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Financial Inclusion In Nepal

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Abstract

Economic growth in Nepal is also a priority of financial inclusion due to the Digital Nepal Framework and FinTech and digital payments strategies of Nepal Rastra Bank, which have seen the number of bank accounts rise substantially, to 81 percent by 2022. The major programs are the formation of a retail payment switch, the advancement of mobile banking, and the development of a strong legal framework on the financial services, and consumer protection and financial literacy as a tool to enhance inclusive economic growth. Financial inclusion is actually important as it can contribute to the reduction of poverty and lessening the poor-rich divide, that is why the government officials and regulators are giving it so much focus.

Key Words: *Financial Inclusion, Access to Finance, Microfinance*

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INTRODUCTION

In Nepal, financial inclusion is on the national agenda that the government policies and the Nepal Rastra Bank (NRB) support, and the development of digital financial services (DFS) and the National Payment Switch (among other initiatives) has helped to make some progress. Although the ownership of accounts has improved considerably to approximately 81 percent by 2022, the adoption of digital credit, low financial literacy, and geographical limitations are still problematic. The government is supporting the use of digital payments and is using technology to create an inclusive financial system among its citizens.

Major Initiatives and Advancement.

Policy and strategy

The financial inclusion is one of the pillars of the economic development in Nepal that is being steered by the Digital Nepal Framework, National Financial Inclusion Roadmap, and strategic plans of NRB.

Digital Financial Services (DFS):

NRB has been an advocate of digital financial services such as internet banking, mobile banking and QR codes payment to facilitate the transition of cash into digital services.

Payment infrastructure:

Nepal has developed a retail payment switch and is building a National Payment Switch to upgrade the payment infrastructure and introduce government payments into faster payment infrastructures.

Higher account ownership:

In 2022, bank account ownership among adults increased to an approximate of 81 percent, which is much better than the past years.

Financial Literacy and Consumer Protection:

The NRB created the Financial Inclusion and Consumer Protection Division to spread financial literacy and resolve consumer-related complaints.

Regulatory basis:

The NRB has offered the legal and regulatory basis required to facilitate financial inclusiveness

such as the licensing of payment service operators and providers.

Difficulties and aspects to be improved.

Poor use of credit and digital medium:

The access to accounts has also increased; however, there is low use of formal financial services, particularly credit and digital payments.

Digital knowledge gap:

The population is experiencing a huge gap in digital knowledge that prevents the complete uptake of the digital financial services.

Geographical and settlement barriers:

Nepal has a challenging geography and village settlement which makes a challenge in the wide financial inclusion.

Poor and skewed access:

Access to formal financial services has remained poor and skewed especially in rural areas.

FUTURE OUTLOOK

More promotions should be done to promote the use of formal financial services by enhancing financial literacy and awareness. Additional financing in fintech and foreign direct investment can be used to increase financial inclusion in a profitable manner. The Financial Inclusion Index offered by the Nepal Rastra Bank is a means of monitoring the progress of the banking, digital payments, insurance, microfinance, and other spheres.

KEY POLICIES & FRAMEWORKS

Digital Nepal Framework (2019):

The concept of financial inclusion as one of the pillars of economic development was identified and the application of digital technologies was proposed.

National Financial Inclusion Roadmap:

Leads the national work to increase the financial access and financial literacy.

Nepal Rastra Bank (NRB) Strategies:

The central bank has formulated legal and regulatory basis, a strategy of national payment

system, retail payment strategies with the aim of developing digital financial services.

Digital Transformation

Higher Account owner ship:

By 2022, 81% of the citizens own a bank account, which provides a foundation to digital financial services (DFS).

Digital Payments:

NRB encourages mobile banking, wallets, and QR code payments among others to decrease cash transactions.

Infrastructure Development:

In a bid to create a digital base, Nepal is formulating policies that are technology-oriented and developing information and communication technology (ICT) infrastructure.

Key Initiatives & Focus Areas

Financial Literacy:

One of the priorities to be carried out is to create awareness and capabilities to utilize financial services in an effective manner.

Consumer Protection:

Ensuring safety and reliability of the financial system with the help of regulations and creation of a special division.

FinTech Development:

NRB has approved payment service providers and operators and also planning to switch to National Payment Switch to modernize payment system.

Infrastructure development: MSMEs and Agriculture:

There is an attempt to expand access to credit to micro, small and medium enterprises and the agricultural sector, and to expand financial inclusion.

Predicted Results: An increase in the level of savings, less dependency on informal lenders.

Growth of Financial Institutions and Financial Deepening in Nepal

Until the early 1980s, financial institutions were meager in Nepal. The number of financial institutions licensed by NRB did not exceed four until 1980 when the government complete ownership was established. The increase in the number of financial institutions was boosted by the introduction of financial sector reform program in 1985 which introduced the entry of the private sector in the provision of financial services. The commercial banks increased to 13 in 2000 up to 1985 and the new banks were privately owned (Table 1).

