects on GDP growth depend on the beneficiaries' use of the received remittances. For example, a remittance receiver who spends money on clothing contributes to the GDP growth differently from the receiver who buys land, employs workers and starts producing for the community's consumption.

Furthermore, scientifically it is agreed that remittances reduce poverty and enhance economic growth in receiving countries (Adams & Cuecuecha 2013; World Bank 2014). However, other studies showed that remittances have the potential for brain draining (Beine, Docquier & Rapoport 2001; Gibson & McKenzie 2012). According to Larsson and Angman (2014), analysing remittances must not only concentrate on their effect on development.

4 Conceptual Framework

The pluralistic developmental theory, which neoclassical economists embrace, was developed in the late 1980s and 1990s, and it brought out a new argument regarding migration, remittances and development. This theory places migration in both a positive and negative perspective. It argues that migration increases the flow of remittances and knowledge, skills, and awareness that immigrants obtain in a foreign country, which would either improve or derail progress in both the sending and destination states (Taylor 1999). The pluralistic developmental theory further links the motives and impact of migration, highlighting that

migration can positively or negatively impact development and economic growth (De Haas 2007).

Therefore, it is essential to understand the relationship between migration, remittances, and economic growth. As such, the effects of migration and remittances are context-dependent (De Haas 2007). No theory explicitly explores the relationship between migration and remittances on one side, and developmental and economic growth, on the other side. Migration brings about balanced growth because it contributes to the best allocation of production factors, such as labour and income, which benefit all similarly sending and destination countries (De Haas 2007). For instance, migrants would invest in their home countries, thus stimulating economic development (Adenutsi 2010; De Haas 2007). On the other hand, migration can be detrimental to growth, as propounded by the pluralistic developmental theory.

4.1 Developmental Pluralistic Conceptual Framework

The framework works on the notion that the economies of remittances recipient countries (also migrant-sending countries) are stratified into macro- and micro-levels (Larsson & Ångman 2014). The macro-level highlights how and where remittances are spent and issues related to brain drain or brain gain are engaged, at the macro-economic level in the sending country. The micro-level indicates remittance spending in sending country. It highlights that remittances are expended on local and foreign goods, relying on the recipient country's economy (De Haas 2007). For instance, during Zimbabwe's economic meltdown in 2000, remittances could be used to buy goods in neighbouring South Africa because of the country's shortages.

Therefore, the impact on the macro-level is determined by whether remittances are spent on domestic or foreign products. On the same level, brain drain is widely associated with negative impacts on migrant-sending countries. There would be a lower labour supply in many industries as people migrate. The framework provides a basis for the argument that challenges are associated with remittance inflows at macro-levels. They are associated with an increased risk of corruption in the recipient country, thus affecting economic and developmental growth (Berdiev *et al*. 2013; Chami *et al*. 2008)

The association between macro- and micro-levels of migration is shown in Figure 1.2 below. The pluralistic framework further proposed that macro- and micro-levels of migration and remittances highlight positive developmental and

economic growth (Larsson & Ångman 2014). For instance, it has been demonstrated that when remittances are sent to less stable economies, they boost the demand-supply chain, thereby increasing jobs (De Haas 2007).

As the optimistic developmental theory outlines, remittances alleviate poverty, which is also widely embraced by the pluralistic developmental framework. Nevertheless, remittances also negatively impact the meso-level, especially impoverished communities that cannot afford to send their people abroad.

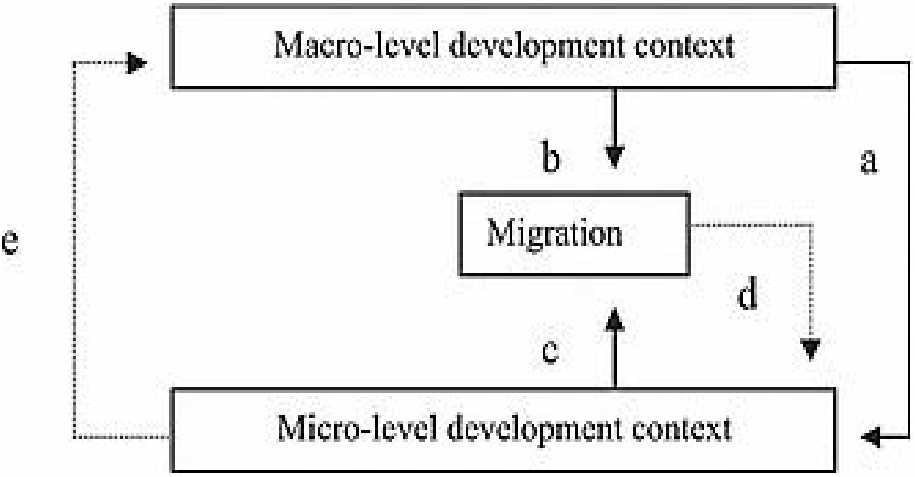


FIGURE 1.2: Developmental pluralistic conceptual framework. Source: (de Haas 2010:27)

5 Hypothesis

The hypothesis testing is that remittances and migration have decreased because of the adverse economic effects of the Coronavirus pandemic. The guidelines and lockdown regulations – especially the 'stay at home' call – may have affected migrants' ability to transfer money to their home countries. The tested hypothesises were:

- Ho: There is no relationship between remittances and migrant workers;
- H1: There is a relationship between remittances and migrant workers;
- Ho: Unemployment does not affect the act of sending money home; and
- H2: Unemployment does affect the act of sending money home.

