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Idiosyncratic Elements of Financial Inclusion in Pakistan

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Abstract

For a better future of any country, it is recognized throughout the world that financial-inclusion (later on FI) plays a very important role for eradicating of poverty and prosperity of the country. More than 50% of the adult-population of Pakistan is completely unbanked. The banking sector plays a dynamic role in the economic-development. There are many factors of low level of financial inclusion. The goal of this research is to examine the specific bank and macro-economic factors of FI in the context of Pakistan over 2001-2024. The GMM and random effect regression implemented for the analysis. The empirical results show that that bank-size, bank-efficiency, and interest-rate have a significant impact. Likewise, on the demand side literacy rate has a positive impact. The age exhibits the negative effect. Results of the study suggested that various micro and macro level benefits can be derived from greater financial inclusion. Further, these results are also beneficial for both the government and bank management in developing their policies to ensure more inclusive financial system. These findings suggest that reducing the interest rate and increasing bank networking, the unbanked people will be attracted towards formal financial services. Finally, the study also suggested that by making people financially literate, the less developed countries can speed up their economic growth by improving their financial market participation.

Keywords: Pakistan, Financial Inclusion, Commercial Banks, Country Factors, Human factors, GMM

INTRODUCTION

The role of FI is very essential because of its numerous benefits such as reducing income disparity, poverty reduction and the improving the overall economic development of the country. Though the consequences of FI might be similar but the lack of its prevalence is multidimensional (Adeyemi et al., 2013). This topic is a broad term and is defined in different ways (Schmied & Ana, 2016). Turegano and Herrero (2018), argued that FI is healing agent for controlling the issues of income-inequality and poverty. According to Khan (2011) defined it as a process to guarantee timely access to the banking products. The FI should ensure that individuals and businesses can get loan at a reasonable cost. Hannig and Jansen (2010) explained FI as a process that brings the unbanked sector of the economy into the formal financial system. The basic concept of FI is that all the members of the society should be a part of financial system. The main focus should be given to those members who are at the bottom of the economic pyramid (Raza et al., 2015). Chakravarty and Pal (2013) defined the FI is about how the financial system of any economy delivered to its people. The full FI comprises of providing an easy access and the usage of the financial services such as deposit, loans and insurance. In addition to these services the financial system must educate and help the customers to make their best decisions (Goland et al., 2010 ; Sahrawat, 2010). In present era, the economic growth and development is not possible without the effective and efficient financial institutions. The stable financial sector of the country is crucial for the poverty reduction and its overall economic growth (Chibba, 2009). FI makes the payment system more efficient and transparent by transferring cash to accounts. The easy access to the various financial services including loans and advances will encourage the investment in education and other business activities. All these prospects could boost the overall economic growth (Demirgüç-Kunt & Singer, 2017). Financial inclusion is significant determinant of capital per worker and overall level of production in the economy (Adeola & Evans, 2017).

The landscape of the overall financial system in Pakistan presents a crummy image of the financial inclusion. The central-bank, commercial-banks and insurance companies comprise the financial system of the country. Further, the commercial banking sector includes the Nationalized, Provincial, Privatized, Islamic and Foreign banks. Despite the efforts made at various forums, the level of FI remains very low. According to the financial survey conducted in Pakistan in 2015 studied financial inclusion and found that the lack of awareness of the people about the financial terms and products as the biggest hurdle (Zulfiqar et al., 2016). The percentage of accounts with the formal financial institutions is only 10.30%. About 56% of the adults don't use any formal and informal products. Therefore, in August 2017 the SBP has introduced Financial Literacy Program (NFLP) to educate the low income and unbanked sector of the economy about the basic financial concept (Abbasi et al., 2020). The economy of Pakistan is mostly cash based where the trillions of hard currencies is outside the formal financial sector. In 2011 and 2012 the microfinance regulations in Pakistan were ranked best in the world. To acknowledge the efforts of Pakistan for making the feasible environment for financial inclusion, this country has ranked among topmost developing countries of the world (Fungáčová & Weill, 2015).

The female percentage of the population in the country is 48.50 percent. The vast majority of women are not the part of the main stream of financial stream and don't enjoy the same access to financial services as men. Notably, (5.5% of female vs. 21.1% of male) are using financial services. The percentage in case of money transfers for women is 1.6 % as compared with 3.4 % of men. In availing the insurance facility, the ratio is 0.6% of women to 3.4 % of men (World Bank, 2020). The majority of the scholars have identified various factors influencing the access to formal financial sector. In Pakistan, it was not given much importance towards the issue that why the person should decide to include in the formal financial sector. This paper aims to fill this gap by using the panel data from 2001 to 2022 by using the sophisticated econometric techniques.

