NEVŞEHİR HACI BEKTAŞ VELİ ÜNİVERSİTESİ
Ara, bul.

Sosyal Bilimler Enstitüsü Dergisi
Cilt: 14 Sayı: 4 Aralık 2024
E-ISSN: 2149-3871

THE INTERNATIONAL REMITTANCES AND FINANCIAL DEVELOPMENT NEXUS IN CIVETS COUNTRIES: EVIDENCE FROM A PANEL QUANTILE REGRESSION APPROACH[1]

CIVETS ÜLKELERİNDE ULUSLARARASI İŞÇİ DÖVİZ GELİRLERİ VE FİNANSAL GELİŞME İLİŞKİSİ: PANEL KANTİL REGRESYON YAKLAŞIMINDAN KANITLAR

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Geliş Tarihi:
04.04.2024

Kabul Tarihi:
25.09.2024

Yayın Tarihi:
29.12.2024

Anahtar Kelimeler
Uluslararası İşçi Dövizleri
Finansal Gelişme
Panel Kantil
CIVETS Ülkeleri

Keywords
International Remittances
Financial Development
Panel Quantile
CIVETS Countries

ÖZ

Uluslararası işçi dövizleri, gelişmekte olan ülkeler için çok önemli finansal kaynaklardır. Küreselleşme sayesinde uluslararası işçi dövizleri dünya çapında artmış ve finansal gelişmenin itici gücü haline gelmiştir. Bu çalışma, 2000-2022 döneminde Kolombiya, Endonezya, Vietnam, Mısır, Türkiye ve Güney Afrika'yı içeren CIVETS ülkeleri için uluslararası işçi dövizlerinin finansal gelişme üzerindeki rolünü incelemektedir. İlgili literatürden hareketle finansal gelişme göstergesi olarak geniş para arzı ve özel sektöre sağlanan yurtiçi krediler kullanılarak iki farklı model tahmin edilmiştir. Genelleştirilmiş panel kantil regresyon sonuçları, işçi dövizlerinin Q06 kantili hariç tüm kantillerde geniş para arzını pozitif; Q01-Q04 kantillerinde özel sektöre sağlanan yurtiçi kredileri pozitif ve Q07-Q08 kantillerinde ise özel sektöre sağlanan yurtiçi kredileri negatif etkilediğini göstermektedir. Bu bağlamda elde edilen bulgular, CIVETS ülkelerinde işçi dövizlerinin finansal gelişme üzerinde etkili olduğunu, özellikle para politikası üzerinde daha fazla pozitif etki yarattığını ve özel sektöre sağlanan yurtiçi kredilerine etkisinin değişken olduğunu ortaya koymaktadır.

ABSTRACT

International remittances are crucial financial sources for developing countries. Thanks to globalization, international remittances flows have increased worldwide and become the driving force of financial development. This paper investigates the role of international remittances on financial development for CIVETS countries, including Colombia, Indonesia, Vietnam, Egypt, Türkiye, and South Africa, over the period 2000-2022.

Based on the relevant literature, two different models were estimated using broad money supply and domestic credit to the private sector as financial development indicators. The generalized panel quantile regression results show that remittances positively affect broad money supply in all quantiles except Q06, have a positive effect on domestic credit to the private sector in quantiles Q01-Q04, and have a negative effect on Q07-Q08. In this context, the findings reveal that remittances are effective for financial development in CIVETS countries. They especially have a more positive effect on monetary policy, and their effect on domestic credit to the private sector is changeable.

DOI: https://doi.org/10.30783/nevsosbilen.1465388
Atıf/Cite as: Cengiz, O., Demir, Ö., & Nas, Ş. (2024). The international remittances and financial development nexus in civets countries: Evidence from a panel quantile regression approach. *Nevşehir Hacı Bektaş Veli Üniversitesi SBE Dergisi, 14*(4), 1843-1858.

[1] This paper is an extended version of the abstract titled **"The Impact of International Remittances on Financial Development for CIVETS Countries: Role of Trade Openness and Foreign Direct Investment"** presented at the XV International Forum of Finance and Banking held in Warsaw, Poland on 16-17 November 2023.

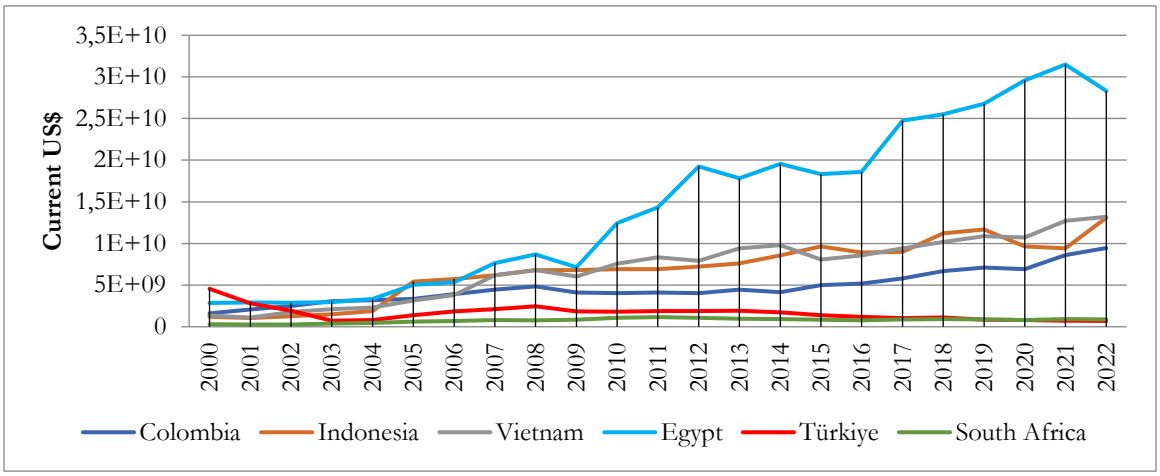
Introduction

The significant growth in remittances to developing countries has attracted the attention of researchers (Kakhkharov, 2018). International remittances are an essential source for developing countries. There has been a dramatic increase in international remittance flows to developing countries in recent years. Ratha et al. (2023) reported that the global international remittances flows are estimated at around $860 billion as of 2023. Most global remittances go to low- and middle-income countries (LMICs). According to the latest data, remittance flows to the LMICs have reached approximately $669 billion in 2023 (Ratha et al., 2023). In the current literature, it is indicated that remittances are second largest external fund for developing countries following foreign direct investment (FDI) (Karikari et al., 2016). The far-reaching effects of remittances are important considerations that extend beyond the immediate focus of remittances themselves. From a macroeconomic perspective, remittances can promote savings, investment, economic growth, and the financing of trade deficits and debts.

