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THE ROLE OF REMITTANCES IN ECONOMIC GROWTH OF POLAND

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Purpose: The paper aims to investigate the relationship between inflow of remittances and economic development of Poland.
Design/methodology/approach: The study uses annual, secondary data spanning from 2004 to 2023, collected from Eurostat. The data gathered in the research were analysed using the ordinary least squares (OLS) and backward stepwise regression.
Findings: The empirical results of research show negative impact of annual remittances ratio to GDP on economic growth. Furthermore, the results for the control variables indicate that trade openness and investment have a positive and significant effect on economic growth.
Practical implications: Understanding variables that influence countries' economic growth is essential for designing appropriate economic policies, including debt management strategy. The research results can be used to formulate the policy measures which provide more efficient management of remittances.
Originality/value: Until now, little research has been done about the impact of remittances on economic growth of Poland. The study contributes to better understanding of implications of migration and dynamics of economic growth of Poland.
Keywords: remittances, economic growth, Poland, migration.
Category of the paper: Research paper**.**

1. Introduction

Global flows of remittances have significantly increased over recent decades and become an important source of foreign exchange in many countries (Giuliano, Ruiz-Arranz, 2005, p. 3). In contrast to other foreign capital flows, the remittances are more stable in the face of external shocks and countercyclical (Meyer, Shera, 2017, p. 149; Frankel, 2009). This stability helps to improve the income support of recipient households and prevent current account reversals (Ratha, 2013, p. 6).

The rise in the flow of remittances (increasing importance, rising magnitude of remittances in total international flows) caused an increased interest in their role in economic development of the country. Despite the growing research the results about relationship between growth and remittances are inconclusive. Until now, little research has been done about this issue in Poland. The relevance of debate on the role of remittances in financing the development process in Poland is crucial, as over the past two decades, after accession to European Union, the Poland’s remittance flows have increased from 3,8 bln EUR in 2004 to 6,3 bln EUR in 2023 (NBP, 2024) and have become an important source of foreign capital inflow.

The purpose of this paper is to study whether there is a link between remittances and economic growth in Poland. The article addresses the hypothesis that remittances have positive growth potential in Poland. For this purpose, data for the period from 2004 to 2023 have been used. The results can be important for defining the policy measures and providing more efficient management of remittances. The remainder of this article is organized as follows: the next section reviews the relevant literature. The third section outlines the model specification and econometric method. The results and discussions of the study are presented in the fourth section. The last section provides the conclusion of the paper.

2. An overview of the literature

Remittances are private transfers in the form of either cash or goods, send home by migrants to meet specific needs of the recipients (Ratha, 2005). Receiving transfers allows recipient households to spend more on consumption of goods, housing and children's education, health care and thus tend to reduce poverty. They may also increase savings, provide capital for small businesses and entrepreneurial activity or land investments (Ratha, 2005). The way in which remittances are used by households has important implications for economic growth of receiving countries (Dridi et al., 2019, p. 9). According to theory, remittances can positively affect economic growth through their direct implications for savings and investment in human and physical capital and indirect effects, through consumption expenditures (Meyer, Shera, 2017, p. 150).

Higher income levels of households, due to remittances, are usually associated with rising saving rates in developing countries (Dash, 2020, p. 10). Using data for Nigeria (Osei-Gyebi et al., 2023, p. 11) found that receiving remittances improve the propensity of individuals to save, especially if they are financially included. The higher savings of households receiving remittances in Vietnam were also confirmed by (Thanh, Kessels, Erreygers, 2022). If savings are channelled towards productive investment, they can expand the local production, improve the export base and lower unemployment. (Kapingura, 2018, p. 565) found that remittances are important determinant of investment in the Southern Africa Development Region. They help to overcome the limits of the domestic capital formation allowing the countries for higher rate of investment than could be generated by domestic savings. Results of (Keho, 2024) suggest that some of the migrants may send remittances home for investment purposes in perspective of their return. This finding aligns with (Dash, 2020, p. 21), who reported a positive effect of remittances on domestic investment in South Asian countries in the short term, as well as in the long run. This indicates that remittances are used not only for consumption purposes but also for investment activities such as human and physical capital development.