GROWTH OF FINANCIAL INSTITUTIONS IN NEPAL.

Institutions	1980	1990	2000	2010	2020	2024
Commercial Banks	2	5	13	27	27	20
Development Banks	2	2	7	79	20	17
Finance Companies	—	—	47	79	22	17
Microfinance Institutions	—	—	7	18	85	53
Infrastructure Banks	—	—	—	—	1	1
Total	4	7	74	203	155	108
Bank Branches				2,265**	9,765	11,530
Population per Branch*				11,753**	3,072	2,529

Source: Nepal Rastra Bank (2018, 2024)

Following the second wave of financial sector reform that started at the beginning of 2000s, both financial legislation and financial infrastructures changed considerably and resulted into a rapid growth of both the number of service providers and their size. The total number of financial institutions licensed by NRB amounted to 108 in 2024 following the financial consolidation measures made over the past 10 years (Table 1). The financial system has grown tremendously over the years as indicated by monetization and intermediation statistics. As an example, the general money-to-GDP ratio stood at approximately 23 percent in 1980 and rose by more than four times in 2024. Similarly, this credit to GDP ratio was incredibly small, approximately 8 in 1980 and had skyrocketed to 91 in 2018 (Table 2).

FINANCIAL DEEPENING INDICATORS, % OF GDP.

Year (Mid-July)	Money-to-GDP Ratio	Private Sector's Credit	Deposit
1980	22.6	8.2	14.4
1990	30.5	11.3	21.2

2000	56.0	28.8	40.8
2010	77.2	42.0	52.0
2020	108.8	84.3	98.7
2024	122.1	91.2	113.1

Source: Nepal Rastra Bank (2024).

Although the growth was great it raised the question of whether intermediation was effective and efficient. There are also other problems that were identified to be problematic like asymmetric distribution and poor financial literacy. The access, quality, and governance of financial institutions were some of the challenges observed. Meanwhile, NRB made financial consolidation by moratorium on new licenses, mergers, and acquisitions in 2010. These steps picked up during the subsequent stages with capital increase plan. All these had a significant impact on the reduced number of institutions: 164 banks and financial institutions became only 42 in December 2018 as the policy of merger and acquisition by NRB.

Status and Policy Initiatives of Financial Inclusion.

In recent years, Nepal has achieved a lot in the financial inclusion. The financial institutions and the deepening indicators have also pointed this as discussed in the previous part. The financial inclusion requirement is managed by NRB and it has been striving incessantly to increase access, enhance literacy and focus on consumer protection initiatives. The number of people in Nepal per branch is approximately 4,500 individuals without microfinance institutions. With them added, there are approximately 2,500 people per branch (Table 3). But allocation of access is as well. Bagmati and Gandaki provinces are comparatively better in all indicators and Madhesh and Karnali are the worst. However, every province has already reached the 50% mark of financial literacy (Table 3). This means that the users possess financial knowledge, attitudes, and behavior and in case there is availability, they are able to make better financial choices.

PROVINCIAL DATA ON FINANCIAL INCLUSION, JULY 2024.

Province	Population per Branch*	Financial Literacy (%)**	Bank Accounts* (per 100,000 adult population)	Financial Inclusion Index†
Koshi	5,037	57.0	2,026	0.27
Madhesh	8,540	52.0	1,674	0.15
Bagmati	2,680	64.5	3,856	0.98
Gandaki	2,982	62.4	3,137	0.53
Lumbini	4,902	55.6	2,358	0.31