The influence of remittances on financial development (FD) is unclear, and various theoretical explanations exist in this regard. Along with globalization, it becomes easy for workers to send remittances to their own countries. However, it is sometimes recognized that remittances cause a waste of resources and negatively affect economic growth by discouraging working and inflating speculative expenditure (Brown et al., 2013). However, scholars have recently attempted to investigate whether remittances foster FD in developing countries. Theoretically, there are opposite views on the effects of remittances on FD. On the one side, called the complementarity hypothesis, it is assessed that remittances flow through formal ways that banks in the economy can obtain to extend financial instruments and opportunities for recipients. Hence, the inflow of remittances encourages FD (Aggarwal et al., 2011; Karikari et al., 2016; Akçay, 2020). An increase in remittances can lead to banks offering additional funds, resulting in a credit increase. As a result, individuals' demand for bank credit also increases, spurring the financial sector (Kakhkharov & Rohde, 2020). Therefore, remittances are expected to positively affect the depth and widening of the financial sector by incentivizing external funds for banks to provide credit for households (Sharma, 2016). The contributing effects of remittances on FD are mainly investigated in the banking sector and credit channel. However, as an important indicator of FD, broad money has a crucial role in developing countries. The broad money measures the depth of the financial sector and the size of the economy. A country with a high level of broad money means having a deeper financial sector and a liberalized financial sector, which attracts high capital inflows (Rehman & Hysa, 2021). In this context, remittances are an important channel that affects monetary policy. In a fixed-exchange regime, the inflow of remittances causes the exchange rate to be appreciate, and to keep the exchange rate at the targeted level, the monetary authorities expand the money supply (Kim, 2019).

In contrast, the substitutability hypothesis or dampening effect indicates that the inflow of remittances causes a reduction of individuals' credit demand from banking or other financial institutions. Remittances undertake the role of banking credits or become a substitution for credit, resulting in constant FD (Azizi, 2020; Akçay, 2020). However, remittances can flow through informal channels instead of formal transfer ways. When flowing by informal channels, the remittances constrain FD in receiving countries (Brown et al., 2013). Hence, more empirical findings on the relationship between remittances and FD for developing countries are required. The current study concentrates on the impact of remittances on FD for a panel sample of CIVETS (Colombia, Indonesia, Vietnam, Egypt, Türkiye, and South Africa) using annual data covering 2000-2022.

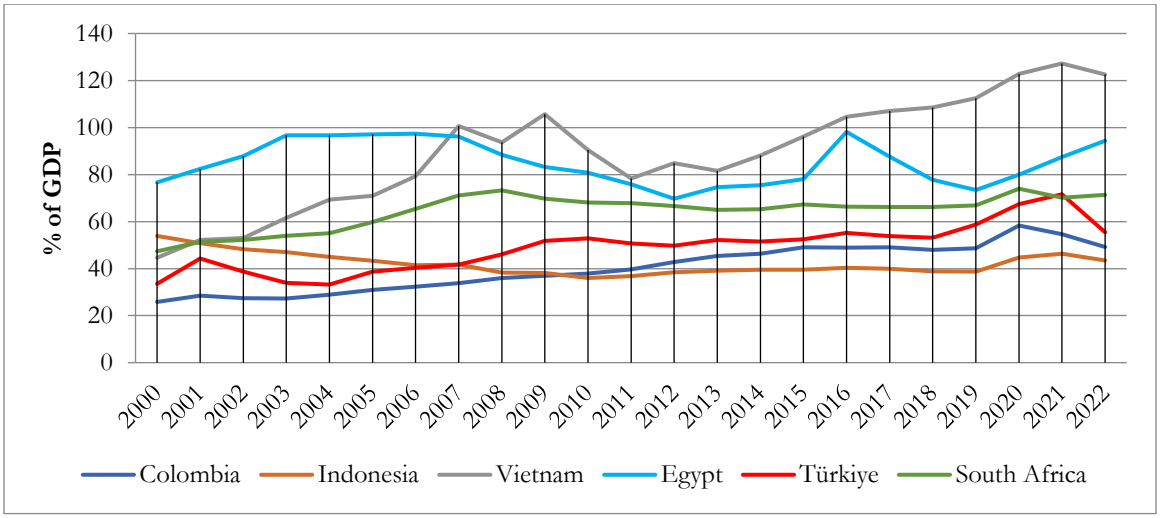
The acronym of CIVETS was launched by Robert Ward from the Economic Intelligence Unit. The main characteristics of CIVETS are that they have similar economic aspects (Saleem et al., 2016) and they have sophisticated financial systems and a young population (Allen, 2011). In addition, CIVETS countries receive a dramatic level of remittances.



Graph 1. Received remittances in CIVETS countries

Source: World Bank (2024)

As highlighted in Graph 1, international remittances inflow to CIVETS countries has increased from 2000 to 2022. CIVETS countries received more than $11 billion in international remittances in 2000, reaching $66 billion in 2022, an increase of more than 5.5 times. Egypt is the highest receiving country among CIVETS, with more than $28 billion in 2022, followed by Vietnam with $13.2 billion and Indonesia with $13 billion. The lowest receiving countries are Türkiye and South Africa, which have $6.9 billion and $8.72 billion, respectively.



Graph 2. Broad Money (% of GDP) in CIVETS countries

Source: World Bank (2024)

Another feature of the CIVETS countries is that they experienced an important transformation in the financial sector. Most CIVETS countries have liberalized their financial sector to integrate with the world financial system. To evaluate the financial degree in CIVETS countries, it is possible to investigate Graph 2. As shown in that graph, overall, the share of broad money over GDP has risen in all CIVETS countries during 2000-2022. Vietnam and Egypt have the highest broad money share among CIVETS countries, followed by South Africa, Türkiye, Colombia, and Indonesia. It should be noted that however broad money has risen in CIVETS countries, it has fluctuated trend, indicating that it can be affected by macroeconomic and international economic conditions.