Remittances may also have a favourable impact on growth through their effect on the recipient economy's financial system (Chami et al., 2008, p. 59). Yaseen (2012) shows a positive correlation between remittances and the development of financial systems in developing or emerging countries, mostly in the Middle East and North Africa. Aggarwal, Demirgüç-Kunt, Martínez Pería (2011) show that remittances are strongly associated with greater banking breadth and depth, increasing the number of branches and accounts per capita and the ratio of deposits to GDP. It is worth noting that according to (Giuliano, Ruiz-Arranz, 2005, p. 30) impact of remittances on growth varies across levels of financial development in the recipient countries. Economies with a relatively underdeveloped financial system experience a greater impact what implies that remittances can also increase investments by substituting for the lack of financial development and improving credit availability. In countries with limited access to credit, remittances can encourage entrepreneurial activities by providing financial resources for new investments (Piras, 2023, p. 2559). Several studies have explored the impact of immigrants' remittances on entrepreneurial activities and have found a positive correlation between remittances and establishment of new firms (Yavuz, Bahadir, 2022, p. 1943). The inflow of remittance can also positively impact investment by increasing supply of foreign exchange that is used for import. This is especially important in countries where domestic investment is dependent on imported capital and intermediate goods.

A significant part of the relevant literature argues that majority of remittances received by developing countries are spent on consumption of goods and services, housing and land, instead of productive investment purposes that would contribute to long run growth (Giuliano, Ruiz-Arranz, 2005, p. 3). However, remittances used for consumption may have a positive impact on the economy, by stimulating the demand for goods and services. Lack of effective demand for local goods and services imposes limits on economic growth in many developing countries. If part of remitted funds is spent on domestically produced goods or services, it can determine the growth of investment in order to increase production, income and employment (Qutb, 2022, p. 159). The positive effect of remittances may spread to the rest of economy, if these flows increase consumption in sectors that have strong linkages with the rest of the economy. Thus, many sectors not directly benefiting from remittances expenditures would nonetheless experience an increase in demand for their output inducing investment and fostering employment (Dridi et al., 2019, p. 6).

Another channel through which remittances may have a positive impact on growth is by the facilitation of human capital formation (Chami et al., 2008, p. 59). Spending remittances on consumption of food, education or health services might increase the level of investment in human capital. Recent studies have proved a positive and significant correlation between remittances and human capital accumulation in some developing countries (SeyedSoroosh, 2018; Khan, 2024).

In the empirical literature, the hypothesis that remittances are able to stimulate the economic growth of the receiving countries was examined by Kumar (2013), who confirmed that remittances have both, short run and long run effects on the growth of Guyana. Another study which supports for positive influence of remittances on economic growth is (Rausser et al., 2018) that found that remittances had impact on economic development in Lithuania, Latvia and Estonia. Results of (Cooray, 2012) suggest that remittances have a positive effect on economic growth when education levels and financial sector development are comparatively high. (Goschin, 2014) in a sample of 10 economies in Central and Eastern Europe for 1996-2011 found a positive impact of remittances on both absolute and relative GDP growth. Meyer, Shera (2017, p. 147) using panel data set of six Balkan countries during the period 1999-2013 confirmed that remittances have a positive impact on economic growth and that this impact increases at higher levels of remittances relative to GDP.

However, remittances can potentially have negative economic effects. A remittance-induced demand can lead to inflation, if local manufacturers are unable to increase supply. Narayan P.K., Narayan S., Mishra (2011, p. 923) examined the determinants of inflation for 54 developing countries and found evidence, that remittance inflows increased inflation during the research period. Another risk posed on economy by inflow of remittances is the possibility of exchange rate appreciation and lower export competitiveness and contraction of tradable sector, i.e. the Dutch disease phenomenon, which is detrimental to economic growth (Acosta, Lartey, Mandelman, 2009). Maduka, Madichie, Ekesiobi (2019, p. 12) provide evidence of the Dutch disease effect of remittance inflows in Nigeria. The study shows that a percentage increase in remittance inflows is expected to deteriorate trade balance by about 52% over the long run. Remittances can also have negative impact on growth in recipient countries by reducing incentives to work and reducing labour supply or labour force participation (Dridi et al., 2019, p. 7). Chami (2018) points to an increasing evidence of a remittance trap, meaning situation, when an economy is trapped on a lower-growth, with increased emigration and dependency on remittances.

