

# **International Remittances, Human Resources Outflow & Economic Growth: Dynamic Regression Models**

**OLHA MULSKA**

Department of Social and Humanitarian Development of the Regions  
Dolishniy Institute of Regional Research of the National Academy of Sciences of Ukraine  
79026, Lviv, Kozelnytska str., 4  
UKRAINE

**TARAS VASYLTSIV**

Department of Social and Humanitarian Development of the Regions  
Dolishniy Institute of Regional Research of the National Academy of Sciences of Ukraine  
79026, Lviv, Kozelnytska str., 4  
UKRAINE

**HALYNA VOZNYAK**

Department of Regional Financial Policy  
Dolishniy Institute of Regional Research of the National Academy of Sciences of Ukraine  
79026, Lviv, Kozelnytska str., 4  
UKRAINE

**NATALIIA MITSSENKO**

Department of Economics  
Lviv University of Trade and Economics  
79005, Lviv, Tugan-Baranovskogo str., 10,  
UKRAINE

**HALYNA KAPLENKO**

Department of Economics and Public Administration  
Ivan Franko National University of Lviv,  
79000, Lviv, Universytetska str., 1  
UKRAINE

**ULIANA IVANIUK**

Department of management of the organization  
Lviv Polytechnic National University  
79013, Lviv, St. Bandery str., 12  
UKRAINE

*Abstract:* - The article presents an econometric analysis of the impact and elasticity of human resources outflow and remittance with economic growth in Ukraine. It is proved that remittance (1) has a direct relationship with economic activity rate, (2) a cyclical and multiplicative relationship with the inflationary process, and (3) an indirect effect on capital investment. It has been established that migration favorably affects the financial well-being of households and is an effective measure for accumulating investment capital and savings. The trigger for

economic growth in the vector of ‘migration – remittance’ is the development of the migration capital market by increasing the investment capacity of remittance’, ensuring the target remittance orientation to the small and medium-sized business sector, guaranteeing market stability (security of remittance) and developing financial inclusion.

**Key-Words:** - migration, economic growth, remittance, Ukraine, market, lag, modeling

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## 1 Introduction

International migration is an ambiguous process that has both positive and negative consequences and acts as an optimum for the development of donor countries and recipient ones of human resources. Minimization of negative consequences, risks, and threats of migration as well as the use of migration potential to accelerate the pace of economic growth and strengthen national security depends on the effectiveness of methods of migration regulation. The effectiveness of migration management mechanisms depends on the information and analytical support of migration policy the timely identification of the character and direction of the impact of human resources outflow and remittance inflows to the indicators of economic and social development, as well as the specifics of the impact of migration on economic growth in different time lags.

A significant contribution to the socio-economic development of the donor country is remittances. In the studies on this issue, a methodology for analyzing the scale and structure of remittances has been developed, conclusions have been drawn for policy regarding their stimulation, control, transparency, and direction in the investment direction. In the economic literature, the impact of migration on socio-economic development is most often assessed through the potential of remittances with the study of the consequences of their impact on poverty and inequality [1], smoothing out development differentiation and disparities in territorial and socio-class aspects [4; 39], intensification of private-public factors to strengthen the competitiveness of the national economy [17], overcoming obstacles to increasing business activity [18], investment in private business [35;48].

The formation of systemic management decisions regarding the regulation of migration to ensure economic growth and structurally balanced development of the socio-economic system requires a more detailed study, using econometric analysis methods. Migration is a social and economic phenomenon that affects the level of official employment of working-age people, disposable income, capital investments and gross value added,

the level of conservation of human resources, etc. Remittances as financial determinants of migration processes determine the quality and standards of living. Intensive migration flows, which are a combination of migration of human resources, goods, services, remittances, investments, business, and intellectual property, have a causal relationship with the demographic situation, the labor market, capital and credit, intellectual property, and entrepreneurship. At the same time, migration processes have an ambiguous impact on socio-economic development, including on the well-being of households, and the economic growth of communities.