The arguments presented above lead to the following question: Is there a relationship between personal remittances and FD in CIVETS countries? The main contribution of the current paper is twofold. First, to the best of our knowledge, this is the first study to analyze the relationship between remittances and FD in CIVETS

countries. Second, methodologically, we employ the panel quantile regression technique, which allows controlling for unobserved country heterogeneity and providing empirical results between the dependent variable and regressors by quantiles.

The rest of the paper is structured as follows: Section 2 briefly summarizes the empirical studies. Section 3 introduces the data, model, and the methodology. Section 4 draws conclusions and policy recommendations based on the empirical findings.

Literature Review

Financial globalization is an essential component of globalization. Financial globalization improves the functioning of the financial system by increasing access to funds and enhancing financial infrastructure. In particular, developing countries are increasingly integrating with the global financial system to close their capital shortfall. With financial development (FD), international remittances have become more widespread across countries and crucial for economic growth (Bhattacharya et al., 2018; Dam et al., 2022). International remittances can remarkably promote household savings and can be channeled by financial institutions to finance domestic investment projects. Therefore, the financial system promotes economic growth by ensuring the efficient allocation of capital, which enhances economic productivity (Donou-Adonsou et al., 2020; Pal, 2023; Pal & Mahalik, 2024). Therefore, there is extensive literature analyzing the impact of remittances on FD. For instance, Mushi (2024) employed Fully Modified Ordinary Least Square (FMOLS) and Dynamic Ordinary Least Square (DOLS) methods to investigate the impact of international remittances and FD on economic growth in Tanzania. The results of the study indicate that international remittances have a positive effect on economic growth and social development. Keho (2024) scrutinized the relationship between international remittances, FD, and domestic investment. The Pooled Mean Group (PMG) estimator's results prove that remittances and FD positively affect domestic investment over the period 1975-2019. Pal & Mahalik (2024) utilized the PMG estimator to analyze the impact of foreign direct investment (FDI), institutional quality, and remittances on the FD for 29 Sub-Saharan African (SSA) countries for the 1984-2019 period. The findings of the study prove that remittances, FDI, and institutional quality decrease FD. Biyase & Naidoo (2023) applied Autoregressive Distributed Lag (ARDL) and Non-Linear Autoregressive Distributed Lag (NARDL) methods to analyze the symmetric and asymmetric effect of remittances on FD in South Africa for the 1980-2017 period. The findings of ARDL show that remittances have a positive impact on the FD. NARDL results show that remittances have positive and negative shocks on FD. Accordingly, an increase in remittances promotes FD while a decrease in remittances reduces it. Similarly, Özyakışır et al. (2023) used the NARDL method to investigate the nexus between remittances, economic growth, and FD in Türkiye over the 1974-2019 period. They stated that there is an asymmetric relationship between variables. Their findings proved that remittances and economic growth support FD in Türkiye. Prempeh et al. (2023) investigated the relationship between remittances and FD in Ghana for the 1980-2019. They found that remittances positively affect FD both in the long-run and short-run. Another analysis for Ghana is studied by Abdulai (2023). The author used the ARDL approach and stated that FDI and remittances increase economic growth in Ghana. In the ARDL analysis employed by Alshubiri & Jamil (2023) suggested that, in the short-run, the outflow of remittances stimulates FD in the Gulf Cooperation Council (Bahrain, Oman, and Saudi Arabia) over the period of 1985-2020. But in the long-run outflow of remittances adversely affects FD in Saudi Arabia and Oman. Pal (2023) used ARDL model to examine the relationship between remittances and FD in China and India over the period 1984-2018. The author suggested that there is a co-integration relationship between variables in the long-run and that remittances positively affect FD. Furthermore, Ikpesu (2023), used the PMG and Mean Group (MG) estimators to examine how FD influences remittances in 27 SSA counties for the 2000-2020 period. The results of their analyses show that FD is the main driver of the inflow of remittances.

Das & McFarlane (2022) empirically studied the impact of remittance inflow on FD in Jamaica for 1980- 2017. They asserted that there is a U-shaped relationship between remittances and FD. In this context, the ARDL results applied by the authors showed that when remittances increase negatively affects FD, but after reaching a certain threshold point it positively affects FD. Akçay (2020) affirmed that a similar situation (U-shaped) is valid in Bangladesh over the period 1980-2015. Bindu et al. (2022) investigated the impact of remittances on FD, covering the period of 1990-2019. The empirical results proved that remittances have a positive influence

on FD in BRICS. Also, they stated that economic growth and trade openness (TO) promote FD. Adekunle et al. (2022) researched the nexus between remittances and FD in 53 African countries for the 1986-2017 period by employing PMG and MG methods. They suggested that remittances positively affected FD. But Kacou et al. (2022)'s study revealed that remittances negatively affected FD in 22 SSA countries in the 2004-2017 period. Haouas et al. (2022) investigated the causality relationship between remittances and FD in MENA countries over the period of 1980-2015. The authors assessed a one-way relationship running from remittances to FD.