The existence of a negative relationship between remittances and growth was revealed by (Chami, Fullenkamp, Jahjah, 2005, p. 75), that found that remittances do not serve as a source of economic growth in recipient countries, suggesting that they are “compensatory transfers”, that provide support to poor families and should not be considered equivalent to profit-driven capital flows. A similar conclusion can be found in (Qutb, 2022, p. 168) who identified a long term negative impact of remittances on development of Egyptian economy growth, suggesting that a large proportion of these inflows stimulate consumption rather than investment in the economy. A study done by (Tung, 2018, p. 204) found that remittances have a negative and statistically significant impact on domestic investment. The results suggest that remittances may be used to increase the household consumption in the Asia-Pacific region. Study done by (Karagöz, 2009) investigated relationship between foreign exchange sources and economic growth (GDP per capita) in Turkey and also provided evidence that remittances had negative impact on growth. According to (Barajas et al., 2009, p. 6) the more highly integrated an economy is with world financial markets and the more highly developed the domestic financial system, the less likely it is that remittance receipts will stimulate investment by relaxing credit constraints. Hosny (2020) using data over 2010-2015 for 72 developing studied the implications of the geographic concentration of the sources of remittances and found that large remittances when combined with high concentration from source countries can aggravate economic volatilities in recipient countries. Among the studies conducted in the countries of Europe the one that supports for the negative impact of remittances on economy is (Gjini, 2013, p. 201). The author investigated the role of remittances on economic growth in Central and Eastern European countries (Albania, Bulgaria, Croatia, Czech Republic, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Slovakia, and Slovenia) using balanced panel data covering the period from 1996-2010 and found that an increase in remittances by 10% decreases the output by about 0.9%. Another study is (Cismaș, Curea-Pitorac, Vădăsan, 2020, p. 1091), that examined the impact of remittances on Romania' economy and found that although the inflow of remittances was more stable over the business cycle than other private flows, they did not stimulate significantly economic activity.

3. Research methods

In line with the objective of this study, to empirically examine the relationship between remittances and economic growth in Poland, secondary, annual data, spanning from 2004 to 2023, collected from the Eurostat were used. The selection of period is based on the availability of data. The ordinary least squares (OLS) regression and backward stepwise regression model were employed for the study. Based on the research that have been discussed in the literature, the basic model estimated in this study takes the following form:

$$\ln GDP_t = \alpha_0 + \alpha_1 \ln REM_t + \alpha_2 \ln FDI_t + \alpha_3 \ln INV_t + \alpha_4 \ln TROPEN_t + u_t,$$

where (at time t):

$\ln GDP_t$ is the natural logarithm of real GDP per capita,

$\ln REM_t$ is the natural logarithm of remittances inflow as a percentage of GDP,

$\ln FDI_t$ is the natural logarithm of foreign direct inflow as a percentage of GDP,

$\ln INV_t$ is investment rate calculated as a gross fixed capital formation in relation to GDP,

$lnTROPEN_t$ is the natural logarithm of trade openness measured by summing of imports and exports as a percentage of GDP,
u_t is the error term.

Result of descriptive statistics (the average, standard deviation, largest and smallest value of independent and control variables) of selected variables is provided in Table 1.

Table 1.
The descriptive statistics of selected variables

Variables	Mean	Std. Deviation	Minimum	Maximum
GDP	10710,50	2298,463	7250,000	14750,00
REM	1,50	0,469	0,836	2,45
FDI	3,63	1,462	0,214	6,20
INV	19,35	1,732	16,400	23,10
TROPEN	46,34	8,435	34,200	62,90

Source: Author's computation using STATISTICA version 13Software.

4. Results of the research and discussion

The estimated regression results presented in Table 2 reflect negative impact of annual remittances ratio to GDP on economic growth in Poland. The estimated regression coefficient indicates that one percent increase in remittances as percent of GDP causes a decline in real GDP per capita by 0,24 percent per year. The main hypothesis of the paper about positive influence of the remittances on economic growth is not true in case of Poland. These results seem to support the findings of other studies like (Chami, Fullenkamp, Jahjah, 2005; Qutb, 2022; Gjini, 2013), that also found a negative and significant impact of remittances on economic growth.

Similar to the results in (Bruckner, Lederman, 2012), the findings reveal that trade openness positively and significantly affects the GDP per capita in Poland. This indicates that greater openness to international trade leads to an increase in the real GDP per capita.