## 2 Problem Formulation

### 2.1 Literature Review

Numerous studies in the field of migration research, especially at the beginning of 21st century, provided the formation of a significant theoretical and methodological basis for the laws of causes, factors of activation, and consequences of the influence of migration on both economic and social development. In particular, in terms of human resources outflow, the subject of analysis as often as possible (in addition to traditional changes in the labor-resource provision of the economy) is the impact on economic growth and human development [3], the pace of macroeconomic indicators [5], mobility and labor productivity [29; 41], changes in the qualification of the workforce and the growth of entrepreneurial capital [9], the formation of civil society and the elimination of corruption, barriers to business [10], improved the general institutional environment [11; 50].

Investigating the processes and character of the impact of migration on economic development, the focus is mostly on the consequences manifested in the form of internal and international investment processes [7], foreign direct investment, which serves as factors for enhancing economic growth and ensuring the increase in national income, including

value-added [12], GDP dynamics [15] and its long-term stability [45], strengthening the country's financial system in general [28] and improving the capabilities of its monetary sphere in particular [24]. At the same time, the influence of migration processes on narrower aspects of economic development [31], including those related to innovation and technological activity, especially in less technological economies [22], links between the R&D and manufacturing [26], small business development [37], is no less relevant, socialization of economic relations [40], de-shadowing of the economy, especially small and medium-sized businesses [44]. According to the research results, when modeling the links between the parameters of migration and economic growth, of particular relevance, in particular in terms of regulating the development of the internal market, import substitution, etc., considers the changes in the openness of trade [16], foreign trade, including in terms of foreign economic and food security [34], stabilization of the processes of functioning of the internal market [14], intensification of foreign trade relations [20; 38]. A thorough generalization of the results of these and other studies gives grounds for including in the system for assessing the impact of migration on the economic growth of such main indicators as GDP and value-added, foreign, and capital direct investments, the number of small business entities, the volume of internal trade and foreign trade, innovation, and technological activity of enterprises.

In forming a methodology for modeling the impact of migration on social development, as shown by the achievements of researchers on migration problems, it is important to focus on such parameters as employment and unemployment, economic activity, wage, purchasing power of households, and inflationary processes. The strength of migration's influence on the social system can be significant and indirect, and the nature of the impact can be both direct (favorable) and reverse (unfavorable). Migration as a negative phenomenon affects the labor potential, creates threats, and violates the stability of the intellectual and personnel security of the country [43; 47]. At the same time, as a positive phenomenon, it contributes to the growth of household incomes, and the establishment of a balance of the labor market, as there is a fall in unemployment, as well as a decrease in poverty and an increase of the solvency due to remittance intensifying.

Further development of methodological and applied principles for analyzing the link between migration and the social and labor spheres is based on the results of studies characterizing the impact,

firstly, of remittances on the labor's demand and supply, human capital [6], shifts in the levels and structure of poverty and inequality [46], intellectual personnel outflow [30] and, secondly, the human resources outflow for changes in the structure of intellectual and human resources and economic activity [13; 23], employment and income of non-immigrants [21], in the exchange of experience and knowledge, as well as the formation of business skills [32], and as a result in the dynamics of parameters of inter-regional socio-economic development.

Remittances have a direct impact on improving the financial and material condition of households in the donor country, but also lead to inflationary effects, provided that a high proportion of remittances are spent on consumption [25], and the impact of migration on social development and human capital can be measured by indicators of the volume and share of the cost of social reproduction of migrants [27]. At the same time, other researchers argue the feasibility of considering the impact of remittances on household incomes and investments [2], income, expenses, and savings [8; 36], differentiations in income and quality of life [42], accumulation and distribution of wealth, including in less economically developed areas [19; 49], instability of household consumption in developing countries [33]. High values of these indicators at the same time demonstrate a significant dependence of the national economy on the inflow of remittances.

The scientific discourse presents various methods of analyzing the impact of migration on the parameters of the progress of the national economy, social reproduction, and social stability, which differ both in the forms and types of migration and in the countries of destination or origin. However, the methodology for analyzing the consequences of the human resources outflow, and the growth of international remittances for economic growth needs further improvement, considering changes in the dynamic social and economic environment, innovative progress, and transformations of the priority of meeting the people's needs. Therefore, it actualizes the study 'migration – remittances – economic growth' considering the multi-weight and nonlinear influence of the migration factor on the parameters of development of the social sphere and the economic system.

## 2.2 Tasks of the Article

To carry out the complementary research on the impact of migration on the economic growth in Ukraine, the following hypothesis is developed and tested:

H: migration is multidimensional, its impact is comprehensive and has different lags range with the differentiated level of link with the parameters of the social and economic development of Ukraine.