6 Aim and Objectives

6.1 Aim

The study aims to investigate the impact of COVID-19 on migration and remittances in the European Union Countries.

6.2 Objectives

The following objectives were developed to answer the research question:

- To compare migration and remittance frequencies before and during the COVID-19 pandemic period;
- To understand the potential economic implications of the COVID-19 pandemic on remittances; and
- To integrate the analysis of international migration with the study of remittances in the era of COVID-19 epidemiological issues.

7 Research Methodology

The authors of this study evaluated the impact of COVID-19 on international migration and remittances and adopted a quantitative method.

7.1 Research Design

This study used a causal-comparative design, a form of research that attempts to identify and determine the causal relationship between two or more groups. Causal comparative studies are studies in which researchers attempt to resolve the reasons or causes for the differences in individual groups. Apuke (2017) mentioned that the causal comparison includes categorical independent and dependent variables, while related studies only include quantitative variables. Furthermore, comparative causal studies provide better evidence of causality than correlation studies.

The association between remittances and migrant workers is assessed. In addition, the control variable was involved in the study to verify its effect on the dependent variable. Thus, the causal-comparative design fits the data since it aims to establish a relationship between variables.

7.2 Data and Sampling

Simple random sampling was used to collect data. This sampling method is used when every element in the population has an equal probability of being selected

and included in the sample (Apuke 2017). Data can be collected using different instruments in different research. According to Kumar (2018), data can be collected primarily or using the existing secondary data. Primary data is collected using questionnaires, interviews and surveys.

In contrast, secondary data is already collected data that is accessed from desktops, different population organisations, and depending on the research's plan to be answered. In this study, the author used secondary data. This data type was used because it was easily accessible, helped save time, and was less costly. Although the possibility of getting this data was less stressful, permission still had to be requested to access some of this data.

This cross-sectional data was collected from reputable sources such as the World Bank, the Migration Data Portal, the United Nations, and the International Labour Organization (ILO). The dataset used is from these different sources. The reason for using this number of sources is that all the variables were not found in one dataset. Thus, the author merged the various datasets to facilitate the computation. Below are the sources for each of the datasets classified differently depending on the content and timeline:

- Outflow remittances data available from 2012 to 2020 (World Bank);
- Stock migration data available from 2005 to 2020 (United Nations DESA);
- Working-age population data available from the year 2012 to 2020 (International Labour Organisation); and
- The control variables are unemployment from 2012 to 2020 and annual GDP growth per capita (World Bank).

European Union countries were selected as a sample because they are part of the sending countries and were the first to be affected by the pandemic. The data is available and accessible for use from all the selected EU countries, unlike African countries. Most people migrate from developing countries in Africa and Asia to Europe, searching for greener pastures. It is important to note that remittances were measured in outward remittances since they are sent out of these countries to the developing world, especially in SSA countries.

European countries were selected in this study because these are among the best-remittances-sending countries to Africa. They were also the first to be affected by the pandemic. The data is available as many people use formal bank transactions.

7.3 Methods

The study involves numeric data from the World Bank, the ILO and the United States Department of Economic and Social Affairs (UNDESA). The cross-national data covered 188 countries, while the data used covered 28 EU countries. In the study, the authors investigated the impact of the COVID-19 pandemic on migration and remittances. The study hypothesises that migration and remittances were affected by the COVID-19 outbreak. Thus, the nature of the dataset determines the convenient approach for the analysis.

Therefore, the quantitative investigation was adopted for this study and could be a strategy for examining objective hypotheses by testing the relationship among factors that can be measured using instruments (Pandey & Pandey 2015).

Quantitative inquiry is a strategy that depends on surveys where reactions are scored numerically or using auxiliary information. The author performed data extraction and quality assessment and applied statistical methods to summarise data quantitatively.

This study adopted a quantitative approach because the datasets were numerical, and the association between variables were established statistically. The cross-sectional study focused on the value of remittances in the year 2012 to 2020 and migration in the year 2005 to 2020, and the aim was to establish the association between the variables in the pandemic era.

7.3.1 Analysis

The study used a linear regression model to check the relationship between remittances and migration. General Regression models were generated to establish the relationship between remittances (X) and migrant workers (Y) and control variables such as unemployment and GDP growth per capita. Because the dataset for the dependent and independent variables is in ABC format, with more than one independent variable, the multiple linear regression model (MLR) was suitable for the data analysis. The underlying hypothesis and assumptions of the MLR are that there must be a relationship between the outcome variable and the independent variables. Scatterplots can also show a linear or curvilinear relationship between the variables. Multiple regression assumes that the residuals are normally distributed.

An analysis of the causal relationship between outward remittances and migrant workers was performed to determine how these two were affected in

the era of COVID-19. The control variables, such as unemployment and GDP growth per capita, were used to check whether they affected the model imposed by their presence.

Descriptive statistics were performed to determine the mean and standard deviation to describe the sample data.