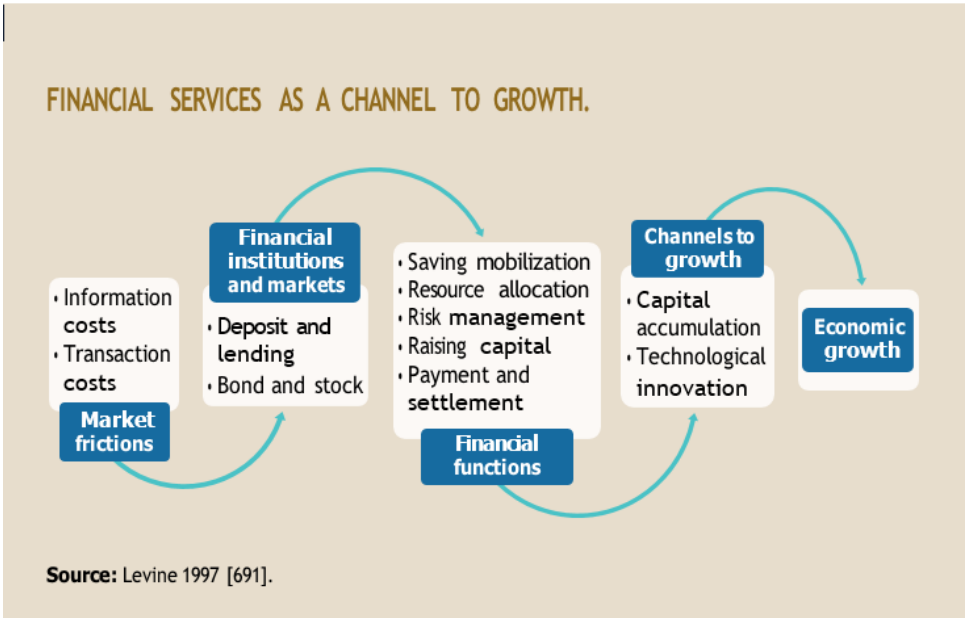
Karnali	7,124	59.7	1,824	0.14
Sudarpaschim	6,963	57.5	1,955	0.18
Nepal	4,501	57.9	—	—

Financial inclusion has been undertaken strategically by NRB, hence to attain inclusive growth and development. This is to build inclusive financial services towards greater productivity in both sectors and regions thus creating inclusive growth in the provinces. This is complemented by the Nepal Financial Inclusion Roadmap (2017-2030) and the Financial Literacy Framework 2022, and the Financial Inclusion Policy 2024; it has established a special department in 2023 that focuses on the inclusion efforts. For consumer protection, NRB

has not only controlled the charges of the banking services but also has a portal to address the grievances online. On the same note, there are also financial literacy resources, education, and special interventions. Digital banking and fintech are encouraged to expand the services in remote locations at lower prices. The payment modes in the form of QR code payments have transformed the payment modes and the entire payment and settlement infrastructure is being updated on a continuous basis, which has completely transformed the conventional banking ecosystem.

South-Asia Total Factor Productivity and the Financial Inclusion.

The growth of the TFP is also very volatile in Nepal and more so during recent years. The trend line of the TFP is negative, as expected of the further falling trend of the South Asian average. But the rate of recovery in Nepal after the state restructuring and allowing of a decentralized development strategy is quite encouraging (Figure 1). This applies also to financial inclusion that has been on a rising trend. The growth of TFP in Nepal has been above the trend line except in 2005, but has fluctuated all the way to 2016, and has since 2017, it has had a steep rise.



With access to quality and cheap financial products, optimum resource allocation takes place among individuals and firms and this eventually contributes to growth of TFP. Bad financial services are crippling the growth of TFP as Fukao and Kwon (2006) found out. However, this does not necessarily lead to growth but can ruin things as it is shown in Colombia (Gomez Gomez et al., 2020). Although inclusion is what establishes the channel, efficiency and affordability is important too.

Financial inclusion provides avenues of greater expansion. These financial services facilitate the process of dealing with market frictions and as a result, open a route of capital and technology. The main factors of productivity include labor, capital and technology, although the financial system assists companies in the accumulation of capital and innovation. It is thus argued that improved financial services lead to increase in productivity and better economic growth. Figure 2 provides the growth finance nexus and its pathways to productivity.

As indicated in Figure 2, financial inclusion may initiate the mechanism of availing investors with a diversified risk opportunity of participating in the economy. Although the revolutionization of digital financial services and fintech has been observed in recent years globally, and in Nepal, financial access is getting creative, efficient, and cheaper, this further promotes financial inclusion and general income level (Dos Santos & Kvangraven, 2017; Klapper, 2018; Liu and Walheer, 2022). This is since the availability of quality and affordable financial services helps the households as well as firms not only to raise capital but also to foster human capital and social welfare, thus facilitating the realization of sustainable economic growth (Liu, 2018).

Hence, the cause of the recent exponential increase of productivity represented in Figure 1, and whether this increase is largely due to the inclusion of financial data to be healed, must be identified. The research findings on the financial conditions of the productivity growth have implications to the central bank and the government in terms of policy.

DATA AND METHODOLOGY

Data and Sources

The research is founded on the secondary data. The paper took Nepal as the province-level annual data on TFP, FII, GE, HDI, and UR of 2018-19 to 2023-24.1.

TFP was the interest variable of our study, which quantified the productivity with respect to the inputs which included labor, capital and technology. The calculation of TFP was carried out using Cobb-Douglas production function. In this case we have used provincial RGDP, labor force and capital stock data. The provincial RGDP data can be found in the site of National Statistics Office in Nepal. The time series data on provincial labor force in Nepal are not available on an annual basis hence, the labor force of each province in Nepal was estimated by multiplying the proportion of working-age population2 by the total population of the same province. In the same vein, the capital stock (of the nation and province) is also not easily availed in the case of Nepal. We approximated this by finding the national-level capital stock statistics with PIM approach implemented by NRB (2017) and redistributed it to every province in proportion to their population based on the assumption that the distribution of capitals was linked to the labor force.