The main task of the paper is to model the impact of migration processes (remittances, human resources outflow) on the parameters of social domain and economic system development in Ukraine.

### 2.3 Data and research methodology

The empirical indicators of migration in Ukraine are the number of arrivals, departures, and balances of international migration, which demonstrate a demographic change because of differences in the place of registration. In this research, international migration intensive is calculated as border crossing ratio by Ukrainian citizens (except for tourist and work trips, for shopping). Thus, the international migration intensity in Ukraine from 2005 to 2021 decreased, between 2005 and 2007 and from 2018 to 2019 are the periods of the most scale of emigration, as well as indicators of the ratio of emigrants to the unemployed and economically active population. For comparison, in 2002 and 2021, international migration intensity amounted to 76.3 thous. people and 19.1 thous. people and the share of migrants to unemployed – 3.58 % and 1.14 %, respectively. In 2020, in comparison to 2002, the number of departures and arrivals in Ukraine decreased by 57.1 thous. people and 16.1 thous. people accordingly.

The remittance inflow intensive is calculated as the ratio of the volume of remittance through formal and informal channels to the total population in the country. The remittances inflow intensive into the economy of Ukraine between 2006 and 2011 was steady and ranged from 91.7 to 110.03 euros per capita. It is worth noting that the remittances decreased significantly in 2014 due to the deterioration of economic stability and the political situation in the country.

To identify the impact of the migration factor on economic growth, the indicators of the development of the social sphere and the economic system preliminarily lagarifming was carried out. It allows to interpret the results of creating regression models as a percentage. Thus, the impact of migration on the variables of social and economic development with the consideration of the international migration intensity in the previous periods can be demonstrated based on the *Autoregressive Distributed Lag* (1)-(2).

$$SED_t^j = a + b_1MIGR_{t-p} + u_t, \quad (1)$$

$$SED_t^j = a + b_1TRANSF_{t-p} + u_t, \quad (2)$$

where  $SED_t^j$  is the  $j$ -th of social and economic development indicators in the  $t$ -period;  $p$  is the lag period;  $MIGR_t$  is international migration intensity in the  $t$  period;  $TRANSF_t$  is volumes of remittances in the  $t$  period.

The impact of international migration on the consumer price index and retail trade of the host country can be explained based on the *Sinusoidal Model* (3):

$$CPI_t/UNITS_t = a + b\cos(cMIGR_t + d), \quad (3)$$

where  $CPI_t$  is consumer price index in the  $t$  period;  $UNITS_t$  is the volume of small business entities in the  $t$  period.

The impact of remittances on some indicators of economic development of the donor country can be explained based on the *Sinusoidal Model* (4):

$$FPI_t/RETAIL_t = a + b\cos(cTRANSF_t + d), \quad (4)$$

where  $FPI_t$  is the level of the capital investment in the human resources' host country in the  $t$  period;  $RETAIL_t$  is the volumes of retail trade in  $t$  period.

The impact of remittances on the gross value added of the host country can be explained based on the *Rational Model* (5):

$$GVD_t = \frac{a+bTRANSF_t}{1+cTRANSF_t+dTRANSF_t^2}, \quad (5)$$

where  $GVD_t$  is gross value added in the  $t$  period.

To test the model for statistical significance (statistical hypothesis), the coefficients of determination ( $R^2$ ) and Darbin Watson (DW) are calculated. The obtained results are within acceptable limits.

## 3 Problem Solution

### 3.1. Impact of migration on the Ukrainian economy

The major priorities of the socio-economic development of Ukraine include structural reforms, e.g. infrastructure development, development of the land market, modernization and technological reequipment of industrial enterprises, development of a network of innovative enterprises and intellectual property market, as well as fall in the impact of social and economic problems on the resilience of systems. The existing mechanism of structural reforms support and thus the maintenance of socio-economic development in Ukraine is permanent and forced. It has been framed and adjusted based on the concept

of public regulation of the national economy. At the current development stage in conditions of globalization, it is kind of a progress-limiting tool. Therefore, a new governmental mechanism should comply with modern spatial development and mobility trends it should follow the international migration trends and the impact of social and monetary remittances, which are the integral elements of the country's sustainable development. Empirical estimations show that the impact of migration on the condition of the labor market and employment in the short run is quite favorable, including unemployment (formula 6). However, there is a reverse impact of human resources outflow on unemployment in the second time lag at 5 % statistical significance.