As this study focuses solely on working migrants sending remittances from Europe to Africa, the following variables were considered:

Variables	**Description**
MigrantsW	Migrant workers
UnemplR	Unemployment
OutwardRemit	Outward remittances
GDP growth	Gross Domestic Product annual growth

8 Results and Analysis

8.1 Results

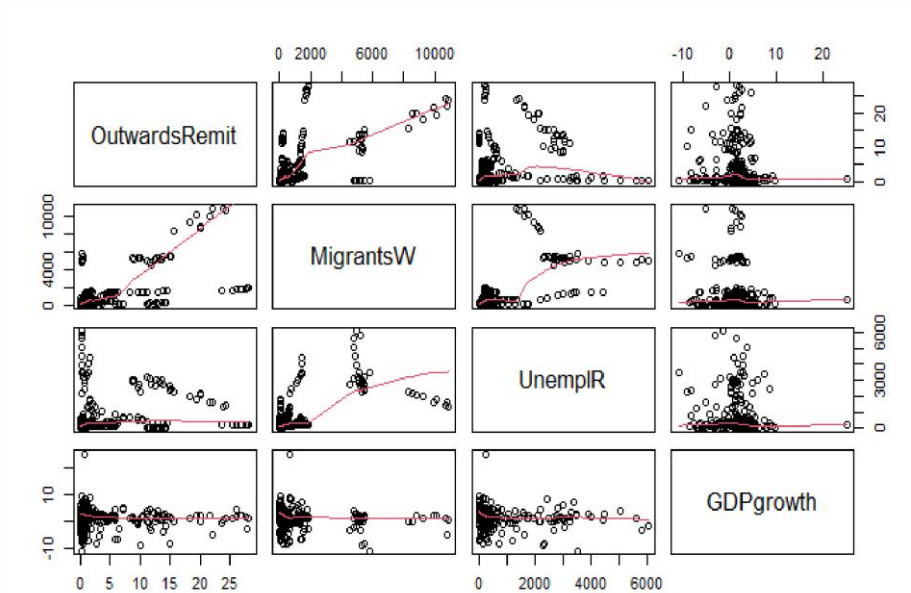
The choice of using migrant workers instead of migrants is that the high probability of sending remittances home is associated with the migrant workers. Before running the test, the data's validity and reliability were checked, and a correlation matrix was performed. The outcome in Table 1 performed in RStudio and R Markdown shows a correlation among all the variables, which validates the use of these variables. The scatterplot in Figure 2 also indicates a relationship between the above-selected variables.

Table 1: Correlation Matrix (2012-2020)

	MigrantW	UnemplR	OutwardsRemit	GDP growth
MigrantW	*1*	*0.659*	*0.599*	*-0.180*
UnemplR	*0.659*	*1*	*0.161*	*-0.115*
Outwardsremit	*0.599*	*0.161*	*1*	*-0.118*
GDP growth	*-0.180*	*-0.115*	*-0.118*	*1*

8.1.1 Scatterplot Matrix for Regression Variables

The Scatterplot matrix (Figure 2) output from RStudio shows other relationships among the variables.



It is seen that Outward remittances and migrants as a measure of migration are associated. None of the independent variables has a high correlation, or else there could not be of any use having them in the equation. The results could have been slightly the same after adding the variables with a high correlation.

Before engaging in any regression analysis, getting an idea of the dataset was essential. It consisted of performing a descriptive dataset statistic to understand what the sample conveys.

	Vars	N	Mean	Sd	Median	Trimme	Mad	Min	Max	Range	Skew	Kurtosis
MigrantW	1	279.00	1240.24	2152.24	293.34	718.79	404.34	0.00	10904.49	10904.49	2.59	6.58
UnemplR	2	279.00	728.63	1137.08	239.65	465.87	251.06	5.33	6041.82	6036.49	2.29	5.03
Outward Remit	3	279.00	4.23	6.47	1.00	2.77	1.18	0.00	28.18	28.18	2.04	3.59
GDP growth	4	279.00	1.67	3.55	2.03	1.90	2.19	-10.84	25.18	36.02	0.23	7.31

Table 2: Descriptive Statistics (2012-2020) Source: R studio and R markdown output

Descriptive statistics helped to see the dispersion of the data by the variance. Standard deviation determined how far the observation was from the mean, where skewness and kurtosis determined the data distribution. The variable

GDP growth has a skewness value of 0.23. Thus, the distribution is approximately symmetric. The other variables, namely MigrantW, UnemplR, and OutwardsRemitt, have a skewness value of 2, making them positively skewed. The fact that all the kurtosis values are over 3 implies that most values observed are more significant than the mean.

8.1.2 The Trend of Migration in the European Union Countries

The dataset from UNDESA containing migration stock for both genders was used to observe the trend over time. The dataset did not identify the age group of its population.

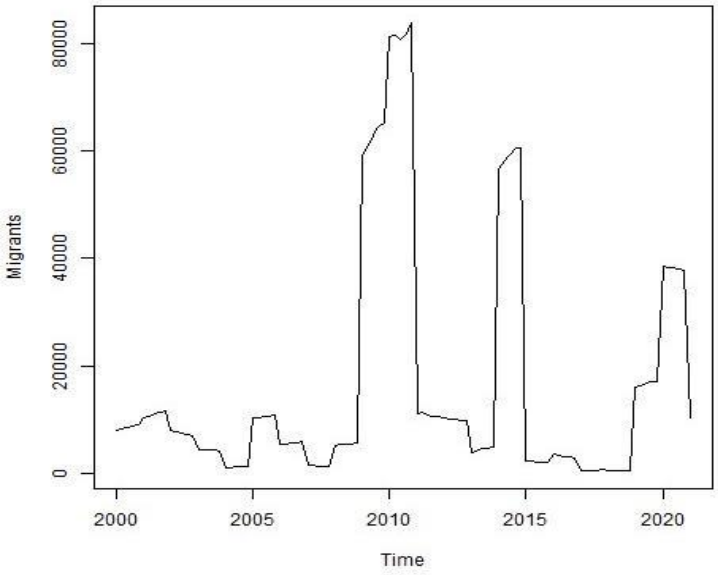


Figure 2: Trend of Migration (Source: RStudio and R Markdown output)