Computation of the Financial Inclusion Index.

We calculated the FII, which is the main explanatory variable of the study, by ourselves because there is no series easily available to Nepal. We have taken into account the three dimensions of financial inclusion access, usage, and quality of financial services through the world bank group definitions (2012). According to the World Bank Group (2012), the three dimensions are the following:

a) Access: The ability of the financial institutions to offer financial services and products relating to the regulatory, market, and technology environments. Access indicators capture the intensity of outreach of financial services, e.g. penetration of bank branches, ATMs or devices of point of sale in rural locations.

b) Usage: The manner in which clients utilize financial services, including frequency and length of the financial product/service over the course of time (e.g. average balance of savings account, number of transactions per account, number of e-offices made, number of bank accounts, number of loans, or number of mobile banking accounts).

c) Quality: The quality of the financial service or product in terms of satisfying the needs of the consumers. The quality aspect incorporates affordability of financial services, convenience, and trustworthiness by the people. The quality indicators could also be product fit, transparency, safety, consumer protection, and financial literacy.

On the basis of them, the financial service indicators were bank accessibility (BA), the number of ATMs (ATM), deposit accounts (DA), deposit per capita (DPC), loan per capita (LPC), deposit ratio (DR), loan ratio (LR), active mobile banking accounts (MB), active internet banking accounts (IB), active debit card accounts (DC), and financial literacy (FL). The services offered by microfinance institutions like mobile banking, internet banking, debit card and ATM services are not available in the microfinance institutions, but in the commercial banks, development banks, and other financial institutions. Because the digital technology is critical to the financial inclusiveness in the modern age, our analysis has considered the latter institutions and omitted the data of the microfinance in calculating FII.

The methodology followed in the study was that of Hu et al. (2021) to develop the FII. The FII was constructed in four phases, which include: indicator selection, indicator normalization, weight measurement and index formation.

Indicator Selection

The 11 indicators were applied in three dimensions, which were used in the study. It was based on the research methods of Nepal Financial inclusion report in terms of branch access, ATM access, deposit account, deposit ratio, loan ratio, mobile banking account, and financial literacy (International Finance Corporation and United Nations Capital Development Fund, 2023). Internet banking and debit card accounts are topics applicable and of significance in the discussion of financial inclusion within the scope of increased financial digitalization in Nepal that can significantly increase access in the remotest of regions. Thus, these two indicators were included to estimate access to money in a better way. We also added the ratio of the deposits and the ratio of the loans as recommended by Hu et al. (2021). Table 4 displays the dimensions and indicators as well as the definition of the indicators.

INDICATORS OF FINANCIAL INCLUSION.

Dimension	Number	Indicator	Definition
Access	1	Branch access	No. of bank branches per 100,000 adult population
	2	ATM access	No. of ATMs per 100,000 adult population
Usage	3	Deposit accounts	No. of depositors with financial intermediaries per 1,000 adult population
	4	Deposit per capita	Deposit amount/total population
Usage	5	Loan per capita	Loan amount/total population
	6	Deposit ratio	Deposit amount/RGDP
	7	Loan ratio	Loan amount/RGDP
	8	Active mobile banking accounts	No. of active mobile banking accounts per 1,000 adult population
	9	Active internet banking accounts	No. of active internet banking accounts per 1,000 adult population
	10	Active debit card accounts	No. of active debit card accounts per 1,000 adult population
Quality	11	Financial literacy	Financial literacy score of each province as per NRB (2022)

Source: International Finance Corporation & United Nations Capital Development Fund, 2023; Hu et al., 2021; Authors.

Though the two concepts, financial literacy and financial consumer protection, are both very common as quality indicators, the present study concentrated on financial literacy. The reason behind this is that it is very subjective and qualitative when it comes to financial consumer protection thus it cannot be well measured in a quantitative context. Moreover, consumer protection contributes to increasing financial inclusion by making people believe the financial system. Thus, we believe that the consumer protection step has been taken in haste with the increase of financial access. Chapter 2 of this report summarizes the financial access and consumer protection the Nepalese measure.

RESULTS AND DISCUSSIONS

The results and the data analysis are described in this chapter. It starts with estimations of FII and TFP, and then proceeds to descriptive statistics such as summaries and correlations. Then it

approximates the model so as to interrogate the connection between the variables supported by robustness trials. Lastly, it speaks of the findings and how they can be applied in the financial inclusion and productivity analysis.