$$UNEMPL_t = \frac{0.750}{(0.309^{**})} - \frac{0.017MIGR_t}{(0.099^*)} + \frac{0.307MIGR_{t-1}}{(0.109^{**})} - \frac{0.257MIGR_{t-2}}{(0.093^{**})} \quad (6)$$

$$R^2 = 0.798 \quad DW = 1.92$$

Compared to human capital outflow, remittances do not impact the workforce significantly in several time lags simultaneously (formulas 7-9). Remittances boost unemployment by 0.31 % because they can be the destimulators of the search for jobs for family members of labor migrants.

$$UNEMPL_t = \frac{0.701}{(0.289^{***})} - \frac{0.310TRANSF_t}{(0.203^*)} + \frac{0.898UNEMPL_{t-1}}{(0.298^{***})} \quad (7)$$

$$R^2 = 0.686 \quad DW = 2.07$$

Migration and remittances must have an inert impact on the volume of economically active population because they determine the dynamics of workforce volumes in the previous period at 0.61 % and 0.88 %, respectively. Therefore, there are no grounds to argue that migration processes have a direct impact on the economic activity rate.

$$EAR_t = \frac{0.695}{(0.413^*)} - \frac{0.012MIGR_t}{(0.004^*)} + \frac{0.612EAR_{t-1}}{(0.232^{**})} \quad (8)$$

$$R^2 = 0.681 \quad DW = 1.92$$

$$EAR_t = \frac{0.388}{(0.548^*)} + \frac{0.019TRANSF_t}{(0.023^*)} + \frac{0.882EAR_{t-1}}{(0.289^{**})} \quad (9)$$

$$R^2 = 0.638 \quad DW = 2.44$$

Empirical estimations demonstrate that the increase in nominal wages (formulas 10-11) can be expected from growing volumes of international migration and remittances because the labour market will face the lack of workforce supply, while its consequences can be minimized due to labour remuneration increase.

$$WAGE_t = \frac{1.237}{(0.703^*)} + \frac{0.072MIGR_t}{(0.086^*)} + \frac{0.700WAGE_{t-1}}{(0.840^*)} \quad (10)$$

$$R^2 = 0.617 \quad DW = 2.17$$

$$WAGE_t = \frac{0.061}{(0.677^*)} + \frac{0.474TRANSF_t}{(0.272^{**})} + \frac{0.640WAGE_{t-1}}{(0.198^{***})} \quad (11)$$

$$R^2 = 0.742 \quad DW = 2.47$$

Migration has an indirect impact on the consumer price index that is described by a sinusoidal model (formula 12). The dependence shows the cyclical relationship between migration and inflation processes because the human resources outflow multiplicatively impacts the price growth. Interestingly, the impact of remittances on the consumer price index is insignificant.

$$CPI_t = \frac{2.047}{(0.011^*)} + \frac{0.039cos(11.592MIGR_t)}{(0.0180^*)} - \frac{0.038}{(0.732^*)} - \frac{0.035}{(0.735^{**})} \quad (12)$$

$$R^2 = 0.821 \quad AICC = -98.233$$

Migration in Ukraine favorably impacts the financial well-being of households and remains to be an efficient mechanism to increase savings, which is confirmed by the results of the lag modeling (Table 1). The intensification of migration processes in Ukraine impacts the growth of disposable income through the outflow of human resources at 69.2 % and remittances – at 77.8 %. The growth of human resource outflow and international remittances inflow by 1 % increases disposable income by 0.031 % and 0.58 %, respectively.

