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Financial System Development in Emerging Economies: An Array of MINT Economic Bloc

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Abstract:

This study investigated financial system development in emerging economies of Mexico, Indonesia, Nigeria and Turkey (MINT) with a view to ascertaining the level of financial institutions and markets depth, access and efficiency and intra-dependency of these financial system development indicators in member countries from 2000-2020. Comparatively, the level financial institutions and markets depth, access and efficiency in some MINT member countries were below standards for emerging economies especially in Nigeria, while some performed above the benchmark. VAR results revealed that indicators of financial system development were strongly endogenous and exogenous in the short and long run except financial institutions efficiency and financial markets depth, depicting independent influence and significant self-predictions. Based on the findings, researchers recommends that MINT monetary zone should be established to facilitate cross border effect of financial institutions and markets development in member states, and there should be common policy measure to pursue a robust financial institutions and markets development to complement and harness innovations in the different components of the financial system.

Keywords: Financial system development, emerging economies, MINT economic bloc

1. Introduction

Financial system development in emerging economies precipitates emancipation of her economic throes in global competitive environment, as developing economies strives to foster economic integration beyond regional and continental organizations by forming economic blocs. Aside mutual economic policy, economic transformation of emerging markets huddled on her establishment and expansion of financial institutions, instruments and markets to facilitate multilateral trade, economic growth processes and sustainability. However, financial innovations continually brought colossal dynamism in development of the financial system which poses as a global phenomenon for virile economy. As the matrix of financial system development and economic performance has been intellectually explored, relegating the array of financial system development indicators in the contemporary issues with no attention on the presumable symbiotic dispositions. Consequently, this study investigates the level of financial system development in Mexico, Indonesia, Nigeria and Turkey (MINT) economic bloc.

2. Literature Review

The critical role of financial sector spurred economies across the globe and heralds the development of her financial system especially emerging markets. Financial system development thus involves the establishment and expansion of financial institutions, instruments and markets which supports the investment and growth process through improvements in the quantity, quality and efficiency of financial intermediary services Osuji (2015). Ronoh and Omwenga (2017) assert that the developments in the financial sector have not only led to the increase in the number of financial institutions, but also the development in level of sophistication with new payment systems and asset alternatives to holding money. While, Stiglingh, Muzindutsi and Bezuidenhout (2018) succinctly posit that there seems to be a lack of strong financial systems and policies to deliver the required economic results in most developing countries. Iheonu et al. (2020) collaborate that development of the financial sector enhances efficient access to financial services and products.

2.1. Financial System Development in MINT Countries

Economic bloc of Mexico, Indonesia, Nigeria and Turkey (MINT) was devised by Fidelity investments in 2011 and popularized by Jim O'Neill (the former chief economist of Goldman Sachs) in 2013 as emerging economic giants. MINT countries were grouped together based on their similar characteristics, including large populations of youthful age, inner demographics of nations encouraging trade with other countries and demonstration of rapid economic growth based on national reforms and entrepreneurialism. According to Durotoye (2014), the term was popularized by Jim O'Neill of Goldman Sachs, who had created the term BRIC, the idea was that Mexico, Indonesia, Nigeria and Turkey have very favourable demographics and their economic prospects are encouraging. However, charts 2.1, 2.2 and 2.3 below present the level of financial institutions depth (FID), access (FIA), efficiency (FIE) compared to the International Monetary Fund (IMF) Bench mark for emerging economies (B/Mark) across the globe. While Figure 2.4, 2.5 and 2.6 present financial markets depth (FMD), access (FMA), efficiency (FME) in Mexico, Indonesia, Nigeria and Turkey (MINT) countries compared to the International Monetary Fund (IMF) Bench mark for emerging economies (B/Mark).

Figure 1: Financial Institutions Depth in MINT and Bench Mark for Emerging Economies

Source: Researchers Graph of Financial System Development Indicator

Figure 1 above reveals that ratios of financial system depth (FID) in Mexico, Indonesia, Nigeria and Turkey ranges from 0.11% to 0.25%, 0.09% to 0.15%, 0.04% to 0.07% and 0.07% to 0.19% respectively with annual average of 0.18% in Mexico, 0.13% in Indonesia, 0.06% in Nigeria and 0.3% in Turkey below the average bench mark of 0.21% for emerging economies ranging from 0.17% to 0.24%. FID in all MINT countries were significantly below the emerging markets IMF bench mark throughout the period except in Mexico that recorded slight ratios above the bench mark from 2000 to 2005.