Estimating the Data

Financial Inclusion Index

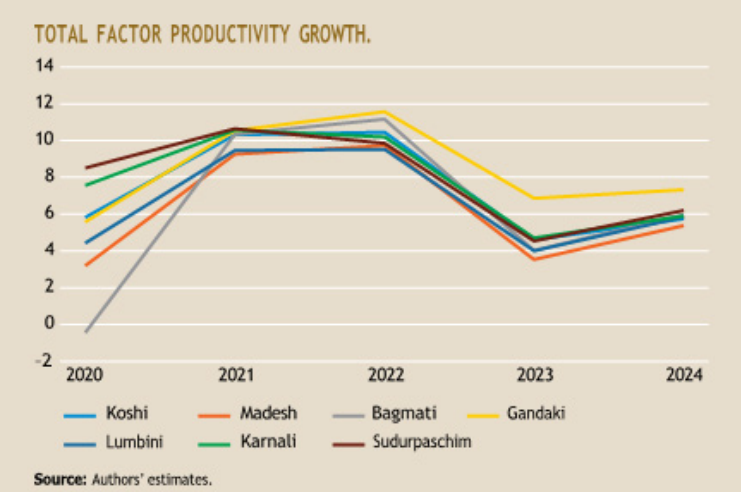
The FII of each province is a true depiction of the prevailing financial condition. The FII estimates in individual provinces are shown in Annex A1. There is the rise of the financial inclusion year by year in every province. The Bagmati province has the highest index and then Gandaki, Lumbini, Koshi, Sudurpaschim, Karnali, and lastly Madesh. The reasons may include high urbanization rates, increased concentration of financial institutions, enhanced infrastructure, increased literacy and income levels, and increased use of digital payments, which might have led to the increased FII in the Bagmati province. Madesh, Karnali and Sudurpaschim provinces are not developed much in terms of financial services, urbanization, literacy and infrastructure hence FII is lowest. Nevertheless, the mean index improved throughout the review time. As an example, when the mean FII received a 0.18 in 2019, six-year later, it doubled to 0.36 in 2024, which explains the financial access statistics and inclusion practices in Chapter 2.

Total Factor Productivity

According to the procedures described in Chapter 3 and Equation 13, the estimated outputs of the level of TFP are summed up in Annex A2. Figure 3 gives the trend of TFP growth. It appears that the TFP level is also rising in every province which demonstrates the progress in the efficiency and productivity in the regions.

Bagmati province has the highest values of TFP, and its initial values are 1.11 in 2019, and it reaches maximum values in 2024 at 1.49. It means that Bagmati is ahead in terms of TFP development, and the development has been improving throughout the years. The second highest province is Gandaki province. In 2019, its TFP value was below 1 (0.94) and increased to 1.4 in 2024. There are more favorable financial inclusion and other includes like GE, UR, and HDI in Bagmati and Gandaki provinces. Karnali and Koshi have significant improvement in TFP and the level of TFP in Sudurpaschim, Lumbini, and Madhesh provinces is below 1, which means that the provinces are not that productive. Compared to the other seven provinces, the TFP values in Madesh province are low and the mean of TFP values is 0.787. Nevertheless, TFP has an overall positive trend across all the provinces in the years.

The TFP data indicates that some convergence has occurred between the provinces particularly those whose values of TFP are close to 1 (Karnali, Koshi, Sudurpaschim, and Lumbini) and these are gradually improving their productivity level. This plays out to mean that these provinces are becoming better and reducing the distance, between them and the better performing provinces. Conversely, the sharp and rising growth of Bagmati province signals that the province is growing apart (differentiating itself) with the other provinces, especially Madesh that is not only the lowest in the TFP but is also experiencing lower growth rate. The growing chasm between Bagmati and Madesh can be used to show how dangerous it can be to have the regional factor productivity disparities to continue to rise.



The estimation periods had a strong growth in TFP. Although TFP increased more rapidly in every province between 2020 and 2022, it increased more slowly in 2023 only to recover soon in 2024. The lower rate of TFP increase in 2022 is probably because of the effects of COVID-19, disruptions in supply chains as a result of the geopolitical tensions, which created inflationary pressure in the world, import bans in Nepal, and the stricter monetary policy, among other factors. The increased growth rates in Gandaki province can be attributed to fact that, the province is better endowed with educated and skilled work force, better road networks and connectivity, better agricultural practices, diversification to high valued crops, and better tourism industry.