Table 1. The results of modeling the impact of migration processes on some parameters of the quality of life in Ukraine, 2005-2021

Indicators	Econometric models	Impact	Elasticity coefficient
Income	$INCOME_t = \frac{1.572}{(0.851^{**})} + \frac{0.031MIGR_t}{(0.079^*)} + \frac{0.537INCOME_{t-1}}{(0.255^{**})}$ $R^2 = 0.692 \quad DW = 2.06$	0.830	1.97
	$INCOME_t = \frac{1.152}{(0.879^*)} + \frac{0.577TRANSF_{t-1}}{(0.306^*)}$ $R^2 = 0.778 \quad DW = 1.89$	0.872	3.21
Food expenditures	$EXPENS_t = \frac{0.576}{(0.751^*)} - \frac{0.016MIGR_t}{(0.010^*)} + \frac{0.653EXPENS_{t-1}}{(0.265^{**})}$ $R^2 = 0.757 \quad DW = 1.57$	0.868	-2.70

Indicators	Econometric models	Impact	Elasticity coefficient
	$EXPENS_t = \frac{0.020}{(0.306^*)} - \frac{0.073TRANSF_t}{(0.013^{***})} - \frac{0.108TRANSF_{t-1}}{(0.013^{***})} +$ $+ \frac{0.102TRANSF_{t-2}}{(0.025^{***})} + \frac{0.071TRANSF_{t-7}}{(0.013^{***})}$ $R^2 = 0.992 \quad DW = 1.57$	0.996	-7.85

Source: authors' complication

### 3.2. Impact of migration on Ukrainian social domain development

The human resources outflow increases foreign direct investment in Ukraine in a four-year time lag (coefficient of determination is 92.9 %). Meanwhile, the impact of remittances on foreign direct investment is unfavorable because remittances as investment capital eliminate the significance of foreign investment for the development of the national economy, which often is dependent on migration. The inert dependence of direct investment on the dynamics of investment activity in the previous period and the simultaneous inflow of remittances is quite interesting (formula 13-14).

$$FDI_t = \frac{5.314}{(0.548^{**})} - \frac{0.915MIGR_{t-1}}{(0.389^{**})} + \frac{0.578MIGR_{t-5}}{(0.155^{**})} +$$

$$+ \frac{0.558MIGR_{t-3}}{(0.115^*)} + \frac{0.197MIGR_{t-4}}{(0.096^*)} \quad R^2 = 0.929 \quad DW = 2.45$$

(13)

$$FDI_t = \frac{1.551}{(0.574^{***})} - \frac{0.155TRANSF_t}{(0.147^*)} + \frac{0.667FDI_{t-1}}{(0.057^{***})},$$

$$R^2 = 0.956 \quad DW = 1.53$$

(14)

Labour migrants are among the key participants of the market of capital as they direct their funds at the purchase of real estate, securities, construction, capital repairs, and deposits. Naturally, empirical estimations confirm the favorable relationship between migration processes and capital investment in Ukraine at 68.0 % for migration and 82.5 % – for migration transfers (formulas 15-16). It is worth mentioning that the impact on investment activity is cyclical considering the volumes of foreign direct investment and remittances.

$$FPI_t = \frac{1.312}{(0.666^{**})} + \frac{0.116MIGR_t}{(0.310^*)} + \frac{0.686MIGR_{t-1}}{(0.338^{**})} + \frac{0.655MIGR_{t-2}}{(0.266^{**})},$$

$$R^2 = 0.680 \quad DW = 1.95$$

(15)

$$FPI_t = \frac{2.606}{(0.023^*)} + \frac{0.141cos(33.309TRANSF_t - 16.666)}{(0.033^*)} - \frac{16.666}{(3.241^*)} - \frac{5.541^*)}{(5.541^*)},$$

$$R^2 = 0.825 \quad AICC = -60.610$$

(16)

The estimated regression model for the country's GDP shows a significant direct impact of remittances and the reverse impact of human resources outflow on the country's economic development with a one-year lag (formulas 17-18). The development of the economic system in conditions of international migration intensification

seems to be inert and its rate in the current year is determined by the previous dynamics by 90 %.

$$GDP_t = \frac{1.674}{(0.963^*)} - \frac{0.412MIGR_{t-1}}{(0.218^{**})} + \frac{0.392MIGR_{t-2}}{(0.166^{**})} + \frac{0.616GDP_{t-1}}{(0.279^*)},$$

$$R^2 = 0.706 \quad DW = 1.87$$

(17)

$$GDP_t = \frac{0.999}{(0.908^*)} + \frac{0.368TRANSF_t}{(0.236^*)} + \frac{0.627TRANSF_{t-1}}{(0.220^{**})},$$

$$R^2 = 0.684 \quad DW = 1.62$$

(18)