Hussaini et al. (2021) inquired into the impact of remittances on financial sector development in Nigeria for the 1986-2019 period. The results of the ARDL model showed that remittances positively impact domestic credit to the private sector. Basnet et al. (2021) applied the PMG/ARDL method to investigate the relationship between remittance and FD in South Asia countries. The study's findings indicate that remittance promotes the domestic credit to private sector in the 1980-2027 period. Akçay & Karabulutoğlu (2021) utilized the PMG/ARDL method to reveal the effects of remittances on FD in North African countries spanning the period 1980-2015. They concluded that remittances have a positive impact on FD. Likewise, Özyılmaz et al. (2021) applied the ARDL approach for Türkiye. The study's results showed that remittances positively affect FD. However, it's effect on FD is low. Kim (2021) inquired into the influence of remittances and institutional quality on FD in 46 developing countries. The findings of study clarified that remittances and institutional quality encouraged FD in the 1996-2016 period. Donou-Adonsou et al. (2020), in their empirical analysis of 10 SSA countries from 1980 to 2026, stated that remittances increase FD in the long run. Concurrently, their findings showed a bidirectional causality relationship between remittances and FD. Pandikasala et al. (2020) studied determinants of remittances in India, covering the period 19992Q1-2016Q4. The results of ARDL demonstrated that, both in the long-run and short-run, FD positively affects remittances. According to Alawneh (2020), the results of the vector autoregression model indicate that remittances have a positive effect on the money supply in Jordan from 2000 to 2018. Kakhkharov & Rohde (2020) empirically analyzed the impact of remittances on FD in transition economies for the 1996-2013 period, and the results of the Generalized Method of Moment (GMM) prove that remittances have a positive and significant effect on FD. Azizi (2020) employs fixed effects estimators to explore the relationship between remittances and FD in 124 developing countries. The findings of the study verified that remittances increase bank deposits, domestic credit to the private sector, and liquid liabilities. Therefore, the author claimed that remittances promote FD and reduce poverty. Fromentin (2018) used Granger causality and GMM methods to analyze the effects of remittances on FD. The paper's results indicated a bidirectional causality relationship between remittances and financial sector development (Bank/GDP, M2/GDP). In addition to this, the results of GMM proved that remittances develop financial sector development. Bhattacharya et al. (2018) applied the GMM method for 57 high remittances recipient economies over the period 1992-2012. According to the results, remittances positively affect FD. Fromentin (2017) winnowed the relationship between remittances and FD in 102 countries, covering the period of 1974-2014. The findings of PMG registered that remittances and economic growth encourage money supply and credit. Also, author stated that the effects of remittances on FD are higher in low-income economies. Williams (2016) evaluated the impact of remittance on FD in SSA countries for 1970 and 2013. According to system GMM results, remittances have a positive effect on FD. The author also suggested that democratic institutions do not statistically mediate the impact of remittances on FD. The findings of the paper conducted by Karikari et al. (2016) showed that remittances positively affect FD to a certain point and that better financial systems stimulate remittances in 50 African countries over the 1990-2011 period. Khodeir (2015) applied vector error correction (VECM) model to explore the relationship between remittances, real per capita income, money supply and oil price in Egypt for the 1980-2012 period. According to the study's findings, remittances significantly associated with money supply in the long-run and short-run. Bettin & Zazzaro (2012) argued that the effect of remittances has an uncertain impact on economic growth in 66 developing countries for 1991-2005 period. However, the authors emphasize that, only in countries with an efficient banking sector, remittances have a positive impact on economic growth. Finally, Aggarwal et al. (2011) used the GMM model to investigate the effect of remittances in 109 developing countries over the period of 1975-2007. They claimed that remittances have a positive impact on FD, economic growth, and reduce poverty. Upon reviewing the literature, it appears that extensive work analyzes the nexus between remittances and FD. However, studies for CIVETS (Colombia, Indonesia, Vietnam, Egypt, Türkiye, and South Africa) countries are limited. For this reason, this paper is thought to contribute to the existing literature.

Methodological Framework

Data Description and Model Specification

This study examines the impact of international remittances on FD of CIVETS countries-Colombia, Indonesia, Vietnam, Egypt, Türkiye, and South Africa-for the period 2000-2022. For this purpose, the relationship between international remittances, trade openness, economic growth, foreign direct investment, and financial development (as broad money, % of GDP, and domestic credit to private sector by banks, % of GDP) is modeled. Following the relevant literature, we performed the broad money and domestic credit to private sector as a proxy for FD. Thus, the theoretical models are as follows:

Model I:

$$\mathrm{MON_{it}} = \mathrm{f(RMT_{it}, TO_{it}, GDP_{it}, FDI_{it})} \quad [1]$$

Model II:

$$\mathrm{CRD_{it}} = \mathrm{f(RMT_{it}, TO_{it}, GDP_{it}, FDI_{it})} \quad [2]$$

In Eq. [1] and Eq. [2], MON is broad money, CRD is domestic credit to the private sector by banks, RMT is international remittances, TO is trade openness, GDP is gross domestic product per capita, and FDI is foreign direct investment net inflows. Table 1 compiles the study's variables, together with their brief definitions, units, and data sources.

Table 1. Data Description

Variable	Definition	Measurement	Source
MON	Financial development	Broad money, % of GDP	WB-WDI
CRD	Financial development	Domestic credit to private sector by banks, % of GDP	WB-WDI
RMT	International remittances	Personal remittances, received, current US Dollar	WB-WDI
TO	Trade openness	Share of exports plus imports, % of GDP	WB-WDI
GDP	Economic growth	Real gross domestic product per capita, 2015 constant US Dollar	WB-WDI
FDI	Foreign direct investment	Share of foreign direct investment net inflow % GDP in a given year	WB-WDI

Source: Authors' compilation.

Due to the negative values for the FDI variable, we constructed semi-logarithmic empirical forms for Model I and Model II that are shown as follows:

Model I:

$$\mathrm{lnMON_{it}} = \beta_0 + \beta_1 \mathrm{lnRMT_{it}} + \beta_2 \mathrm{lnTO_{it}} + \beta_3 \mathrm{lnGDP_{it}} + \beta_4 \mathrm{FDI_{it}} + \mu_{it} \quad [3]$$

Model II:

$$\mathrm{lnCRD_{it}} = \beta_0 + \beta_1 \mathrm{lnRMT_{it}} + \beta_2 \mathrm{lnTO_{it}} + \beta_3 \mathrm{lnGDP_{it}} + \beta_4 \mathrm{FDI_{it}} + \mu_{it} \quad [4]$$

In Eq. [3] and Eq. [4], i and t stand for country and years, respectively, β is the coefficient of the parameters, and μ_{it} is the error term.

Empirical Strategy

The empirical strategy of this study is threefold. In the first stage, we look at the descriptive statistics, which provide a summary of the panel data. In the second stage, the preliminary tests are applied to the panel data. In this step, cross-sectional dependence (CSD), slope heterogeneity, and unit root tests are applied respectively. In the third stage, long-run coefficients are estimated through the panel quantile regression estimation technique. Figure 1 illustrates the empirical strategy of our study.