Data Description

Descriptive Statistics

This segment demonstrates the descriptive statistics of the variables that were included in the

study as well as the estimated data. TFP is 1.018, which is the average, which shown that the resources are utilized efficiently. The low standard deviation (SD) value as relative to the mean indicates that the TFPs are homogenous and closely placed around the average, there are fewer variances in the productivity of the provinces with the lowest TFP at 0.672 and the highest at 1.487. The mean FII is 0.283 which shows that the levels of financial inclusion in the provinces are relatively low. The SD of the FII is almost equal to the mean, indicating that there are no even distributions of financial inclusion among the states, some provinces are deficient (0.037) and some are approaching total inclusion (0.984; Table 5).

DESCRIPTIVE STATISTICS

Variable	**Mean**	**Standard Deviation**	**Min**	**Max**
Total Factor Productivity (TFP)	1.018	0.197	0.672	1.487
Financial Inclusion Index (FII)	0.283	0.255	0.037	0.984
Government Efficiency (GE)	0.664	0.103	0.354	0.923
Human Development Index (HDI)	0.57	0.048	0.501	0.664
Urbanization Rate (UR)	0.072	0.041	0.01	0.164

Source: Authors' calculation.

GE is moderate in all provinces having an average of 0.664. SD = 0.103 implies that there is not much variability in GE as opposed to TFP and FII. The average HDI of 0.570 implies an average of standard of living, education and health of the provinces. The SD of 0.048 demonstrates that the HDI points are not very far away. On the same note, the average U of 0.072 implies low UR on average at the provinces. The SD of 0.041 shows that there is a variability in the provinces. The variables are normally distributed as per Shapiro-Wilk test.

Correlation

Pearson correlation matrix indicates that there is strong positive and statistically significant correlation between FII and TFP. It confirms the inclusion of the control and interest variables in the model as it indicates that the control variables GE and UR are positively and statistically significantly correlated with TFP, as it should be the case (Table 6).

PAIRWISE CORRELATIONS MATRIX.

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**

(1) Total Factor Productivity (TFP)	1.000				
(2) Financial Inclusion Index (FII)	0.808	1.000			
	(0.00)				
(3) Government Efficiency (GE)	0.407	0.192	1.000		
	(0.00)	(0.22)			
(4) Human Development Index (HDI)	0.769	0.910	0.218	1.000	
	(0.00)	(0.00)	(0.20)		
(5) Urbanization Rate (UR)	0.393	0.770	0.160	0.581	1.000
	(0.01)	(0.00)	(0.31)	(0.00)	

Source: Authors' estimation.

Model Estimation and Findings.

We then estimated our model of interest in order to see the relations of TFP and FII. A panel regression model with RE was first estimated followed by the FE model as equation 14. In the case of the panel regression of seven provinces in half of a decade, the RE or FE model would have been possible. These seven provinces of Nepal might possess random features throughout the period because they do differ in the degree of development. However, there could be common, permanent, underlying effects that they shared and which remained the same throughout the study period. As such, we had to statistically test before concluding on the model and the results. In RE model province-specific effects are random variables, uncorrelated with any of the explanatory variables, whereas in FE model province-specific effects are random variables, which are permitted to be correlated with the explanatory variables. We thus had a test of establishing the best model that would fit the data.

Since the data is panel structured, both RE and FE models have been initial estimated to ascertain which one is more suitable in the capture of the relationship between financial inclusion and productivity through time and the seven provinces. The test that compared the correlation between the effects that are not observed (the individual specific effects) and the explanatory variables, used by Hausman (1978), was used to determine the model between the RE and FE. One of the principal outcomes implies that FE model ought to be chosen in favor of the RE model (Schmidheiny, 2014). In our test, Hausman test rejected the null hypothesis with a chi-square value of 20.1, with a p-value of 0.005. This implied that the FE rather than the RE model was more suited as it was consistent with our assumptions. This finding was not surprising

since the FII changes significantly across provinces but is usually a stable concept across time within the province. We thought that such regional variations which remain unchanged with time could be correlated with TFP and other control variables. These regional features in the FE model assist in isolating the impact that financial inclusion has on the productivity. Moreover, control variables such as GE, HDI and UR are also significantly different in one province to another though their variation is also available with time within the same province. It implies that the province-specific aspects of governance, human development and urbanization can be better represented by FE to make sure that the influence of GE, HDI, and UR on TFP is properly estimated without any bias due to the unobserved regional effects. These local features may be correlated with TFP and the other variables and FE is the right option to control these unobserved variables. Thus, the results of the estimation of the RE model have been reported as well, but the empirical inferences and discussions are conducted relying on the FE model.

Robust standard errors might have been used to solve the heteroscedasticity and autocorrelation problems. Nonetheless, as we had a small T, we had eliminated the autocorrelation problems, and once we had applied the FE model, we had assumed that error terms would become homoscedastic. Our error terms would be homoscedastic and serially independent and this is based on the argument that in the case of small T and the within transformation, our errors would be homoscedastic and serially independent (Wooldridge, 2010).