It is worth mentioning the impact of migration processes on the innovative system of the country that is verified by statistical calculations, e.g. migration fosters innovation and technology transfer by 68.7 % and remittances – by 96.2 % (formulas 19-20). By acquiring new knowledge, experience, and qualification, labour and educational migrants boost the spread of social transfers. Their implementation in the social system increases the efficiency of innovative activity and thus contributes to the increase of innovative-technological competitiveness of the country. Remittances such as investment in innovations, R&D, science, and education generate the value added in hi-tech industries and increase the level of research commercialization and technology transfer.

$$INRATE_t = \frac{0.889}{(0.393^{**})} + \frac{0.095MIGR_t}{(0.077^*)} + \frac{0.270INRATE_{t-1}}{(0.311^*)},$$

$$R^2 = 0.687 \quad DW = 2.01$$

(19)

$$INRATE_t = \frac{0.967}{(0.176^{**})} + \frac{0.763TRANSF_t}{(0.066^{***})} + \frac{0.257TRANSF_{t-1}}{(0.102^{**})} +$$

$$+ \frac{0.386TRANSF_{t-2}}{(0.062^{***})} + \frac{0.179TRANSF_{t-3}}{(0.081^{**})} - \frac{0.315TRANSF_{t-7}}{(0.069^{**})}$$

$$R^2 = 0.962 \quad DW = 2.02$$

(20)

The reverse impact of migration at the level of 0.422 % on value added is observed in a one-year time lag (formula 21). The sigmoidal impact on value added is detected for remittances (formula 22). Since monetary remittances are an unstable and unsystematic investment in the country's economy, they cannot secure a consistent economic effect for the Ukrainian industry.

$$GVA_t = \frac{1.518}{(0.952^*)} - \frac{0.422MIGR_{t-1}}{(0.241^*)} - \frac{0.392MIGR_{t-2}}{(0.183^{**})} + \frac{0.519GVA_{t-1}}{(0.285^*)},$$

$$R^2 = 0.535 \quad DW = 2.15$$

(21)

$$GVA_t = \frac{\frac{3.645}{(1.326^*)} - \frac{1.865TRANSF_t}{(0.669^*)}}{1 - \frac{0.519TRANSF_t}{(0.266^*)} - \frac{0.016TRANSF_t^2}{(0.135^*)}} \quad (22)$$

$$R^2 = 0.754 \quad AICC = -65.967$$

Modelling the dependence of the number of small business entities on migration shows the sinusoidal nature with a significant impact (0.969 by

the Chaddock scale). Meanwhile, the impact of remittances on the number of small business entities is not detected. Interestingly, the volumes of retail turnover will probably increase by 0.38 % at the growing remittances but they will decline by 0.42 % at the intensification of human resources migration (Table 2).

Table 2 The results of modeling the impact of migration processes on certain areas of economic development in Ukraine, 2005-2021

Areas	Econometric models	Impact	Elasticity coefficient
Small business	$UNITS_t = \frac{-0.911}{(0.094^*)} + \frac{0.447\cos\left(\frac{71.919MIGR_t}{(11.317^*)} - \frac{61.261}{(21.222^*)}\right)}{(0.124^*)}$ $R^2 = 0.774 \quad AICC = -33.604$	0.969	+1.36
Retail trade	$RETAIL_t = \frac{1.904}{(0.702^{**})} - \frac{1.409MIGR_t}{(0.796^{**})} - \frac{0.776MIGR_{t-2}}{(0.211^{**})}$ $R^2 = 0.922 \quad DW = 2.11$	0.907	-0.42
	$RETAIL_t = \frac{2.729}{(0.033^*)} + \frac{0.070\cos\left(\frac{21.740TRANSF_t}{(9.092^*)} - \frac{16.791}{(13.777^*)}\right)}{(0.049^*)}$ $R^2 = 0.621 \quad AICC = -79.073$	0.649	+0.38
Foreign trade	$FEA_t = \frac{0.799}{(1.771)} + \frac{0.676MIGR_{t-2}}{(0.219^{**})} - \frac{0.341MIGR_{t-4}}{(0.222^*)}$ $R^2 = 0.920 \quad DW = 1.92$	0.906	+0.45
	$FEA_t = \frac{1.679}{(0.999^{**})} + \frac{0.199TRANSF_t}{(0.276^*)} + \frac{0.402FEA_{t-1}}{(0.219^{**})}$ $R^2 = 0.770 \quad DW = 1.97$	0.966	+0.10

Source: authors' complication

The impact of migration processes on foreign trade is open to interpretation as there is a favorable impact of migration with the two-year time lag but an unfavorable one with the four-year lag. Meanwhile, the impact of remittances on foreign trade in Ukraine is favorable at 10 % statistical significance in the current dynamics and 5 % for a one-year-run lag.

