1st International Conference on Economics and Sustainable Development Conference 2021

CBER Conference

Apr 4th, 10:30 AM - 12:30 PM

The impact of remittances on total factor productivity in Pakistan

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1st International Conference, CBER IBA

Title: THE IMPACT OF REMITTANCES ON TOTAL FACTOR PRODUCTIVITY IN PAKISTAN

Session: Doctoral Symposium Presentations
Date: Sunday, 4th April 2021

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Published by iRepository, 2021

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Introduction

- Remittances are one of the very important financial inflows for developing economies and also for Pakistan especially at the time of soaring trade deficit
- The remittances in Pakistan witnessed an increasing trend lately, but at the same time trade deficit on goods has also deteriorated considerably
- In fiscal year 2018 - Pakistan trade deficit passed 30 billion USD
- Effects of Remittances – Depend upon usage
  - Consumption purposes
  - Investment proposes

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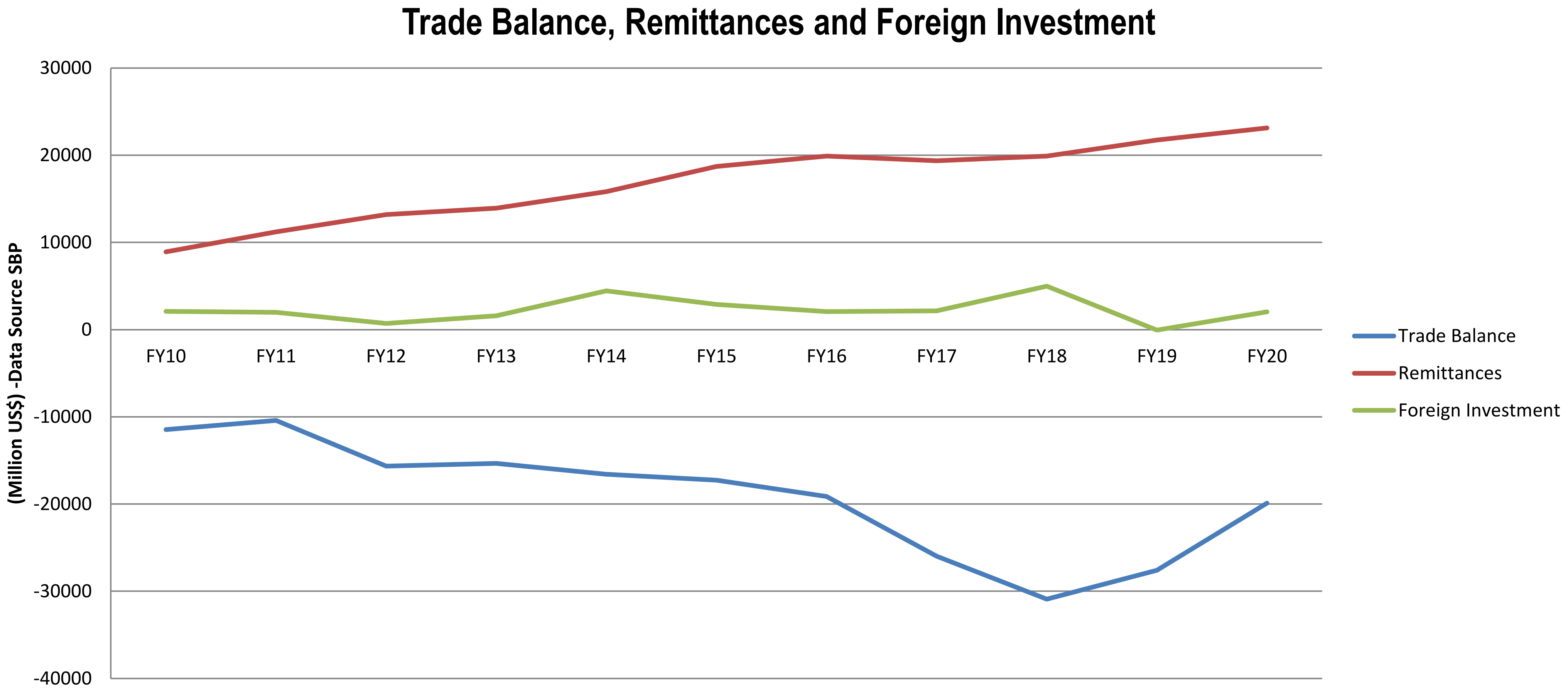
Introduction - Continued

Given the importance of remittance for macroeconomic performance for sustainable growth

Government measures:

- Doubling the fund transfer fee charges
- Introducing the tiered based system for re-imbursement of marketing transactions
- Reduction in the threshold level from USD 200 to USD 100 under the re-imbursement of TT
- Pakistan Remittance Initiative Scheme
- Exemption of withholding Tax

Introduction - Continued



Rationale of the study

- Impact and significance of remittances at present level as well as on augmented level on total factor productivity (TFP)

- Impact and significance of FDI, Government Expenditure, Trade Openness and Energy Consumption on TFP

- It is probably the first study which observes the long-run and non-linear effects of remittances in Pakistan

Literature Review

- Frank and Hummer 2002; Ratha 2007; Rao and Hassan 2012; Kumar 2014) stated that Remittances can increase welfare by enhancing consumption, education, human development, investments, easing credit constraints and reducing poverty.