REGRESSION RESULT WITH RANDOM EFFECTS AND FIXED EFFECTS.

Variables	**(1)** **Random Effects**	**(2)** **Fixed Effects**
Financial Inclusion Index (FII)	1.283*	0.670**
	(0.147)	(0.263)
Government Efficiency (GE)	0.428*	0.298**
	(0.100)	(0.108)
Human Development Index (HDI)	–1.710*	0.134
	(0.588)	(2.073)
Urbanization Rate (UR)	–3.245*	6.689**
	(0.460)	(2.929)
Constant	1.565*	0.0672
	(0.315)	(1.135)
Observations	35	35
R-squared	0.780	0.878

Number of ids	7	7
F-stat		4.54
P-value of the F-stat		0.0033

Source: Author's estimati on.

The findings of the estimation show that there is a positive influence of financial inclusion on productivity. The estimates revealed in FE model indicate that the FII has a positive significant effect on TFP (Table 7). As an example, the increase in FII by one unit is linked to a 0.67-unit increase in TFP, others remaining the same. It implies that the increase in financial inclusion is linked to the increase in the level of productivity. The finding is consistent with the empirical findings of Yao (2011), Hu et al. (2021), Arif-Ur-Rahman and Inaba (2020), and theoretical literature, e.g., Goldsmith (1969) and Shaw (1973). Similarly, some positive improvements to TFP can also be made by GE. The regression coefficient of GE has a value of 0.298 and the coefficient is significant at the 5% level hence the increase of TFP by one unit does not affect the variable GE. The given finding corresponds to the findings of Wu et al. (2017). The same applies to UR as well, the regression coefficient of UR is significantly greater (6.689) and significant at the 5% level. This finding concurs with findings made by Glaeser (2010), Kumar and Kober (2012), and Mitra (2002). However, there is no statistical significance between TFP and HDI. To Miller and Upadhyay (2002), human capital contributes less to growth improvement through TFP. Dahal (2013) also in a study determined that the impact of higher education is not clear in boosting TFP in Nepal. Ezzahid and Elouaourty (2018) also indicate in their findings that human capital does not positively add directly to TFP.

The value of 0.88 of R-Squared refers to the fact that the model provides a greater explanatory power of the variables contained in it to the variations in the TFP. F-test shows that the overall model is significant at the 1 percent level, thus showing an overall model significance.

Discussion of the Findings

The study results provide certain new knowledge concerning the productivity growth of Nepal. Although it was true that our assumption that financial inclusion positively influences TFP was correct, only two out of three control variables were significant. The discussions below are founded on the findings.

To begin with, it is important to note that correlation between FII and TFP is much positive

implying that access to finance services allows individuals and enterprises to make more productive investments in Nepal in every province of the country. Financial inclusion enables increased number of individuals to participate in economic transactions, invest in productive assets and risks through accessibility to credit, savings among other financial products. This results in increased entrepreneurship in provinces, accumulation of capital and efficient use of resources which all makes productivity to be better. This finding points out to the use of NRB in enhancing productivity and, consequently, greater growth.

Moreover, technological adoption and innovation can as well be supported by financial inclusion since those businesses that have improved financial support are more likely to invest in new technologies and advance their production process. This association confirms the opinions of Goldsmith (1969), McKinnon (1973), and Shaw (1973) who stated that financial access facilitates economic growth by alleviating financial restrictions and enhancing the allocation of resources. Similar findings on the relationship between higher TFP growth and financial inclusion are also found in the empirical studies by Yao (2011) and Arif-Ur-Rahman and Inaba (2020). Thus, the impact of financial inclusion on productivity is positive, which illustrates the prospects of the specific policy to increase the financial services provision, particularly in low-serviced regions, as a productive way of developing productivity and, consequently, the economy of Nepal.

Second, though the result implies that FII is actually a driver of TFP growth in Nepal, it is urgent to comprehend that the net effect of financial inclusion on TFP is affected by a number of other variables, including the quality of financial institutions, financial system stability, and the regulatory climate. Provided that these concerns are addressed in a systematic manner, then financial inclusion will be able to enhance productivity to a large degree. Contrarily, in the absence of supportive policies and in inadequate financial infrastructure, the benefits of financial inclusion may be watered down, capped or may take a long time to realize.

Third, the correlation coefficient of GE/TFP is highly positive, which indicates the importance of an efficient and able government in promoting the level of productivity. Good governance ensures improved infrastructure, straight forward regulations as well as improved availability of services to the people which offers conducive environment to do businesses and economic growth. An efficient government in terms of its rule of law, contract enforcement and bureaucratic

barriers alleviation can lower transaction cost, ease investment and stimulate innovation to promote productivity gains. Also, good governance is capable of attracting foreign investment through provision of a stable and predictable policy environment that further promotes productivity through the inflow of new technologies and the development of competition as demonstrated by Wu et al. (2017).