## 4 Conclusion

Given the volume and stability character of remittance into the Ukrainian economy, as well as their anticyclical nature in the face of economic shocks, the development of the migration capital market in Ukraine will increase economic progress and become a driver of economic growth. The development of the migration capital market depends on the effectiveness of the implementation of special instruments for regulating remittances. It is the monitoring of remittance, the development of electronic retail payment systems, the reduction of remittances, ensuring wide access of migrants to the financial system, and stimulating the effective use of

ones. Thus, monitoring, including forecasting of remittances, will allow forming information and analytical database on the volumes, corridors, and channels of migration transfers, their nature (for example, cyclicity), as well as the causality of the interrelationships of remittance and poverty, social inequality, and economic growth. At the same time, digital transformations in the system of payment transactions require the development of new electronic platforms and the formation of the latest means of transfer, for example, to payment cards, mobile phone accounts, or online accounts.

The deepening of the digitalization of the economy and the widespread use of digitalization processes in the financial system, the diffusion of innovations into the banking sector and the business sector are drivers of the development of the migration capital market, which complementarily requires the introduction of appropriate amendments to the regulations on the management of labor migration, in particular the development of financial inclusion among migrants. The policy on the development of the migration capital market in Ukraine should be

formed in such main spheres as the management of migration transfers in the projection of the development of formal remittances, stimulating the effective use of migrant remittances, and targeting transfers to the real sector of the economy. The priority vectors of the progress of the migration capital market in Ukraine are increasing the investment capacity of migration capital, ensuring the target orientation of remittances to the small and medium-sized business sector, ensuring market stability (security of remittances), and developing financial inclusion.

Increasing the investment capacity of migration capital can be achieved through the creation of a favorable economic environment, the development of competitive advantages of the internal banking sector as a financial intermediary in the migration capital market, and the development of programs for the use of special bank deposits. The tools to achieve the investment goal are the development of programs to stimulate the attraction of remittances to strategic sectors of the economy, improve infrastructure in the sphere of digital financial services, increase the attraction of digital money transfers, provide high-interest rates on migrant deposit accounts, and permits to open bank accounts in foreign currency.

To ensure the target orientation of remittances to the small and medium-sized business sector, it is necessary to ensure a high level of sustainability in the business environment, including innovation, technological and industrial security, digital transformation of strategic sectors of the economy, and development of innovative infrastructure, convergence of the socio-economic environment of Ukraine and the main recipient countries of migration capital and harmonization of information and analytical support of state policy regulation of remittances of Ukraine and the EU, reform the customs system of the state.

The results of the econometric assessment of the impact of migration and remittance on the economic growth of Ukraine made it possible to confirm the thesis that there is a causality nexus, including sigmoidal, relationships between the research variables. The international migration intensity has a significant impact on the unemployment rate, reducing it, and remittances influence the average monthly nominal wage, the consumer price index, and the share of total household spending on food. Remittances have a direct significant positive impact on the financial and material processing of households, and incomes and affect the process of optimizing the structure of consumer spending. The connection of remittance with capital investments, the number of small units, and the share of those

business entities that carry out innovative activities are indirect. Remittances contribute to the development of the capital market, the growth of competitiveness of business, and the economy of Ukraine as a whole.

To achieve high rates of economic growth through the effective realization of migration potential, in particular the targeted use of remittances, it is determined that the policy on the development of the migration capital market in Ukraine should be formed in such main areas as the management of remittances in the projection of the development of formal money transfer channels, scaling up remittances, stimulating the effective use of migrant remittances and target direction of transfers to the real sector of the economy. The priority vectors of the progress of the migration capital market in Ukraine are increasing the investment capacity of migration capital, ensuring the target orientation of remittances to the small and medium-sized business sector, ensuring market stability, and developing financial inclusion.

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The authors have no conflicts of interest to declare that are relevant to the content of this article.

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