LITERATURE REVIEW

Bongomin et al. (2018), investigated that in the milieu of Uganda, social interrelation and the expansion of banking sector played an imperative role in enhancing the level of financial literacy. Comparato (2015), documented that financial inclusion performed both the social and economic roles. Wang and Shihadeh (2015), observed that in Palestine after its joining the Alliance for FI, the level of the unbanked sector the economy reduced. Corrado and Corrado (2015), examined its causes across various European countries. The demographic and socio-economic data covered from 2007 to 2008. The results of the study found that people affected by the income shocks, unemployment. They have no collateral and resultantly were excluded from the financial stream. Kumar (2013), examined the case of India and tried to identify the status and main factors of financial inclusion. The study initiates that ease of access to financial services is an important factor. A strong branch networking by the banks has a constructive and substantial impact on FI. Khan (2011), examined that FI contributed to financial stability in three ways. The study concluded that expanding the banks' networking increased the number of small savers. It increased the ratio of the banked sector of the economy and finally, it contributed to economic development of the country.

Kim et al. (2018), investigated a detail study on this topic and focused five variables. The study analysed the impact of these factors on Organization of Islamic Cooperation (OIC) countries. Number of ATM machines and bank branches per one hundred thousand adults were considered. Deposit accounts and borrowers of commercial banks for one

thousand adults included. The study found the mutual causalities between these variables. It concluded that FI and financial growth have strong link. The people of developed world take more benefits of financial services as compared with developing countries. There is an immense difference in the provision of financial accounts between the high- and low-income countries. The overall economic conditions of the developing counties were poor. The banking services were rare for the their rural people (SantaMaria, 2016).

The impact of mobile banking services on the subject matter studied in the context of Pakistan. The candidates for the structured interviews were females. The findings revealed that women received funds through these services were satisfied. The study highlighted that the features of the mobile banking should be re-designed to get more benefits. It recommended that the provision of such services to small scale businesses will play a very central role for the advancement of the financial literacy agenda in Pakistan (Kemal, 2019). In less developed countries, like Pakistan the banks operate in a concentrated market. The role of this sector is important due to its various functions and is a key segment of financial inclusion. It is also exclusive due to its conventional credit risk and composite basket of various products (Adil & Jalil, 2020). There is a higher difference between the rate of financial inclusion of developed and underdeveloped countries. In the less developed nations, 65% of adults have financial accounts which is less as compared with 96% in the developed countries (Makina, 2019). Demirguc-Kunt et al. (2018) found that according to the global financial index 2017 that around half of the unbanked adult population comprised in seven nations. These countries include China, India Indonesia, Bangladesh, Mexico, Nigeria and Pakistan. Honohan (2008) studied the indicator of financial access of 160 countries. The impact of gross national income, population density and age dependency ratio were analyzed on each country financial inclusion. A strong relationship observed between poverty and financial inclusion. The results revealed that the easy access to financial services considerably reduces poverty. In a nutshell in Pakistan, the number of policies designed and implemented to enhance the level of financial inclusion. But still the results are not abundant. The main objective of this study is to identify and analyze the impact of the major bank specific, country and human resource factors on the level of FI.

DATA AND EMPIRICAL METHODOLOGY

In this study the panel data was used of 20 schedule commercial banks of Pakistan. The time period covered from 2001-2024. The data collected from the SBP and World Bank. The FI has remained a major concern for many years. Therefore, the approach and strategy towards its solution continually remained debatable. The biasness has shown toward its measurement. Although many studies have been conducted on this issue, but still there is no comprehensive study shed light both on its various micro and macro determinants in the context of Pakistan. Through, this study attempt has been made to eliminate these gaps. The focus is on both the demand and supply sides of the FI. The total deposit and loan have been considered as a proxy for FI, which is supported by the past studies such as (Honohan, 2008 ; Amidžic et al., 2014 ; Uddin et al., 2017) The definition and explanation of the variables used in this study are given in table 1.

TABLE 1: VARIABLES EXPLANATION

Factors	Symbols	Definition	Description
	FI	Financial inclusion	DP = Total-deposits LA= Total-Loan and Advances
Bank specific Variables	LTA	Bank-Size	Natural log of Total asset
	CIR	Cost to Income-Ratio	Operational-efficiency.
	INTD	Interest-rate on Deposits	The average interest rate that bank provides to its depositors.
	INTL	Interest Rate (profit rate) on loans and advances	The average interest rate that banks charges on its loan and advances
Country Variables	GNI	Natural log of Gross national income	GNI per capita
	INFL	Inflation rate	CPI
Human Factors	LR	Literacy Rate	Computed as the secondary school completion rate
	AGD	Age Dependency Ratio	

The banking sector is a major part of the overall financial market due to its schematic features. This study evaluates the impact of the major bank specific factors on the financial inclusion including LTA, CIR, INTD and INTL. The past studies suggested that the economic and banking specific factors have a positive impact on FI (Cámara & Tuesta, 2014)). To examine how the income level of the people influencing their decision to avail the financial services, the Gross National Income and Inflation used as a country specific variable. The significant impact of GNI and INFL on FI examined by (Mercado (2015). Rojas-Suarez (2010) observed the link between inflation and FI. The study

concluded that increase in price level and economic volatility significantly lowers FI. This study also evaluated the interactive effect of human capital in relation with other variables. The Age dependency ratio signifies the portion of the population who are too young or old to use a financial service. Therefore, lower age dependency ratio expected to increase financial inclusion (Park and Mercado 2015).