The figure above (Figure 3) displays migrants' entry into Europe from 2000 to 2020. The number of total migrants from 2000 to 2020 was about plus or minus

10000 (±10000) migrants. In late 2009 it peaked at more than 80000 migrants, the highest. Then in 2011, the number of migrants shrunk to about 11000 and below. The number of migrants picked up in 2014, only to shrink again in 2015 and remain low until 2019. Late in 2019, there was an increase up to early 2020, probably around January and February, dropping in late (October-November-December) 2020.

8.1.3 The Trend of Remittances Before and During COVID-19

The outbreak of COVID-19 in early 2020 has had complex impacts on every sphere of life. Existing data shows a fluctuant movement in remittances compared to before and during the COVID-19 pandemic. For example, the following graph, figure 4, suggests an increase in outward remittances from 2012 to 2014. A sudden drop from 2014 to 2016 is observed. Outward remittances started to pick up from late 2017 to 2019.

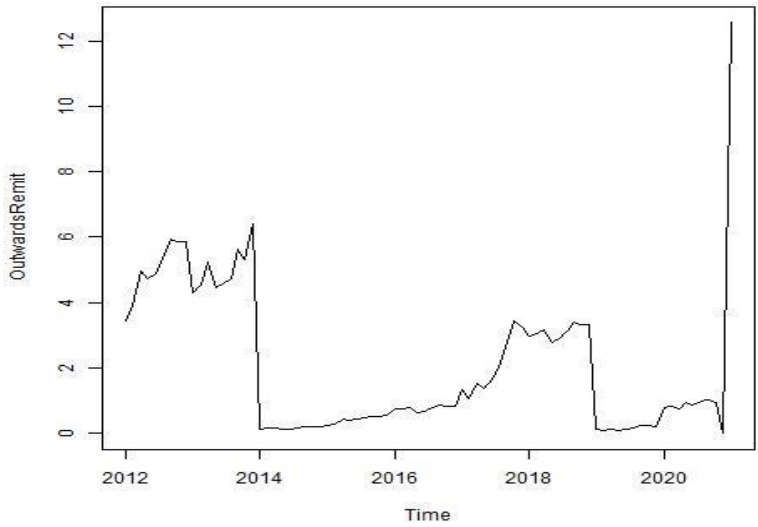


Figure 4: Trend of remittances - Source: R Studio and R markdown output

For some reason, the remittance decrease from early 2019 to early 2020 is comparable to the drop from 2014 to 2016. There was a slight increase in outward remittances in early 2020, but it dropped again in late 2020. During the COVID-19 era in late 2020, outward remittances decreased to the lowest level compared to the previously observed values. By the start of 2021, a slight pick-

up is observed, which might be attributed to the progressive opening of the economies as EU countries suspended most COVID-19 control regulations and mass-vaccinated their populations. These actions allowed people to return to work and earn their previous average salaries, sending remittances back to their homes.

8.1.4 Remittances and Migrant Workers

A multiple regression model was used to analyse all the variables. Model (1) concerns remittances outwards as the dependent variable and migrant workers as independent variables, and a linear regression model was performed to determine the relationship between the two variables. The result shows that the p.value (0.0001) is extremely small and less than a 5% significance level, which is the benchmark. The migrant workers variable is statistically significant; in other words, the null hypothesis was rejected at a 95% confidence interval. It implies an association between the variables of migrant workers and remittances. Ultimately, migrant workers did have a positive impact on sending money home.

In the second model, the author added the variable 'unemployment' to see how it can impact the rate of sending money home. The result shows that the unemployment variable is statistically significant with a small value (0.002). The null hypothesis is rejected at a 5% level of significance. The model is statistically significant; thus, unemployment affects the rate of sending money home. Being unemployed reduces the chance of earning an income. However, anecdotal evidence suggests that the effects of COVID-19 were felt differently in the EU and Africa. For example, some EU countries paid their employees their regular monthly salaries regardless of their not being at work. Also, the rate of job losses in Africa was very high compared to Europe. These are critical determinants of the abilities of migrant workers in EU countries to send remittances to Africa.

In Table 3, the variable GDP per capita was added, and the result shows that the model is not statistically significant since the p.value of 0.089 is greater than a 5% significance level. The GDP did not affect the sending of remittances. In general, the estimated low p-value of different models suggested a significant level of accuracy for these models. The overall significant F-statistic proves that the regression models fit the sample data well. A summary of the equations is found in the table below:

Dependent variable:	Outward remittances, 2012-2020 (1)	(2)	(3)
Migrant workers	*0.002****	*0.003****	*0.002****
	(0.0001)	*(0.0002)*	*(0.0001)*
Unemployment		*−0.002**** *(0.0003)*	*(0.089)*
GDP growth annually in:			
Constant	*1.994****	*2.690****	*2.035****
	(0.359)	*(0.346)*	*(0.403)*
Observations	*279*	*279*	*279*
R2	*0.358*	*0.454*	*0.358*
Adjusted r^2	*0.356*	*0.450*	*0.354*
Residual std. Error	*5.194*	*4.798*	*5.203*
F statistic	*154.685****	*114.902****	*77.102****

Note: *p<0.1; **p<0.05; ***p<0.01

Table 3: Variable GDP Per Capita Addition

9 Description of the Findings

This chapter focused on the impact of COVID-19 on remittances and international migration. In other words, the intended focus was on the outward remittance and migration variation before and during the pandemic. The results indeed indicate that there has been a change in migration and remittances.