Table 2.
The OLS estimation results of modelling Poland's GDP in the period 2004-2023

	R- squared 0,98416488 Adjusted R-squared 0,97994219 F(4,15) = 233,07 p < ,00000 standard error: 0,03047			
N = 20	**Coefficient**	**Std. Error**	**t-Statistic**	**P -value**
Constant	4,679148	0,544205	8,59814	0,000000
lnREM	-0,248086	0,065020	-3,81555	0,001689
lnFDI	0,015672	0,009886	1,58533	0,133743
lnINV	0,402115	0,115355	3,48590	0,003318
lnTROPEN	0,905701	0,102889	8,80273	0,000000

Note. For variables definitions and sources see section 3. The p-values are in fact very small and not equal to 0, which is due to rounding to four decimal places. N – number of observations. Significance was tested for $\alpha = 0.05$.

Source: Author's computation using STATISTICA version 13Software.

Moreover, the results reveal a significant positive effect of investment on economic growth, consistent with several economic growth theories, which point to the prominent role of domestic investment as an engine of growth (Keller, Yeaple, 2009). Foreign direct investment has a positive sign, however this impact is statistically insignificant. At the theoretical level it has been argued that FDI is growth enhancing. However, existing empirical studies do not appear to find a strong relationship between the two variables (Makiela, Ouattara, 2018). The model is meaningful as a whole (F statistic is 233,07) and has a strong explanatory power (R-square is 0.9799).

The results of modelling GDP based on the backward stepwise regression model confirm the findings of ordinary least squares (OLS) regression (Table 3). As with the previous method, there is a significant positive relationship between trade openness, investment rate and economic growth and negative in case of remittances.

Table 3.
The results of backward stepwise regression modelling Poland's GDP e in the period 2004-2023

	R- squared ,98151168 Adjusted R-squared ,97804512 F(3,16) = 283,14 p < ,00000 standard error: 0,03188			
N = 20	**Coefficient**	**Std. Error**	**t-Statistic**	**P -value**
Constant	4,709082	0,569016	8,27583	0,000000
lnREM	-0,233257	0,067318	-3,46503	0,003191
lnINV	0,380054	0,119805	3,17226	0,005912
lnTROPEN	0,918230	0,107326	8,55550	0,000000

Note. For variables definitions and sources see section 3. The p-values are in fact very small and not equal to 0, which is due to rounding to four decimal places. N – number of observations. Significance was tested for $\alpha = 0.05$.

Source: Author's computation using STATISTICA version 13 Software.

5. Conclusions

Poland has experienced a rising inflow of remittances due to increased emigration over the past two decades. Despite their potential to increase the standards of living of the family left home, they might not translate into economic growth. The paper attempts to determine the impact of remittances on economic growth of Poland. In order to empirically examine this relationship two models were employed for the study: the ordinary least squares (OLS) regression and backward stepwise regression.

Notwithstanding the importance of remittances in foreign capital inflows to Poland, the relationship between remittances and economic growth has not been extensively studied. The article contributes to the existing literature by providing evidence of negative impact of remittances to GDP per capita in Poland. In line with other research (Gjini, 2013), this finding could be explained, that remittances in Poland are used mostly for consumption and to increase the standard of living for family in the home country (food, durable goods, health care, housing) of families left home rather than using it for profit-driven investments. Furthermore, economic activity in Poland could be reduced due to unfavourable effects of emigration on domestic labour markets in same sectors. In addition, the emigration of skilled workers contributes to the so-called "brain drain", which leads to a shortage of key skills needed to create and implement innovations. As a result, some sectors of the economy may experience a lack of human resources capable of initiating R&D projects, which reduces the overall level of innovation. However, it would be useful to carry out the study in the future and to extend its scope in order to analyze the reasons of negative role of remittances in economic growth in Poland. In addition, the results for the control variables indicate that trade openness and investment have a positive and significant effect on economic growth. The limitation of the study is that we investigated the remittances that enter into Poland only through official channels, whereas their real size may probably be higher due to informal flows.

The results indicate that there is a need to design policies that ensure that remittances will support economic growth. A policy suggestion is that, an economy in order to grow needs investment and government should provide incentives to channel remittances into investment in local and regional production. A good solution would be to create entrepreneurship opportunities and improve the investment climate. Equally important is the need to encourage return of emigrants with accumulated capital, international contacts and knew knowledge to Poland. Government should provide support for returning emigrants willing to invest in home country.

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