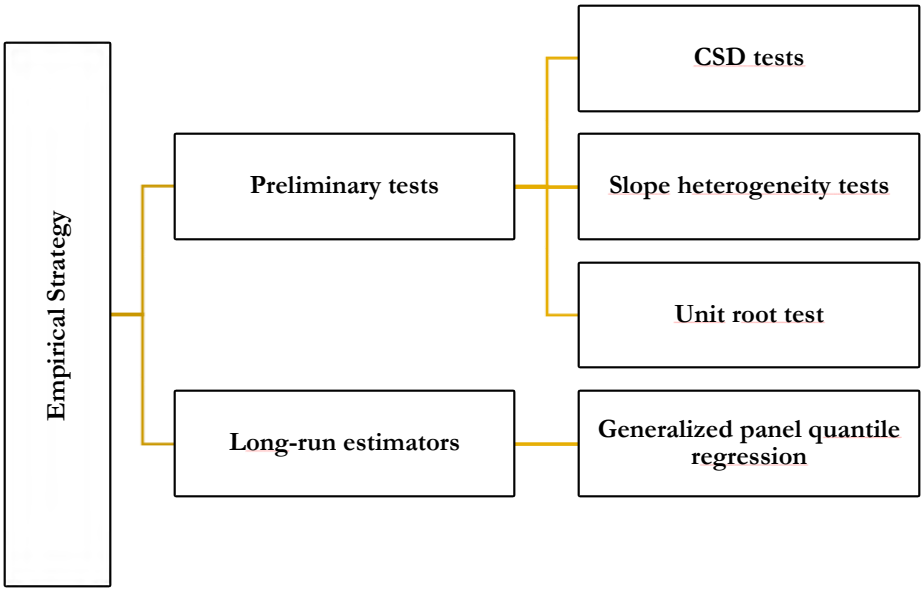


Figure 1. The empirical strategy of the study
Source: Authors' compilation.

As a preliminary analyses, firstly for examining the CSD among the series, we perform Breusch & Pagan's (1980) LM test, Pesaran's (2004) scaled LM and CD tests, and Baltagi et al. (2012) bias-corrected scaled LM to check the presence of the CSD. Secondly, for testing slope homogeneity we use Pesaran & Yamagata's (2008) modified delta tilde test. Thirdly, for finding the variables' integration levels were use Pesaran's (2007) CIPS unit roots, which consider cross-sectional dependence.

Researchers dealing with complex datasets often find the generalized panel quantile regression approach to be a valuable tool due to its numerous advantages. Panel quantile regression offers researchers the freedom to model interactions between variables across a range of quantiles, which is one of its key advantages. When there is variation in the relationship between variables throughout the distribution, this can be especially helpful (Ashraf et al., 2023).

Quantile regression, developed by Koenker & Bassett (1978), is a robust technique when the error term is not normally distributed and provides more efficient results compared to traditional linear regression techniques. In traditional linear regression estimators, the error term is assumed to be normally distributed, and variances are homogeneous. However, quantile regression does not require error terms to be normally distributed, and there is no assumption of variance structure (Nzama et al., 2023). Moreover, this technique is useful for providing different coefficients rather than a single coefficient in the model. This enables the estimation of coefficients at various quantiles, including low, medium, and high (Elmonshid et al., 2024).

Based on Eq. [3] and Eq. [4], we can develop a generalized panel quantile regression model as follows:

Model I:

$$\mathrm{MON_{it}} = \acute{\mathrm{D}}_{\mathrm{it}}\beta(\dot{\mathrm{U}}_{\mathrm{it}}) \text{ with } \dot{U}_{it} \sim (0,1) \quad [5]$$

Model II:

$$\mathrm{CRD_{it}} = \acute{\mathrm{D}}_{\mathrm{it}}\beta(\dot{\mathrm{U}}_{\mathrm{it}}) \text{ with } \dot{U}_{it} \sim (0,1) \quad [6]$$

In Eq. [5] and Eq. [6], β indicates the estimate of the coefficients, $\dot{U}$ is the random error term, MON and CRD represent the FD measures of country *i* in year *t*. $\acute{D}$ is the collection of independent variables in Eq. [2] and Eq. [3)], respectively. The panel quantile regression models for nation *i* in period *t* in the τ quantile are dependent upon the following expression:

$$\mathrm{P}\left(\mathrm{MON_{it}} \leq \acute{\mathrm{D}}_{\mathrm{it}}\beta(\tau)\middle|\acute{\mathrm{D}}_{\mathrm{it}}\right) = \tau \quad [7]$$

$$P(CRD_{it} \leq \acute{D}_{it}\beta(\tau)|\acute{D}_{it}) = \tau \quad [8]$$

Equation [7] and [8] indicate that for every collection of independent variables, the likelihood of FD being less than the quantile function is comparable and comparable to τ (Payne et al., 2023).

Empirical Results

Descriptive Statistics

Before analyzing the relationship between the variables, looking at descriptive statistics is crucial. Table 2 displays the explanatory and dependent variables' descriptive statistics for the panel sample of CIVETS countries.

Table 2. Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Maximum	Minimum	Skewness	Kurtosis
lnMON	138	4.064	0.389	4.986	3.251	0.211	2.401
lnCRD	138	3.746	0.501	4.835	2.639	-0.039	2.284
lnRMT	138	21.939	1.121	24.173	19.407	-0.109	2.142
lnTO	138	4.029	0.453	5.228	3.396	1.143	3.313
lnGDP	138	8.336	0.547	9.546	7.077	-0.030	2.501
FDI	138	2.674	2.095	9.703	-2.757	1.041	4.951

Source: Authors' compilation.

As seen in Table 2, lnRMT has the highest mean, followed by lnGDP, lnMON, lnTO, lnCRD, and FDI. FDI has the highest standard deviation, followed by lnRMT, lnGDP, and lnCRD. It is observed all variables are positively kurtosis but lnRMT, lnGDP, and lnCRD are negatively skewed.

Results of Preliminary Tests

Preliminary tests are important in selecting the appropriate empirical model for the data and thus obtaining robust and consistent results. Therefore, the CSD test, slope heterogeneity test, and unit root test are applied respectively.

Table 3. The CSD and Slope Heterogeneity Test Results

The CSD Tests

Test	lnMON	lnCRD	lnRMT	lnTO	lnGDP	FDI
LM	137.882 [0.000]	189.783 [0.000]	207.661 [0.000]	73.815 [0.000]	295.641 [0.000]	48.445 [0.000]
CD_{LM}	22.435 [0.000]	31.910 [0.000]	35.175 [0.000]	10.738 [0.000]	51.238 [0.000]	6.106 [0.000]
LM_{adj}	22.299 [0.000]	31.774 [0.000]	35.038 [0.000]	10.602 [0.000]	51.101 [0.000]	5.970 [0.000]
CD	2.824 [0.004]	3.000 [0.002]	8.264 [0.000]	1.569 [0.116]	17.129 [0.000]	5.137 [0.000]

Slope Heterogeneity Test

Model I		**Model II**	
Delta ($\tilde{\Delta}$)	Delta $(\tilde{\Delta})_{adj}$	Delta ($\tilde{\Delta}$)	Delta $(\tilde{\Delta})_{adj}$
8.509 [0.000]	9.897 [0.000]	10.283 [0.000]	11.960 [0.000]

Note: H_0 for CSD tests: No cross-sectional dependence. H_0 for slope homogeneity test: The slope is homogeneous.