Migration and remittance were not stable in the era of COVID-19. The results of the regulations and rules during the virus outbreak prove that COVID-19 impacted migration and remittances. The number of migrants in the EU was high five years back and decreased from 2015 to 2019. The pandemic emerged when it started to pick up in late 2019 and early 2020, with the number of migrants dropping in late 2020. This decrease is because most countries closed their borders and banned entry to reduce human morbidity. Like other countries around the globe, EU countries closed their borders, including all ports of entry for travellers in general, to impose and comply with COVID-19 regulations. Countries like Malta and Italy closed their internal borders for migrants and citizens to avoid spreading the virus. These two countries closed boat ports, the primary way for migrants to enter the country via the Mediterranean for health and safety purposes.

Outward remittances decreased drastically from 2014 to around 2017.

There is anecdotal evidence that in 2016-2017, almost all the Western Union agencies in Europe were robbed. It was hard for people to send money home until the creation of new money transfer agencies like Mukuru, Hello Paisa, Moneygram and others, which might have been a reason for that trend in outward remittances. One of the other causes of that imbalance was inflation and the oil price. Before this incident, there was also a financial crisis in Europe from 2009 to 2013. All these events occurred before COVID-19, and remittances decreased again during the pandemic era (late 2020). Jobs were lost as many companies shut down, and some employees, especially migrants, could not work from home. As the results show, unemployed people increased and impacted remittances negatively. According to Eurostat, the literature indicates that the unemployment rate in the EU was 6.8%. However, the youth had an unemployment rate of about 4.7% in Czechia to 32.4% in Greece (Lambovska, Sardinha and Belas 2021). Outward remittances were estimated to increase in 2021 as the European countries sent foreign aid as loans for COVID control to assist developing countries, especially African countries.

GDP per capita and inflation are linked. The increase in inflation causes people to spend more money because they believe it will be less valuable in the long run. The rise in inflation causes an increase in GDP, and hence prices increase. Literature is scarce on outward remittances as most studies focus on inward remittances and GDP. The results of this research showed that GDP does not affect outward remittances. Only one study contradicted this finding that GDP affected outward remittances positively (Lambovska, Sardinha & Belas 2021). Factors contributing to such unique findings on GDP concerning remittances are to be explored further to determine the context and timing that could influence this finding. The results showed an association between migrant workers and remittances, and the control variables impact the primary independent variable. The unemployment variable had a negative impact on outward remittances. The number of migrants coming to Europe decreased due to COVID-19 regulations, which later impacted remittances. Other aspects linked to migration must have affected remittances, which are not documented. There is a need for further studies in this field to understand these trends and ultimately help to shape migrant-related policies.

Findings were consistent with assumptions. Remittances and migration were expected to decline due to the pandemic. It appears that lockdown regulations and travel bans, as mentioned in the literature, reduced the number of migrants entering EU countries. Furthermore, outward remittances also fell

due to high unemployment caused by the pandemic (Quinn 2020; World Bank 2020). In this study, unemployment significantly decreased outward remittances.

10 Conclusion

International migration is an often discussed subject, focusing mainly on its economic impact. The aim was to verify if remittances sent home were affected by the presence of the COVID-19 pandemic as well as migration. The study conducted a multiple regression model to show the relationship between dependent and independent variables, and an ordinary linear regression was used. The result showed that COVID-19 impacted outward remittances and international migration. The hypotheses were tested and found to be statistically primarily significant. Thus, the study found that the presence of the pandemic had an impact on migration and remittances. The findings positively confirmed the hypothesis and confirmed the assumption.

11 Recommendations

Organisations such as the UN, the IFM, Statistics South Africa, and other secondary data sources must have updated data at least every three months to make the jobs of students and researchers easier. Finishing on time or having accurate results is problematic because of the data's unavailability. Working on this aspect will be helpful for academia and add to the sparse literature on working migrants and remittances. Therefore, this is a call to conduct a qualitative study with senders of remittances to understand what affects their sending frequency and to conduct the same qualitative study with the receivers of remittances to understand how this halt in the routine affects them.

Moreover, further studies should be conducted to explore the effects of COVID-19 on remittances from internally displaced persons (IDPs) and economic migrants within Africa. The policy should be revised to assist working migrants and their families during crises like pandemics.

Acknowledgement

The support of the DSI-NICIS National e-Science Postgraduate Teaching and Training Platform (NEPTTP) towards this research is hereby acknowledged. Opinions expressed, and conclusions arrived at are those of the author and are not necessarily to be attributed to the NEPTTP.