Figure 2: Financial Institutions Access in MINT and Bench Mark for Emerging Economies

Source: Researchers Graph of Financial System Development Indicator

Figure 2 above depicts that ratios of financial system access (FIA) in Mexico were strongly correlated with emerging economies bench mark, ranging from 0.21% to 0.43% with annual average of 0.32% as FIA was slightly above the average bench mark of 0.34%, ranging from 0.23% to 0.42%. However, FIA in Indonesia and Nigeria significantly performed below standard throughout the period except in 2014 to 2018 that ratios of Indonesia were slightly above the bench mark. Indonesia ratio ranges from 0.10% to 0.44% with annual average of 0.23% while Nigeria ranges from 0.38% to 0.65% with annual average of 0.52%. Turkey's FIA significantly performance above the bench marks with average of 0.55% and range 0.26% to 0.62%.

Figure 3: Financial Institutions Efficiency in MINT and Bench Mark for Emerging Economies
Source: Researchers Graph of Financial System Development Indicator

Figure 3 above presents financial system efficiency (FIE) and emerging economies bench mark (B/mark), aside 2000 to 2002 and 2014 to 2018 weak performance in Mexico, ratios of Mexico and Indonesia outweighs the IMF bench mark throughout the period with annual average of 0.62% and 0.67%, ranging from 0.44% to 0.72% and 0.60% to 0.72% compared to 0.62% average annual benchmark with the range of 0.56% to 0.65%. However, Nigeria and Turkey strongly performance below the emerging markets standard with ratios of 0.05% and 0.30%, which ranges from 0.02% to 0.11% and 0.21% to 0.37% respectively except the 2018 equality ratio in Nigeria.

Figure 4: Financial Market Depth in MINT and Bench Mark for Emerging Economies
Source: Researchers Graph of Financial System Development Indicator

From Figure 4 above, the ratios of financial markets depth (FMD) in Mexico, Indonesia and Turkey strongly performed beyond the IMF annual bench marks for emerging economies with annual average of 0.24%, 0.20% and 0.30% respectively, ranging from 0.12% to 0.33%, 0.14% to 0.26% and 0.21% to 0.37% compared to annual average standard of 0.21% with the range of 0.19% to 0.24% except 2002 and 2003 in Mexico below the standard. While, Nigeria

ratios significantly performed below standard with annual average of 0.05% and range of 0.02% to 0.11% throughout the period.

Figure5: Financial Markets Access in MINT and Bench Mark for Emerging Economies
Source: Researchers Graph of Financial System Development Indicator

MINT financial markets access (FMA) in Figure5 reveals that ratios of Mexico, Indonesia, Nigeria and Turkey significantly performed above the emerging economies bench mark throughout the period with annual average of 0.47%, 0.36%, 0.50% and 0.36%, ranging from 0.42% to 0.57%, 0.29% to 0.40%, 0.47% to 0.51% and 0.29% to 0.40% respectively, compared to 0.18% annual average standard and range of 0.15% to 0.27%.

Figure 6: Financial Markets Efficiency in MINT and Bench Mark for Emerging Economies
Source: Researchers Graph of Financial System Development Indicator

In Figure 6 above, Mexico, Indonesia and Turkey significantly performed beyond standard throughout the period with most glaring ratios in Turkey. Annual average of 0.33% and 0.39% with the range of 0.23% to 0.50% and 0.21% to 0.92% recorded in Mexico and Indonesia respectively. While, Turkey was 1.00% on annual average recording 1.00% each year. However, Nigeria performed below the annual bench mark throughout the period except in 2007 and 2008, and the ratio ranges from 0.05% to 0.42% with annual average of 0.12%.

2.2. Empirical Review

Sulemana and Dramani (2020) comparatively revealed that FSD led to growth in SADC but no statistically significant effect in ECOWAS, as the effect of FSD through institutional development supports a positive complementarity effects on growth in both regions but only statistically significant in ECOWAS. Iheonu et al. (2020) research found the impact of financial sector development on domestic investment depends on the measure of financial sector development utilized, as banking intermediation efficiency and broad money supply negatively and significant influence domestic investment. Sarwar et al. (2020) study revealed that financial development has a positive and significant effect on economic growth of emerging economies. Guru and Yadav (2019) depicts that banking sector development and stock

market development indicators are complementary to each other in stimulating economic growth for five major emerging economies of Brazil, Russia, India, China and South Africa (BRICS). Stiglingh, Muzindutsi and Bezuidenhout (2018) showed a long run and short run relationship between economic growth and financial development in BRICS.