Source: Authors' compilation.

Table 3 shows that for every test, the null hypothesis that there is no CSD is strongly rejected. Therefore, the outcomes demonstrate that the CSD is present in the model. Accordingly, a shock in any of the countries in the sample may affect other countries as well. Delta tests conducted by Pesaran & Yamagata (2008) provide

evidence of slope heterogeneity at the 1% statistical significance level for both Model I and Model II. Using the second-generation unit root tests makes sense when CSD is present. Table 4 presents the findings from the CIPS unit root test.

Table 4. CIPS Unit Root Test Results

Variable	Deterministic	CIPS test statistics (Level)	CIPS test statistics (1st Dif.)
lnMON	**Constant**	-1.908	-3.543
	Constant &Trend	-1.921	-3.700
lnCRD	**Constant**	-0.382	-2.557
	Constant &Trend	0.336	-3.512
lnRMT	**Constant**	-1.381	-4.143
	Constant &Trend	-2.167	-4.331
lnTO	**Constant**	-1.192	-3.716
	Constant &Trend	-2.046	-3.974
lnGDP	**Constant**	-1.891	-3.265
	Constant &Trend	-2.477	-3.145
FDI	**Constant**	-3.667	-5.325
	Constant &Trend	-3.876	-5.618

Note: Critical values (constant) are -2.21, -2.33, and -2.57 at 10%, 5%, and 1% level, respectively. Critical values (constant & trend) are -2.73, -2.86, and -3.10 at 10%, 5%, and 1% level, respectively.
Source: Authors' compilation.

Table 4 shows the results of the CIPS unit root test. lnMON, lnCRD, lnRMT, lnTO, and lnGDP are integrated at I(1) in the constant and constant+trend. Furthermore, FDI is stationary at level, indicating I(0).

The Long-Run Estimation

Generalized panel quantile regression analysis is used to estimate the long-run coefficients of the model. Table 5 reports the results of long-run estimation's results.

Table 5. Generalized Panel Quantile Regression Results for Model I

lnMON	Low			Medium			High		
	Q01	**Q02**	**Q03**	**Q04**	**Q05**	**Q06**	**Q07**	**Q08**	**Q09**
lnRMT	0.140	0.150	0.142	0.149	0.095	0.058	0.105	0.101	0.099
	[0.000]	[0.000]	[0.000]	[0.000]	[0.025]	[0.169]	[0.013]	[0.005]	[0.002]
lnGDP	0.271	0.271	0.268	0.267	0.184	0.130	0.033	-0.005	-0.136
	[0.000]	[0.000]	[0.000]	[0.000]	[0.042]	[0.149]	[0.709]	[0.947]	[0.045]
lnTO	0.860	0.879	0.857	0.791	0.709	0.648	0.454	0.352	0.337
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
FDI	-0.001	-0.004	-0.006	-0.008	-0.006	0.002	-0.009	0.004	-0.003
	[0.911]	[0.774]	[0.710]	[0.668]	[0.774]	[0.936]	[0.681]	[0.827]	[0.867]

Note: Those in brackets indicate probability values
Source: Authors' compilation.

Table 5 demonstrates that international remittances positively affect FD in all quantiles except the Q06 quantile. This result indicates that countries with high international remittances inflow tend to raise FD through expanding broad money. Also, it implies that remittances inflow to formal financial institutions, and individuals who receive remittances tend to use their money in the financial sector instead of consuming it. The positive

effect of remittances on broad money is in line with the study of Khodeir (2015), Kim (2019), Karikari et al. (2016), Fromentin (2017), and Alawneh (2020). Economic growth contributes to FD in the Q01-Q05 quantiles and negatively affects FD in the Q09 quantile, implying that economic growth in the lower and medium-level countries tends to the financial sector. In contrast, countries with high economic growth can tend to the real sector instead of the financial sector. TO has a positive effect on FD in all quantiles. It is consistent with previous studies of Özyakışır et al. (2023), Prempeh et al. (2023), Abdulai (2023), Bindu et al. (2022), Özyılmaz et al. (2021), and Fromentin (2017). It is clear that if countries integrate into world trade, it promotes FD. Since countries' trade facilities have enlarged, money transfers across banks and other financial institutions have also risen. Furthermore, international trade can involve various risks. To escape or minimize risks, traders' demand for financial instruments rises as well, mitigating FD (Yıldız, 2020). However, FDI has no statistically significant effect on FD. When comparing the effects of TO and FDI as components of economic globalization, it is obtained that FD is more sensitive to TO than FDI in CIVETS countries.

Table 6. Generalized Panel Quantile Regression Results for Model II

lnCRD	Low			Medium			High		
	Q01	**Q02**	**Q03**	**Q04**	**Q05**	**Q06**	**Q07**	**Q08**	**Q09**
lnRMT	0.151	0.085	0.054	0.062	0.003	-0.031	-0.082	-0.074	-0.040
	[0.000]	[0.011]	[0.091]	[0.057]	[0.913]	[0.371]	[0.013]	[0.029]	[0.216]
lnGDP	0.276	0.507	0.500	0.536	0.491	0.476	0.309	0.248	0.090
	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.200]
lnTO	0.992	1.012	0.955	0.953	0.917	0.884	0.806	0.704	0.609
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
FDI	0.048	0.040	0.043	0.037	0.028	0.023	0.021	0.027	0.008
	[0.022]	[0.022]	[0.011]	[0.030]	[0.127]	[0.204]	[0.209]	[0.124]	[0.609]

Note: Those in brackets indicate probability values

Source: Authors' compilation.