References

Adams Jr, R.H. & A. Cuecuecha 2013. The Impact of Remittances on Investment and Poverty in Ghana. *World Development* 50: 24 - 40. https://doi.org/10.1016/j.worlddev.2013.04.009

Adams, R.H. & J. Page 2005. Do International Migration and Remittances Reduce Poverty in Developing Countries? *World Development* 33, 10: 1645 - 1669. https://doi.org/10.1016/j.worlddev.2005.05.004

Adenutsi, D.E. 2010. Do International Remittances Promote Human Development in Poor Countries? Empirical Evidence from Sub-Saharan Africa. *The International Journal of Applied Economics and Finance* 4, 1: 31 - 45. https://doi.org/10.3923/ijaef.2010.31.45

Adhikari, S., M. Clemens, H. Dempster & N.L. Ekeator 2021. *Expanding Legal Migration Pathways from Nigeria to Europe*. Available at: https://Www.Cgdev.Org/Publication/Expanding-Legal-Migration-Pathways-Nigeria-Europe-Brain-Drain-Brain-Gain. (Accessed on 21 March 2023). https://doi.org/10.1596/35996

African Union Commission 2020. *Impact of the Coronavirus (COVID-19) on the African Economy*. Available at: https://Au.Int/Fr/Node/38326. (Accessed on 21 March 2023).

Al Akayleh, F. 2016. Do Foreign Workers' Positive Contributions to GDP Outweigh the Negative Effect of their Outward Remittances on GDP? A Case Study of Saudi Arabia. *Advances in Economics and Business* 4, 12: 657 - 666. https://doi.org/10.13189/aeb.2016.041204

Aldcroft, D. & S. Morewood 2012. *The European Economy Since 1914*. Philadelphia: Routledge. https://doi.org/10.4324/9780203094761

Amicizia, D., R.T. Micale, B.M. Pennati, F. Zangrillo, M. Iovine, E. Lecini, F. Marchini, P.L. Lai & D. Panatto 2019. The Burden of Typhoid Fever and Cholera: Similarities and Differences. Prevention Strategies for European Travelers to Endemic/ Epidemic Areas. *Journal of Preventive Medicine and Hygiene* 60, 4: E271.

Anderson, M. 2014. Ebola: Airlines Cancel More Flights to Affected Countries. *The Guardian* 22 August 2014.

Antoshchuk, I. 2018. Female Computer Scientists from Post-Soviet Space: Migration and Academic Career in the UK. In *23rd International Conference on Science and Technology Indicators* (STI 2018), 12 – 14 September 2018, Leiden, the Netherlands, pp. 414 - 419. Centre for Science and Technology Studies (CWTS).

Apuke, O.D. 2017. Quantitative Research Methods: A Synopsis Approach. *Journal of Business and Management Review* 33, 5471: 1 - 8. https://doi.org/10.12816/0040336

Azizi, S. 2021. The Impacts of Workers' Remittances on Poverty and Inequality in Developing Countries. *Empirical Economics* 60: 2: 969 - 991. https://doi.org/10.1007/s00181-019-01764-8

Ball, D.Y. & T.P. Gerber 2005. Russian Scientists and Rogue States: Does Western Assistance Reduce the Proliferation Threat? *International Security* 29, 4: 50 - 77. https://doi.org/10.1162/isec.2005.29.4.50

Barne, D. & F. Pirlea 2019. *Money Sent Home by Workers is Now the Largest Source of External Financing in Low- and Middle-Income Countries* (Excluding China). World Bank Blogs, 2. Available at: https://Blogs.Worldbank.Org/Opendata/Money-Sent-Home-Workers-Now-Largest-Source-External-Financing-Low-and-Middle-Income. (Accessed on 21 March 2023).

Beine, M., F. Docquier & H. Rapoport 2001. Brain Drain Drains and Economic Growth: Theory and Evidence. *Journal of Development Economics* 64, 1: 275 - 289. https://doi.org/10.1016/S0304-3878(00)00133-4

Berdiev, A.N., Y. Kim & C.P. Chang 2013. Remittances and Corruption. *Economics Letters* 118, 1: 182 - 185. https://doi.org/10.1016/j.econlet.2012.10.008

Bisong, A., P.E. Ahairwe & E. Njoroge 2020. *The Impact of COVID-19 on Remittances for Development in Africa*. Maastricht: European Centre for Development Policy Management.

Bodomo, A. 2013. African Diaspora Remittances are Better than Foreign Aid Funds. *World Economics* 14, 4: 21 - 29.

Borjas, G.J. 2003. The Labour Demand Curve is Downward Sloping: Re-examining the Impact of Immigration on the Labour Market. *The Quarterly Journal of Economics* 118, 4: 1335 - 1374. https://doi.org/10.1162/003355303322552810

Castellarin, E. 2020. The European Union's Financial Contribution to the Response to the COVID-19 Crisis: An Overview of Existing Mechanisms, Proposals Under Discussion and Open Issues. *European Papers - A Journal on Law and Integration* 2: 1021 - 1044.

Chami, M.R., M.S. Jahjah & C. Fullenkamp 2003. *Are Immigrant Remittance Flows a Source of Capital for Development?* New York: International Monetary Fund. https://doi.org/10.2139/ssrn.880292

Chami, M.R., M.P.J. Montiel, M.Y. Abdih & J. Dagher 2008. *Remittances and Institutions: Are Remittances a Curse?* (No. 2008/029). New York: International Monetary Fund.