- Ahamada and Coulibaly (2011) highlighted that the remittances also generate savings and capital thus remove investment constraints and allow financial market development and integration.

- Adams Jr and Page (2005) have shown that remittances decrease the depth, level and severity of poverty in the emerging world.

- Chami et al. (2008) stated that it is possible from remittances that Dutch disease effect may arise causing the real exchange rate of the economy to rise thus an appreciation of domestic currency. Furthermore, remittances present a moral hazard problem by decreasing the political will to carry out the policy reforms.

- Hobbs and Jameson (2012) mentioned that positive impacts of remittances on poverty reduction are dependent largely on the level of income of home country and where people migrate to; a perverse combination of these two aspects can cause income inequality.

Literature Review - Continued

In Pakistan:

Nishat and Bilgrami (1991) - determined the impact of remittances on Pakistan's economy and their results indicated a positive impact on consumption, investment, GNP and imports

Qayyum, et al. (2008) - found positive and significant effect of remittances on economic growth, along with statically significant impact on poverty reduction.

Ahmed, et al. (2011) – also found that foreign remittances are statistically significant and positively co-integrated to Pakistan's economic growth.

Hassan, et al. (2013) - observed a negative impact of foreign remittances on the formation of human capital and argued that the negative impact of foreign remittance is probably due to the lack of paternal control.

Mustafa and Rashid Ali (2018) - found that remittances have a positive and significant impact on economic performance.

Proposed Model

$$TFP = \alpha_1\, REM + \alpha_2 REM2 + \alpha_3 FDI + \alpha_4 GOV + \alpha_5 TRADE + \alpha_6 ENE + \varepsilon$$

Where:

- TFP corresponds to Total Factor Productivity
- REM and REM2 indicates remittances and square of remittances (% to GDP)
- FDI shows stock of Foreign Direct Investment (% to GDP)
- GOV represents Government consumption expenditure (% to GDP)
- TRADE indicates Trade Openness (% to GDP)
- ENE corresponds to GDP per unit of energy use i.e. Energy Consumption
- ε shows usual error term

For TFP (Following The Model of Hall and Jones (1999) and Herzer (2017)) :

$$\log(TFP) = \log(Y) - (1-\alpha)\log(K) - \alpha\log(Lh)$$

Where:

- Y, K and Lh are the output, capital and human-capital augmented labour input respectively
- Lh is the product of human capital per worker and raw labour
- α corresponds to labour share of income
- 1 - α represents capital share of income.

Data

- Remittances - UNCTAD (United Nations Conference on Trade and Development) STAT
- FDI - UNCTAD
- Government Expenditure UNTCTAD
- Trade Openness - UNCTAD
- Energy Consumption - SBP and WDI
- Output - Penn World Tables version 9.1.
- Capital - Penn World Tables version 9.1.
- Labour - Penn World Tables version 9.1.
- labour share - ILO

Period of study - 1980 to 2017

Findings

Johansen Co-integration Analysis

Null Hypothesis	Trace Statistics:	Maximal Eigen Value Statistics:
SERIES: TFPWL REM REM2 FDI GOV TRADE ENERGY		
No Co-integrating vector	157.397*	63.277*
	0.0001***	0.0004***
* denotes rejection of the hypothesis at (1%) significance level. ***MacKinnon-Haug-Michelis (1999) p-values		

Normalizing the Johansen co-integration

$$TFP = -1.221\,REM + \; 0142REM2 + \; 0.145FDI + 1.384GOV + 0.248TRADE + 1.344ENE$$

-2.857 2.997 2.001 13.672 4.858 7.747

Conclusion

This study:

- Investigates long run relationship and effects of remittances, along with other macroeconomic variables, on TFP
- Uses the annual data during 1981 to 2017 collected from various published international sources
- Employs Johansen Co-integration technique
- Finds long run and non-linear relationship between TFP and remittances
- Further finds FDI, government expenditure, trade and energy consumption are positive and significant determinants.

Recommendations

For productivity gains - the improved strategy of Remittances is recommended:

- Deterrence of Illegal Means
- Favorable Regulatory Environment

- Supportive and Congenial Policies
    - Enhancement of Remittances
    - Improvement in Indicators - FDI, Trade Openness, Government Expenditure and Energy Consumption

Future Research

- Sample Size
- Technique / Method
- Variables