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## Trade creation and trade diversion for Pakistan China free trade agreement (FTA)

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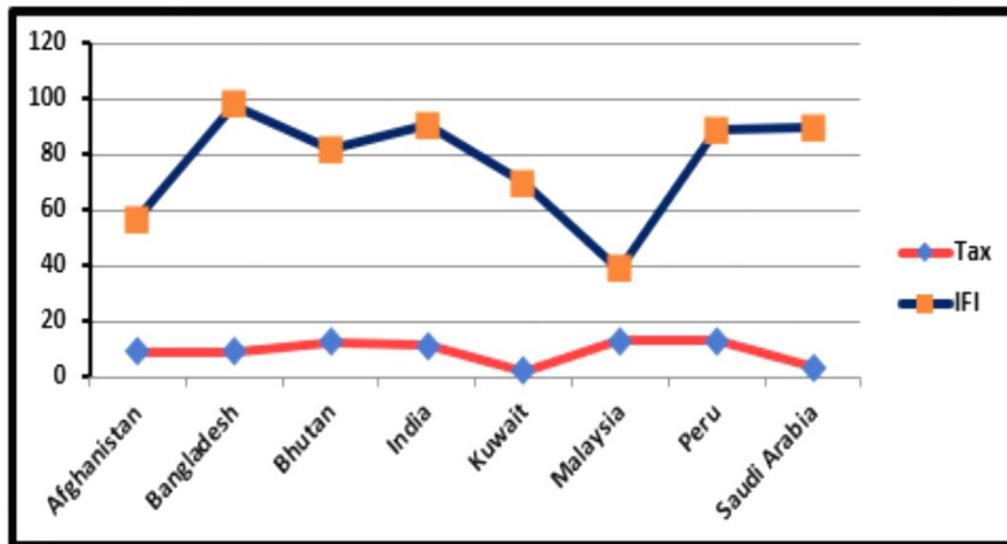
## ABSTRACT

This research analyses the impact of financial inclusion on the tax revenue. For this purpose, we make a model based on Asian countries in which we use tax revenue as a dependent variable by taking the period from 2004 to 2017, while explanatory variables are Financial Inclusion, FDI, Saving and GDP. For the estimation, we used the co-integration technique. The result concludes that tax revenue and FI is significantly, and positively related to each other. If the index value of financial inclusion increases in an economy, then tax revenue will also increase for the government.

## INTRODUCTION

Financial inclusion (FI) is a method that ensures the easiness access, accessibility and use of the financial system in a formal way by all the members of the economy. Martínez (2011) recognized FI as a significant strategy used by the government to combat and encourage growth by its given capacity to make the possible proficient allocation of productive resources by decreasing the cost of investment. This method can also be identified as an inclusive financing system and it significantly enhances the everyday management of finances and diminish the growth of informal sources of credit (such as lenders), which are often exploited. An inclusive financial system is extensively known as a political main concern in many nations with initiatives by financial regulators, the government and the banking sector. According to the World Bank, there are around 1.2 billion people financially included and 1.7 billion people financially excluded. As people move towards more financial inclusion and their income will grow over time, this will boost the tax revenue (TR) for the government.

**Figure-01: Relationship between Tax Revenue and Financial Inclusion of selected Asian countries during 2017**



Source: Author's Illustration, based on the data collected from the World Bank Development Indicator.

### RESEARCH OBJECTIVE

The main objective of this research is to investigate the relationship between financial inclusion and tax revenue. This research tries to find that can financial inclusion be the key factor to increase the tax revenue for the government in a country or not. This study is to examine all the determinants which directly affect the tax revenues. For this reason, we make a panel of 20 Asian countries by taking the period from 2004 to 2017. While the variable of financial inclusion is our calculated index (see the theoretical framework. The 0 value of FI indicates that there is a low financial inclusion happening and it's called financial exclusion, whereas, 1 value indicates complete financial inclusion.

### RESEARCH QUESTION:

Based on research objectives following question will be answered with the help of empirical estimation; does the increase in the index of financial inclusion significantly increase the tax revenue in Asian countries?



## THEORETICAL FRAMEWORK

In this research, we have incorporated the technique of Sarma (2008) for constructing the index of FI. We have three major indicators to make FI index in which,

- No of ATMs per 100000 adults
- Borrowers from commercial banks per 1,000 adults, and
- Domestic credit to GDP ratio

Given below are the specifications of Sarma (2008), the first step to calculate financial inclusion is to find its dimension by the following procedure;

$$D_i = \frac{A_i - m_i}{M_i - m_i} \dots \dots \dots (1)$$

Where  $A_i$  dimension represents the actual value,  $m_i$  dimension represents the minimum value and  $M_i$  dimension represents the maximum value. More generally, the formula is given in equation 2.

$$FII_i = 1 - \sqrt{\frac{(1-d_1)^2 + (1-d_2)^2 + (1-d_3)^2 + \dots + (1-d_n)^2}{\sqrt{n}}} \dots \dots \dots (2)$$

Whereas the term  $D_i$  used in equation (2) is the dimension that we calculate in equation (1). By using this formula, we can find the index of FI and its value lies from 0 to 1

### Model Specification

The following model is built to meet the objective of this research.

$$TR_{it} = \alpha_0 + \alpha_1 FII_{it} + \alpha_2 SV_{it} + \alpha_3 GDP_{it} + \alpha_4 FDI_{it} + \mu_{it} \dots \dots \dots (03)$$

Where;

- $TR_{it}$  = Tax Revenue of Asian countries at time t.
- $FII_{it}$  = Financial Inclusion Index of Asian countries at time t.
- $SV_{it}$  = Saving rate of Asian Countries at time t.
- $GDP_{it}$  = Gross Domestic Product of Asian countries at time t.



## Findings

**Table: 01- Relationship between Tax Revenue and Financial Inclusion**

Macroeconomic Variables	Results for Pooled OLS	Results for Co-integration
<b>FII</b>	0.026 (2.00) **	0.034 (3.71) *
<b>LnSV</b>	0.191 (1.504)	0.314 (1.660) ***
<b>LnGDP</b>	-1.42 (-6.11) *	-3.101 (-4.01) *
<b>LnFDI</b>	0.54 (4.031) *	0.146 (1.742) ***
<b>R-Square</b>	14%	94%

Note: Figures in parenthesis indicate the value of T-statistics.

\*, \*\* and \*\*\* Shows significant at 1%, 5% and 10% level of significance.

Source: Author's calculation.

## Conclusion and Policy Implication

- ✓ This study explores the significant and positive relationship between TR and FI in the long-run by using a panel of Asian countries during 2004-2017.
- ✓ By larger access to financial inclusion, it directly relies upon more money transfer and decreases corruption. It is better to divide TR by its sources namely income tax, corporate tax, withholding tax, sales tax, corporation tax, stock markets tax, bank tax, etc. This type of analysis will give a clear image of the relationship between TR and financial inclusion.
- ✓ The government should consider waiving the tax on banking transactions while it will create some revenue in the short run. Another possible policy could be taxing of cash withdrawal from the banks.
- ✓ The government should consider avoiding domestic loans because it crowding out the banks' loans to the private sector.