Chaudhary, D. 2020. Influence of Remittances on Socio-Economic Development in Rural Nepal. *Remittances Review* 5, 1: 83 - 96. https://doi.org/10.33182/rr.v5i1.820

Cohen, N.J. 2016. Travel and Border Health Measures to Prevent the International Spread of Ebola. *MMWR Supplements 65*. Available at: https://www.cdc.gov/mmwr/volumes/65/su/pdfs/su6503a9.pdf (Accessed on 11 April 2023).

Cuong, N.V. & V.H. Linh 2018. The Impact of Migration and Remittances on Household Welfare: Evidence from Vietnam. *Journal of International Migration and Integration* 19, 4: 945 - 963. https://doi.org/10.1007/s12134-018-0571-3

De Haas, H. 2007. *Remittances, Migration, and Social Development: A Conceptual Review of the Literature*. Geneva, Switzerland: United Nations Research Institute for Social Development. Available at: https://www.Files.Ethz.Ch/Isn/102848/34.Pdf (Accessed on 21 March 2023).

Devermont, J. & E. Olander 2020. *COVID-19 Is an African Political Crisis as Much as a Health and Economic Emergency*. Centre for Strategic and International Studies. Available at: https://www.Csis.Org/Analysis/COVID-19-African-Political-Crisis-Much-Health-And-Economic-Emergency (Accessed On 16 August 2021).

Escribà-Folch, A., C. Meseguer & J. Wright 2015. Remittances and Democratisation. *International Studies Quarterly* 59, 3: 571 - 586. https://doi.org/10.1111/isqu.12180

European Migration Network 2020. *The Impact of COVID-19 on Remittances in EU and OECD Countries*. European Commission, 2020. Available at: https://Emn.Ie/Publications/Impact-Of-COVID-19-On-Remittances-In-Eu-And-Oecd-Countries/ (Accessed on 21 March 2023).

Friedberg, R.M. & J. Hunt 2018. The Impact of Immigrants on Host Country Wages, Employment and Growth. In Suárez-Orozco, M.M., C. Suárez-Orozco & D. Qin-Hilliard (eds.): *Interdisciplinary Perspectives on the New Immigration*. Philadelphia: Routledge. https://doi.org/10.4324/9781315054193-4

Gabriël, S., M.V. Johansen, E. Pozio, G.S.A. Smit, B. Devleesschauwer, A. Allepuz & P. Dorny 2015. Human Migration and Pig/ Pork Import in the European Union: What are the Implications for Taenia Solium Infections? *Veterinary Parasitology* 213, 1-2: 38 - 45. https://doi.org/10.1016/j.vetpar.2015.03.006 PMid:25837784

Gibson, J. & D. Mckenzie 2012. The Economic Consequences of 'Brain Drain of the Best and Brightest: Microeconomic Evidence from Five Countries. *The Economic Journal* 122, 560: 339 - 375. https://doi.org/10.1111/j.1468-0297.2012.02498.x

Hossain, M.I. 2015. An Empirical Investigation of the Impact of Foreign Remittances on Poverty in Developing Countries. *Economy* 2, 2: 44 - 48.

Howell, A. 2017. Impacts of Migration and Remittances on Ethnic Income Inequality in Rural China. *World Development* 94: 200 - 211. https://doi.org/10.1016/j.worlddev.2017.01.005

Inoue, T. 2018. Financial Development, Remittances, and Poverty Reduction: Empirical Evidence from a Macroeconomic Viewpoint. *Journal of Economics and Business* 96: 59 - 68. https://doi.org/10.1016/j.jeconbus.2017.12.001

International Monetary Fund 1993. *Balance of Payments Manual, International Money Fund: Washington*, DC, 1993. Available at: https://Www.Imf.Org/External/Pubs/Ft/ Bopman/Bopman.Pdf (Accessed on 21 March 2023).

Jaquet, S., T. Kohler & G. Schwilch 2019. Labour Migration in the Middle Hills of Nepal: Consequences on Land Management Strategies. *Sustainability* 11, 5: 1349. https://doi.org/10.3390/su11051349

Kalantaryan, S. & S. Mcmahon 2020. *COVID-19 and Remittances in Africa*. Luxembourg: Office of the European Union.

Koczan, Z., G. Peri, M. Pinat & D.L. Rozhkov 2021. *The Impact of International Migration on Inclusive Growth: A Review*. IMF Working Papers 2021 (088). Available at: https://www.IMF. Org/En/Publications/WP/Issues/2021/03/19/The-Impact-Of-International-Migration-On-Inclusive-Growth-A-Review-50169 (Accessed on 21 March 2023). https://doi.org/10.5089/9781513571966.001

Korobkov, A. & Z. Zaionchkovskaia 2012. Russian Brain Drain: Myths V. Reality. *Communist and Post-Communist Studies* 45: 327 - 341. https://doi.org/10.1016/j.postcomstud.2012.07.012

Kumar, R. 2018. *Research Methodology: A Step-By-Step Guide for Beginners*. Newbury Park: Sage.

Lambovska, M., B. Sardinha & J. Belas 2021. Impact of COVID-19 Pandemic on the Youth Unemployment in the European Union. *Ekonomicko-Manazerske Spektrum* 15, 1: 55 - 63. https://doi.org/10.26552/ems.2021.1.55-63

Larsson, P. & J. Ångman 2014. *Remittances and Development: Empirical Evidence from 99 Developing Countries*. Available at: http://Www.Diva-Portal.Org/Smash/Record.Jsf?Pid=Diva2%3A726509&Dswid=-8259. (Accessed on 21 March 2023).