Table 6 indicates that the impacts of international remittances on domestic credit vary across the quantiles. So, RMT has a positive influence on domestic credit in the Q01-Q04 quantiles and a negative effect in the Q07-Q08 quantiles. It implies that where international remittances inflow is lower, it provides an external fund for the bank, resulting in increased domestic credit. However, where international remittances inflow is higher, individuals tend to consume money instead of investing in the banking sector, thereby reducing domestic credit. Furthermore, as outlined in previous studies, international remittances sometimes cannot improve financial depth (Martinez et al., 2015; Karikari et al., 2016). Economic growth positively influences domestic credit in all quantiles except the Q09 quantile. Since GDP per capita rises, people prefer investing their income in the banking sector, promoting domestic credit. Likewise, results for Model I, TO positively affect domestic credit in all quantiles. FDI has a positive influence on domestic credit in the Q01-Q04 quantiles. Theoretically, the positive influence of FDI on FD is expected. The possible links can be expressed in various ways. For instance, FDI promotes and expands economic activities, resulting in usable funds. Hence, it mitigates financial markets and banking systems (Otchere et al., 2016). Moreover, FDI incentivizes firms to be listed in the stock market, which develops stock markets (Irandoust, 2021). The positive influence of FDI is consistent with studies of Kim (2019), Sharma (2016), and Rajan and Zingales (2003).

Conclusion and Policy Relevance

With the increase in globalization, there has been a significant increase in remittances, and it has become an important source of external financing for developing countries (Fromentin, 2018; Das & McFarlance, 2022). In terms of developing countries, remittances are more stable compared to other external financing sources

during economic crises. Remittances also encourage the integration of rural areas into the financial system. In this respect, remittances can have a positive impact on the development of the financial system (Özyılmaz et al. 2021). With this context, the main objective of our paper was to investigate the effects of international remittances, economic growth, TO, and FDI on FD in CIVETS countries (Colombia, Indonesia, Vietnam, Egypt, Türkiye, and South Africa) for the 2000-2022 period. Based on the relevant literature, two different models were estimated using broad money supply and domestic credit to the private sector as financial development indicators. In Model I, where broad money is the dependent variable, the generalized panel quantile regression results show that remittances positively affect the broad money supply in all quantiles except Q06. Economic growth contributes to broad money in the Q01-Q05 quantiles and negatively affects in the Q09 quantile. Furthermore, TO has a positive effect on broad money in all quantiles. However, FDI has no statistically significant effect on broad money in all quantiles. In Model II, where domestic credit to the private sector is dependent variable, the results indicate that remittances have a positive effect on domestic credit to the private sector in quantiles Q01-Q04, and have a negative effect on Q07-Q08. Economic growth positively influences domestic credit to the private sector in all quantiles except the Q09 quantile. Likewise, results for Model I, TO positively affect domestic credit to the private sector in all quantiles. FDI has a positive influence on domestic credit to the private sector in the Q01-Q04 quantiles. Contingent on the results above, it can be stated that international remittances can play a significant role in the FD of CIVETS countries. However, it should be noticed that the promoting effects of remittances are higher on broad money, and its effects on domestic credit to the private sector can be changeable. The uncertain effect of remittances on domestic credit to the private sector can be attributed to the fact that individuals who receive remittances tend to use their money for consumption and savings at home instead of investing at banks or other financial institutions. Hence, based on these findings, we suggest some policy implications: i) the remittances inflow into the formal financial sector should be encouraged; ii) it should be ensured that remittances are kept within the banking system; iii) transaction costs should be reduced to facilitate the remittances inflow; iv) reliable means of transfer for remittances inflow should be provided; v) public and private banks should be encouraged to cooperate to prevent informality; vi) the structure of financial institutions should be strengthened in terms of operations and good governance; vii) financial markets and institutions should be improved and technological developments in financial markets should be encouraged; vii) financial literacy and the use of formal financial services should be promoted, and finally ix-) sustainability of financial and TO should be ensured.

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GENİŞLETİLMİŞ ÖZET

Gelişmekte olan ülkeler (GOÜ'ler) küreselleşme ile birlikte dünya ekonomisine entegre olma yolunda önemli dönüşümler geçirmişlerdir. 1990'ların başında popüler hâle gelen Washington Konsensüsü ile yapısal dönüşümler hızlanmış ve bu ülkelerde liberalleşme politikaları hız kazanmıştır. Ortaya çıkan liberalleşme hamlelerinden birisi finansal sektörde kendisini göstermiştir. Sermayenin sınır ötesi dolaşımının serbestçe yapılabilmesi için tıpkı ticaret politikalarında olduğu gibi finansal alanda da bir takım düzenlemeler kaçınılmaz hâle gelmiştir. Neoliberal küreselleşme politikaları kapsamında GOÜ'lerin finansal sektörünün, küresel finans piyasalarıyla bütünleşebilmesi için finansal sektörde deregülasyonlar bir gereklilik olarak görülmüştür. Küresel ekonomide ortaya çıkan gelişmeler, finansal sektörün gelişiminde hangi faktörlerin etkili olduğuna odaklanmaya başlamıştır. Bu çerçevede GOÜ'lerde finansal gelişmeyi etkileyen faktörlerden birisi olarak işçi döviz gelirleri önem kazanmaya başlamıştır. Çünkü işçi döviz gelirleri GOÜ'ler açısından oldukça önemli dış finansal kaynaklardan birisidir. Ratha vd. (2023)'ye göre 2023 yılında küresel işçi döviz gelirleri 860 milyar dolar civarında gerçekleşmiş olup, bunun 690 milyar dolarlık kısmı düşük ve orta gelirli ülkelere gitmiştir. 2024 yılında ise 690 milyar dolara çıkması öngörülmektedir. Öyle ki GOÜ'ler açısından işçi döviz gelirleri doğrudan yabancı yatırımlardan (DYY) sonra en büyük dış kaynak olarak öne çıkmaktadır (Karikari vd., 2016). İşçi döviz gelirlerinin finansal gelişme üzerindeki etkisi tamamlayıcılık ve ikame hipotezi kapsamında ele alınmaktadır. Tamamlayıcılık hipotezine göre işçi döviz gelirlerinin ilgili ülkeye transferi bankacılık sektörü kanalıyla gerçekleştiğinde finansal gelişmeyi teşvik etmektedir. Diğer taraftan ikame etkisi işçi döviz gelirlerinin finansal sektörden elde edilebilecek kredilere alternatif oluşturduğu, dolayısıyla bireylerin finansal ihtiyaçlarının finansal sektör yerine işçi döviz gelirlerinden sağlanmasının finansal sektörün gelişimini kısıtladığını vurgulamaktadır (Akçay, 2020). Bankacılık gibi finansal sektördeki kuruluşlar aracılığıyla işçi döviz gelirlerinin transferi, daha fazla tasarruf ve yatırım yapılmasını teşvik ederek gelirlerin artmasına da kaynaklık etmektedir. Buna karşılık işçi dövizlerinin bankacılık sektörü dışındaki kanallardan transfer edilmesi halinde tasarruf yapma eğiliminin azalmasına yol açabilecektir (Yıldız, 2020).