2.3. Theoretical Review

Researchers anchored this study on Legal Theory of Finance (LTF) which prostrates that in countries where legal systems enforce private property rights, support private contractual arrangements, and protect the legal right of investors, savers are more willing to finance firms and financial system flourish. According to Pistor (2013), the LTF posits that financial markets are constructed legally and ensconced in a hybrid location between market and state. Confidence in the financial system encourages investors to allocate their savings through financial markets and institutions rather than to invest in non-productive assets in order to hedge against inflation or the risk of financial collapse (Chittedi, 2014). LTF states that law is fundamental to modern finance, as it offers authority to private and public financial instruments; and validates financial instruments generated from private contracts if they are consistent with the law (Sarpong and Deodutt, 2019). Levine (2001) Avers that legal adaptability channel of the law and finance theory holds that legal traditions differ in terms of their ability to adapt to changing commercial and financial circumstances and that legal systems that adapt more effectively to changing conditions will concomitantly support financial development more effectively. Arguably, significance of law to finance has increased with the transition from relational finance to entity and ultimately, market based finance. Financial instrument fungibility in anonymous markets depends on credible contractual commitments that can be legally enforced.

3. Methodology and Data Analysis

As a result of endogenous model variables, the VAR approach was adopted as the most plausible technique of analysis in this study as it deals with dependent variables only. VAR Model automatically specified thus:

$$\begin{aligned} FID &= C(1,1)*FID(-1) + C(1,2)*FIA(-1) + C(1,3)*FIE(-1) + C(1,4)*FMD(-1) + C(1,5)*FMA(-1) + C(1,6)*FME(-1) + C(1,7) \\ FIA &= C(2,1)*FID(-1) + C(2,2)*FIA(-1) + C(2,3)*FIE(-1) + C(2,4)*FMD(-1) + C(2,5)*FMA(-1) + C(2,6)*FME(-1) + C(2,7) \\ FIE &= C(3,1)*FID(-1) + C(3,2)*FIA(-1) + C(3,3)*FIE(-1) + C(3,4)*FMD(-1) + C(3,5)*FMA(-1) + C(3,6)*FME(-1) + C(3,7) \\ FMD &= C(4,1)*FID(-1) + C(4,2)*FIA(-1) + C(4,3)*FIE(-1) + C(4,4)*FMD(-1) + C(4,5)*FMA(-1) + C(4,6)*FME(-1) + C(4,7) \\ FMA &= C(5,1)*FID(-1) + C(5,2)*FIA(-1) + C(5,3)*FIE(-1) + C(5,4)*FMD(-1) + C(5,5)*FMA(-1) + C(5,6)*FME(-1) + C(5,7) \\ FME &= C(6,1)*FID(-1) + C(6,2)*FIA(-1) + C(6,3)*FIE(-1) + C(6,4)*FMD(-1) + C(6,5)*FMA(-1) + C(6,6)*FME(-1) + C(6,7) \end{aligned}$$

Notation	Variable	Description	Data Source	A'priori Expectation
FID	financial institutions depth	Bank credit to the private sector in percentage of gross domestic product (GDP), pension fund assets to GDP, mutual fund assets to GDP, and insurance premium, life and non-life to GDP	IMF	Strong endogeneity and exogeneity
FIA	financial institutions access	Bank branches per 100,000 adult and ATMs per 100, 000 adults.	IMF	Strong endogeneity and exogeneity
FIE	financial institutions efficiency	Banking sector net margin, lending deposits spread, non-interest income to total income, overhead costs to total assets, return on assets, and return on equity.	IMF	Strong endogeneity and exogeneity
FMD	financial markets depth	stock market capitalization to GDP, stock traded to GDP, international debt securities of government to GDP and total debt securities of financial and non financial corporations to GDP	IMF	Strong endogeneity and exogeneity
FMA	financial markets access	Percentage of market capitalization outside of top 10 largest companies and total number of issuers of debt domestically and external, financial and nonfinancial corporation per 100, 000 adults	IMF	Strong endogeneity and exogeneity
FME	financial markets efficiency	Stock market turnover ratio (stocks traded to capitalization).	IMF	Strong endogeneity and exogeneity