Lindley, A. 2009. The Early Morning Phonecall: Remittances from a Refugee Diaspora Perspective. *Journal of Ethnic and Migration Studies* 35, 8: 1315 - 1334. https://doi.org/10.1080/13691830903123112

Luce, S. 2014. *Labour Movements: Global Perspectives*. N. Jersey: John Wiley & Sons.

Mehedintu, A., G. Soava & M. Sterpu 2019. The Effect of Remittances on Poverty in the Emerging Countries of the European Union. *Sustainability* 11, 12: 3265. https://doi.org/10.3390/su11123265

Meyer, D. & A. Shera 2017. The Impact of Remittances on Economic Growth: An Econometric Model. *Economia* 18, 2: 147 - 155. https://doi.org/10.1016/j.econ.2016.06.001

Mohapatra, S., G. Joseph & D. Ratha 2012. Remittances and Natural Disasters: Ex-Post Response and Contribution to Ex-Ante Preparedness. Environment. *Development and Sustainability* 14, 3: 365 - 387. https://doi.org/10.1007/s10668-011-9330-8

Naydenov, K. 2018. International Migration in Europe in the 21st Century. In *4th International Scientific Conference Geobalcanica.* Macedonia, 15 – 16 May 2018. https://Www.Cambridgescholars.Com/Resources/Pdfs/978-1-5275-0910-8-Sample.Pdf (Accessed on 21 March 2023).

Pandey, P. & M.M. Pandey 2015. *Research Methodology: Tools and Techniques. Obtenido De Research Methodology: Tools and Techniques.* Buzau, Al. Marghiloman, Romania: Bridge Centre. Available at: http://Euacademic.Org/Bookupload/9.Pdf (Accessed on 21 March 2023).

Quinn, A., 2020. *The Money's Not Coming Home: 690 Billion Remittances Risk.* Bloomberg, 08 April 2020. Available at: http://www.Investing.Com (Accessed on 27 September 2021).

Rajan, S.I. & K.C. Zachariah 2019. *Emigration and Remittances: New Evidence from the Kerala Migration Survey 2018* (No. ID: 12989). Working Papers id: 12989, eSocialSciences.
Available at: http://Localhost:8080/Xmlui/Handle/123456789/488. (Accessed on 21 March 2023).

Ratha, D., S. Mohapatra & E. Scheja 2011. Impact of Migration on Economic and Social Development: A Review of Evidence and Emerging Issues. *World Bank Policy Research Working Paper, (5558).* Available at: https://Elibrary.Worldbank.Org/Doi/Abs/10.1596/1813-9450-5558. (Accessed on 21 March 2023). https://doi.org/10.1596/1813-9450-5558

Ratha, D.K., S. De, E.J. Kim, S. Plaza, G.K, Seshan & N.D. Yameogo 2020. COVID-19 Crisis through a Migration Lens. *Migration and Development Brief* 32. Washington, D.C: World Bank Group.

Rybakovsky, L. & S. Ryazantsev 2005. *International Migration in the Russian Federation*. In UN Expert Group Meeting on International Migration and Development. New York: United Nations, Population Division.

Smith-Bingham, R. & K. Hariharan 2020. *This is the Impact of the Coronavirus on Business.* World Economic Forum. Available at: https://www.Weforum.Org/Agenda/2020/02/Why-Is-Coronavirus-A-Global-Business-Risk/ (Accessed on 23 September 2021.)

Soava, G., A. Mehedintu, M. Sterpu & M. Raduteanu 2020. Impact of Employed Labour Force, Investment, and Remittances on Economic Growth in EU Countries. *Sustainability* 12, 23: 10141. https://doi.org/10.3390/su122310141

Straubhaar, T. 2018. *The Economics of Migration Policies.* In Marshall, B. (ed.): *The Politics of Migration: A Survey.* Philadelphia: Routledge. https://doi.org/10.4324/9781315728285-2

Subbotin, A. & S. Aref 2021. Brain Drain and Brain Gain in Russia: Analysing International Migration of Researchers by Discipline Using Scopus Bibliometric Data 1996 – 2020. *Scientometrics* 126, 9: 7875 - 7900. https://doi.org/10.1007/s11192-021-04091-x

Taylor, E.J. 1999. The New Economics of Labour Migration and the Role of Remittances in the Migration Process. *International Migration* 37, 1: 63 - 88. https://doi.org/10.1111/1468-2435.00066 PMid:12322077

Woldemariam, K. & Z. Yiheyis 2017. Remittances and Economic Development in Africa: A Review of Empirical Evidence. In Wamboye, E., E. Tiruneh (eds.): *Foreign Capital Flows and Economic Development*

in Africa. New York: Palgrave Macmillan. https://doi.org/10.1057/978-1-137-53496-5_18

World Bank 2014. World Development Indicators. Available at: http://www.Data.Worldbank.Org/Indicator (Accessed on 21 March 2023).

World Bank 2020. *World Bank Predicts Sharpest Decline of Remittances in Recent History*. N. York: Press Release 2020/175/SPJ. 22 April 2020.

Yang, D. 2011. Migrant Remittances. *Journal of Economic Perspectives* 25, 3: 129 - 152. https://doi.org/10.1257/jep.25.3.129

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