Fourth, the positive relationship between UR and TFP is significant, and this implies that the urbanization process is transformative in improving the level of productivity in the provinces of Nepal. The cities are usually centers of economic development, creativity, and a greater supply of qualified workforce, all of which enhance increased productivity levels. When individuals relocate to cities, they are the ones who have improved job prospects, improved infrastructure and provision of necessary services and this may result in improved production and output. The localization of industries and businesses is also easier in urbanization, resulting in the creation of knowledge spillovers, cooperation, and revenue scales of economy. Such environments allow firms to share resources more easily, access talent, and markets, which helps in the growth of productivity. The government is therefore advised to adopt measures that promote sustainable urbanization through investing in urban infrastructures, improving transportation systems and dealing with issues such as housing and environmental sustainability so that the benefits of urbanization in terms of productivity can be maximized.

Lastly, the unworthy correlation between TFP and HDI indicates that an increased level of human development, i.e. in terms of health, education and standard living, is not directly related to an increase in productivity in Nepal. Despite the fact that advancements in education, health and the overall well being are key to the overall development of the society, the improvement may not have instant effects on productivity in the current set up of the economy. Structural factors that may have been diminishing the role of human development in productivity in Nepal include; poor match between education and labor market demands, insufficient jobs, and ineffective opportunities to exploit skills. Similar observation made by Dahal (2013) reveals that the impacts of higher education on productivity in Nepal are mixed-up, which may be explained by the fact that the education system is oriented to the needs of the labor market or other types of inefficiency of human capital. It implies that it is necessary to reorient the policies to concentrate more on more effectively aligning the human development initiatives to the economic requirements (e.g., by running vocational training and skill development programs

that were adjusted to the market needs) and to make sure that the improvements in health and education are also well integrated into the sectors that contribute to the productivity.

CONCLUSION AND POLICY IMPLICATIONS.

They indicate that increasing productivity is triggered by financial inclusion as it is reflected in theory and evidence. However, the findings that are available are not unanimous on whether finance favors economic growth. This is something of concern particularly to the developing economies such as Nepal. Although most central banks are strictly focusing on the importance of their involvement in financial inclusion to facilitate the legal requirement of sustainable growth, the interrelationship between financial inclusion and TFP has not been investigated, particularly in Nepal context. The study develops the correlation between financial inclusion and TFP in the FE model using the annual data of the seven provinces in Nepal that reorganized its state in 2015. There were also the additional 3 variables of provincial GE, UR, and HDI as control variables. Our initial step was to develop the FII of the seven provinces in Nepal, TFP and finally estimate the model. Nepal has been growing at a fast rate in gaining access to finance and surpassing deepening indicators in the whole of Asia. Likewise, the rapid increase of TFP also occurred after 2018. Thus, to observe the causality, financial inclusion and TFP had to be investigated.

On the findings, this study concludes that financial inclusion has a positive impact on TFP. On the same note, GE and UR are two out of three control variables that positively contribute to increasing TFP. UR is the most influential on the growth of productivity since it is greater than unitary. Yet, the third control variable, HDI, does not play any direct role in influencing productivity. These are in line with the literature that is available. The indicators of the test assure the soundness of the results obtained. The research results offer novel perspectives on and policy discussion on the growth of productivity in Nepal.

The findings of the research have a number of policy implications. The first implication is that the hypothesis of finance of growth is important to Nepal. Financial inclusion

is an agent to productivity improvement. Financial inclusion is the mandate of the NRB, which is the central bank of Nepal, and therefore the bank can enable higher growth and sustainable economic development and development by enhancing financial access to underserved regions, financial innovation and fintech, as well as enhancing literacy and consumer protection

provisions: all essential pillars of financial inclusion. It is also important to ensure that effective services, sound financial structure, systemic and strategic approach to financial development are in place not only to enhance financial inclusion but other enablers like efficiency of institutions.

The other implication is the contribution of GE and urbanization to increase in productivity. They are both similar in terms of their effect on productivity. Urban infrastructures can also be developed through higher government expenditures. As such, increased spending and increased UR are also needed to increase productivity growth. Good governance is one that offers increased government services, and which has the state-of-the-art infrastructure and adequate regulations and policies. These go hand in hand with urbanization and hence, industrialization and rural-urban connectivity. Lastly, though people are essential to productivity development, health and education in Nepal do not seem to correlate with productivity development, as yet. The negligible linkage between human development and growth of higher productivity implies that the education and health policy should be refocused to be more skill-focused and industry-oriented.

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