Bu çerçeveden hareketle mevcut çalışmada CIVETS ülkeleri (Kolombiya, Endonezya, Vietnam, Mısır, Türkiye ve Güney Afrika) için 2000-2022 dönemi verileri kullanılarak işçi döviz gelirlerinin finansal gelişme üzerindeki etkisi analiz edilmiştir. İlgili literatürden hareketle, finansal gelişme göstergesi olarak geniş para arzı ve özel sektöre sağlanan yurtiçi krediler kullanılarak iki farklı model tahmin edilmiştir.

Ampirik analizin ilk aşamasında serilere ilişkin tanımlayıcı istatistikler verilmiş, ikinci aşamada ise birim kök, yatay kesit bağımlılığı ve eğim homojenliği testleri yapılmıştır. Yatay kesit bağımlılığını test etmek amacıyla LM, LMadj, CD_{LM} ve CD testlerinden yararlanılmıştır. Elde edilen test sonuçlarına göre kesitler arasında bağımlılık olduğu sonucuna ulaşılmıştır. Birim kök testi için ise yatay kesit bağımlılığını dikkate alan CIPS [Cross-sectionally augmented Im, Pesaran and Shin-IPS] testinden faydalanılmıştır. CIPS birim kök testi sonuçlarına göre geniş para arzı (lnMON), özel sektöre sağlanan yurtiçi krediler (lnCRD), işçi döviz gelirleri (lnRMT), ticari açıklık (lnTO) ve ekonomik büyüme (lnGDP) seviyede birim kök içerirken, birinci farklarında durağan hâle gelmiştir. Bu çerçevede lnMON, lnCRD, lnRMT, lnTO ve lnGDP değişkenlerinin I(1) olduğu sonucuna ulaşılmıştır. Diğer taraftan net doğrudan yabancı yatırım girişi (FDI) değişkenin ise hem sabitli modelde hem de sabitli+trendli modelde seviyede durağan olduğu sonucuna ulaşılmıştır. Önsel testlerden sonra değişkenler arasındaki uzun dönemli ilişkinin varlığını tespit etmek amacıyla panel kantil regresyon tekniğinden (panel quantile regression technique) faydalanılmıştır. Geniş para arzının bağımlı değişken olduğu Model I için elde edilen bulgulara göre işçi döviz gelirleri geniş para arzını Q06 hariç diğer bütün kantillerde pozitif etkilemektedir. Ekonomik büyümenin geniş para arzı üzerindeki etkisine bakıldığında ise Q01-Q05 kantillerinde pozitif, Q09 kantilinde ise negatif etkilediği görülmektedir. Ticari açıklık ise tüm kantillerde geniş para arzını pozitif etkilemektedir. Son olarak doğrudan yabancı yatırımların etkisi incelendiğinde finansal gelişme üzerinde istatistikî olarak herhangi anlamlı bir etkiye sahip olmadığı bulgusuna ulaşılmıştır. Özel sektöre sağlanan yurtiçi kredilerin bağımlı değişken olduğu Model II için elde edilen sonuçlar ise işçi döviz gelirlerinin özel sektöre sağlanan yurtiçi kredileri Q01-Q04 kantillerinde pozitif, Q07-Q08 kantillerinde ise negatif etkilediğini ortaya koymaktadır. Ekonomik büyümenin özel sektöre sağlanan yurtiçi krediler üzerindeki etkisine bakıldığında ise Q09 kantili hariç, diğer bütün kantillerde pozitif etkilediği görülmektedir. Ticari açıklık ise Model I sonuçlarına benzer biçimde özel sektöre sağlanan yurtiçi kredileri tüm kantillerde pozitif etkilemektedir. Doğrudan yabancı yatırımlar ise Q01-Q04 kantillerinde özel sektöre sağlanan yurtiçi krediler üzerinde pozitif etkiye sahiptir. Elde edilen ampirik

bulgular bir bütün olarak değerlendirildiğinde CIVETS ülkelerinde uluslararası işçi döviz gelirleri ile finansal gelişme arasında önemli bir ilişki olmakta birlikte işçi döviz gelirlerinin finansal gelişme göstergelerinden birisi olan geniş para arzı üzerindeki pozitif etkisi daha fazladır. Buna karşılık işçi döviz gelirlerinin bir diğer finansal gelişme göstergesi olan özel sektöre sağlanan yurtiçi krediler üzerindeki etkisi değişmektedir. Dolayısıyla işçi döviz gelirlerinin kredi kanalıyla finansal derinliği tamamen artırmadığı ifade edilebilir.

Finansal kurumlar aracılığıyla gerçekleşen işçi döviz transferleri, bir tarafta finansal kurumlar arasındaki etkileşimi artırırken diğer taraftan ev sahibi ülkedeki bireylerin finansal araçlara yönelik taleplerini artırarak finansal gelişmeye katkıda bulunmaktadır (Yıldız, 2020). Buna göre CIVETS ülkelerinde politika yapıcılar işçi dövizlerinin bankacılık başta olmak üzere resmi finansal kanallardan girişini teşvik edecek uygulamaları yürürlüğe koymaları gerekmektedir. Örneğin, işçi döviz gelirlerinin transferinde uygulanacak aracılık komisyonların çok düşük seviyede tutulması gibi uygulamalar benimsenebilir.

Çalışmada çeşitli sınırlılıklar bulunmaktadır. İlk olarak verilere erişilebilirlik açısından işçi döviz gelirleri, CIVEST üyesi bazı ülkeler için 2000 yılından başlamaktadır. Verilerin güncellenmesi durumunda daha uzun dönemli veri setiyle analiz edilebilmesi söz konusu olabilecektir. İkinci olarak finansal gelişme ile yakından ilişkili olan kurumsal faktörlerin, GOÜ'ler açısından önemi dikkate alındığında CIVETS ülkeleri için işçi döviz gelirlerinin finansal gelişme üzerindeki etkisi kurumsal faktörlerin rolü dikkate alınarak genişletilebilir.