Model Specification and Regression Analysis

To depict the impact of the demand and supply side on the financial inclusion, two separate developed. The several prior studies used these models including (Athanasoglou et al., 2008 ; Uddin et al., 2017 ; Chowdhury et al., 2017). In the first model deposits and in the second model, loan is used as dependent variable

$$LTD_{it} = \alpha_{it} + \beta_1 CIR_{it} + \beta_2 LTA_{it} + \beta_3 INTD_{it} + \beta_4 GNI_{it} + \beta_5 INFR_{it} + \beta_6 LR_{it} + \beta_7 ADR_{it} + \varepsilon_{it} \quad (1)$$

$$LTA_{it} = \alpha_{it} + \beta_1 CIR_{it} + \beta_2 LTA_{it} + \beta_3 INTL_{it} + \beta_4 GNI_{it} + \beta_5 INFR_{it} + \beta_6 LR_{it} + \beta_7 ADR_{it} + \varepsilon_{it} \quad (2)$$

The random panel least square regression technique used in this study. The panel data has got the properties of both cross section and times series. Therefore, the Generalized Methods Moments method used to capture the impact of lagged effect. The properties of inter temporal change and individuality of entities studied in this technique (Fox, 1997).

RESULTS AND DISCUSSION

The data analysed using the descriptive statistics, Random and GMM panel least square regression techniques. The results are presented in this section. A sample of 20 commercial banks selected. The sampled banks were chosen on the basis of their highest loans and deposit figures from 2001 to 2024. There are 480 observations for each variable. The threshold of the skewness is between +1.96 to -1.96. All the selected variables lie within the limit. The LTD bottom value is -1.469. Its maximum value is 3.801 and SD is o.672. The LTL value ranges from -0.871 to 4.738 and its SD is low at 0.055. The LTA value varies from 0.611 to 31.512. The standard deviation of LTA is 9.412 which is highest among all the variables. The value of CIR and INTD ranges from 1.765 to 11.812 and 2.541 to 9.781. The CIR value of STD is high as 6.710. The STD value for INTD is 1.211. The INTL highest value is 13.714. The minimum value is 2.314 and its SD is 2.124 and mean is 6.312. The LNGI has lowest value of -1.615. The highest value is 15.312 and the SD is 2.312. The skewness is 2.712 and the mean is -11.213. The INFL and LR have smallest value of -0.821 and – 0.642 respectively. Their highest value is 20.812 and 4.912. Their SD goes like 1.146 and 2.312. Moreover, the AGD has minimum value -0.615 and 6.412. The SD value for the variable is 0.116 and mean is -7.121

TABLE 2: DESCRIPTIVE STATISTICS

Variables	Obs	Mean	Std. Dev	Min	Max	SKEWNESS	KURTOSIS
LTD	480	2.134	0.672	-1.469	3.801	0.083	2.161
LTL	480	-0.841	0.055	-0.871	4.738	-0.212	2.122
LTA	480	11.312	9.412	0.611	31.512	1.71	2.811
CIR	480	10.651	6.710	1.765	11.812	1.047	2.172
INTD	480	4.812	1.211	2.541	9.781	-1.112	3.612
INTL	480	6.312	2.124	2.314	13.714	0.869	2.812
LGNI	480	-11.213	2.312	-1.615	15.312	-0.121	1.422
INFL	480	11.615	1.146	-0.821	20.812	0.075	2.172
LR	480	2.533	2.312	-0.642	4.912	-0.065	3.612
AGD	480	-7.121	0.116	-0.615	6.412	0.751	2.124

REGRESSION RESULTS

Hausman test used to select the best method between fixed and Random Effect Least square model. For both the models, the p-value was 0.9652 and 0.9815, therefore the random effect model selected for analysis. The results given in table 3 shows that in the first random model the LTD is regressed with the independent variables like LTA, CIR, INTD, LGNI, INFL, LR and AGD to find their impact on financial inclusion. The value of R-square value is 69.30 %. It means that about 69 percent of the change in the FI is explained by the selected micro and macroeconomic factors. The Variables LTA, INTD, LGNI and LR show the positive and significant relationship with FI in Pakistan. The results are supported by the study of Barnes-Mauthe et al. (2013) which proved that the outreach, size and shape of banking outlets has a positive impact on FI. While the impact of the variables CIR, INFL and AGD is negative on FI. According to the study of Khatib et al. (2022), the liquidity, default loans, cost and income ratio were found to be the main drivers of FI. Chikalipah (2017), investigated the determinants of FI for the year 2014 in Sub-Saharan Africa and rated the illiteracy as the major hindrance to this issue. In

the second model the total loans of the banks taken as dependent variable. In the explanatory variables INTD is replaced with INTL and other factors remain unchanged. The R-square value is 88.78 %. It means that around 89% of the difference in the financial literacy is explicated by the selected variables of the model. The results of both the models are compared and it found that in both cases the impact of the dependent variables on FI is significant. Except INTD shows a positive while INTL shows a negative significant impact on FI. The empirical results indicate that by taking the loan as an indicator of FI, the results display that the size of the banks, the country specific and human resources variables considerably influence the financial.

GMM is one of the best method for solving the problems of autocorrelation heteroscedasticity and endogeneity (Roodman, 2009). According to Arellano and Bond (1991) to capture the impact of lagged effect the difference GMM model is suggested. Therefore, this study used the system GMM for analysis. In model 1, the lag value of LTD is regressed with LTA, CIR, INTD, LGNI, INFL, LR and AGD. It shows a significant positive relationship with LTA, INTD, LGNI and LR. The CIR, INFL and AGDE show a noteworthy inverse link. In this analysis both AR (1) (p=.132) and AR (2) (p=0.594) reject the H_0. This amalgamation cares the validity of the instruments (Bond et al., 2001). The model 2 shows that bank specific, country specified and human factors regressed with the lag value of LTL. For the bank specific variables, dynamic GMM model signified having a relationship of financial inclusion with LTA, CIR and INTL. From the country specific variables, GNI (0.0613) has positive and inflation (-0.00167) has negative impact on FI. The literacy rate found to have a positive impact (0.00122). The age dependency ratio has a negative influence (0.0156) on FI. In line with Park and Mercado (2015) findings, the literacy rate shows a positive and age dependency ratio shows a negative and significant relationship with FI.

TABLE 3: SUMMARY OF REGRESSION RESULTS

LTD:- Dependent Variable			**LTL:- Dependent Variable**	
Variables	**Random Effect**	**System GMM**	**Random Effect**	**System GMM**
Lag Dependent Variable		0.0979*		.1405*
LTA	0.0141***	0.9352***	0.09761***	.8501***
CIR	-0.0001	-0.0001	-.0008***	-.0006*
INTD	0.0162*	0.0002		
INTL		0.0867*	-0.0012*	-0.0036***
LGNI	0.173**	0.2254*	0.00294	0.0613
INFL	-0.0014	-0.0015**	-0.0023	-0.0017*
LR	0.0012*	0.0011*	0.0007	0.0012*
AGD	-0.0134**	-0.123*	-0.0054	0-.0156**
Cons	0.2987***	0.3420***	.0967*	0.1936*
R-squared	0.6943		0.8878	
No of Obs	480	480	480	480
No of Groups		20		20
No of Instruments		19		17
Hansen Test P Value		0.231		0.172
A-B AR (1) Or M1 Test P-Value		0.132		0.142
A-B AR (2) Or M2 Test P-Value		0.594		0.486
Hausam Test Results	chi2 =1.52		chi2 =1.63	
	Prob>chi2 = 0.9652		Prob>chi2 = 0.9815	

Note: Values in parenthesis are t statistics, ***, ** and* indicates significance at 1, 5, and 10% level respectively

CONCLUSION

In Pakistan, many policies and regulations are designed to promote financial inclusion, but still its level is very low. The literature review support that there is strong link between FI, banks' networking and its services. Therefore, this study provides the analysis of different factors that influence this important issue in Pakistan. The empirical evidences indicate that the banking sector and FI are mutually reinforcing each other. Therefore, the balance between these two sectors is important to increase the overall FI rate by the bringing the unbanked sector of the economy into formal financial channel. The results suggest that bank size, the interest rate on deposit and the level of literacy positively influence the level of FI. This means that by adopting a multi-pronged approach, the large banks with diverse product portfolio can reach the more diverse of number of customers which contribute to increasing the level of FI. Further the study found that interest on loan, inflation; age dependency ratio, cost and income have a negative effect on FI. The economic volatility and high inflation in the country lower their purchasing power and reduce their access to financial services. The lower income ratio reduces the FI. While the lower age dependency ratio increases FI in the country. This is the worldwide issue and to tackle it various countries proposed different models. Pakistan is an emerging economy and a huge number population is unable to get benefit from the banking services. There is a need to make a people financially literate by various ways. These results will help the policy makers to design policies in a way to communicate the benefits of financial inclusion to the unbanked sector of the economy.

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