Table 1: Description of Model Variables

Country	VARIABLE	ADF-STAT	Prob.**	ORDER	LAG	R. SQUARE
MINT	FID	40.7964	0.0000	1(1)	1	0.982531
	FIA	20.6250	0.0082	1(1)	1	0.982715
	FIE	36.1363	0.0202	1(1)	1	0.460611
	FMD	36.1363	0.0000	1(0)	1	0.833491
	FMA	43.3027	0.0000	1(1)	1	0.874534
	FME	14.4503	0.0250	1(0)	1	0.916041

Table 2: Summarized Results of Preliminary Analysis

Table 2 above summarized the panel unit root test, optimal lag structure and measure of regression. A positive value of the Augmented Dickey Fuller (ADF) statistic indicates stationarity of the variables, and confirmed by the probability values less than one each. FID, FIA, FIE and FMA integrated in order one, while FMD and FME attained stationarity at level form. Optimal lag structure of one was obtained across the variables and R square individual coefficients of determination shows the high degree of self prediction by each variable tested in the model except for FIE.

Vector Auto regression Estimates Date: 03/11/21 Time: 16:30 Sample (adjusted): 2001 2018 Included observations: 72 after adjustments Standard errors in () & t-statistics in []						
	FID	FIA	FIE	FMD	FMA	FME
FID(-1)	0.987716 (0.04181) [23.6230]	-0.121491 (0.11530) [-1.05373]	0.460577 (0.37198) [1.23818]	0.627498 (0.20215) [3.10410]	-0.083162 (0.14854) [-0.55987]	-1.291007 (0.52798) [-2.44529]
FIA(-1)	0.008438 (0.01168) [0.72236]	0.974432 (0.03221) [30.2496]	-0.047095 (0.10393) [-0.45315]	0.063875 (0.05648) [1.13093]	0.026276 (0.04150) [0.63315]	0.094179 (0.14751) [0.63847]
FIE(-1)	0.023880 (0.01242) [1.92308]	0.016605 (0.03424) [0.48202]	0.497144 (0.11047) [4.50015]	0.063566 (0.08004) [0.7879]	0.013153 (0.04411) [0.29817]	-0.176468 (0.15880) [-1.12546]
FMD(-1)	-0.005605 (0.02330) [-0.24055]	0.130393 (0.06425) [2.02951]	-0.081655 (0.20728) [-0.39393]	0.350844 (0.11265) [3.11274]	0.003725 (0.08277) [0.04501]	1.071311 (0.29420) [3.64141]
FMA(-1)	0.029519 (0.01826) [1.61646]	-0.063018 (0.05036) [-1.25145]	-0.255203 (0.16246) [-1.57082]	-0.067998 (0.08829) [-0.77016]	0.881809 (0.06487) [13.5925]	0.002912 (0.23059) [0.01283]
FME(-1)	0.007723 (0.00490) [1.57603]	-0.011026 (0.01351) [-0.81592]	-0.032141 (0.04360) [-0.73723]	0.076295 (0.02369) [3.22022]	-0.027116 (0.01741) [-1.55757]	0.765102 (0.06188) [12.3647]
C	-0.024937 (0.01311) [-1.90224]	0.031166 (0.03615) [0.86225]	0.399028 (0.11663) [3.42142]	-0.006847 (0.06338) [-0.10802]	0.056030 (0.04657) [1.20312]	0.127622 (0.16553) [0.77099]
R-squared	0.984114	0.985390	0.495905	0.887233	0.883394	0.932928
Adj. R-squared	0.982648	0.984041	0.449374	0.876824	0.872630	0.926737
Sum sq. resid	0.003544	0.026952	0.280537	0.082853	0.044733	0.565132
S.E. equation	0.007384	0.020363	0.065696	0.035702	0.026233	0.093243
F-statistic	671.1075	730.6665	10.65734	85.23491	82.07176	150.8855
Log likelihood	254.9220	181.8900	97.55414	141.4613	163.8503	72.34149
Akaike AIC	-8.886724	-4.858056	-2.515393	-3.735035	-4.351396	-1.815041
Schwarz SC	-8.665381	-4.636714	-2.294050	-3.513693	-4.130053	-1.593699
Mean dependent	0.125573	0.277580	0.595853	0.198060	0.420408	0.456003
S.D. dependent	0.056058	0.161190	0.088534	0.101726	0.073506	0.344490
Determinant resid covariance (dof adj.)		4.21E-19				
Determinant resid covariance		2.28E-19				
Log likelihood		932.2940				
Akaike information criterion		-24.73039				
Schwarz criterion		-23.40233				
Number of coefficients		42				

Table 3: VAR Result of MINT Countries

The VAR estimates revealed strong endogeneity and exogeneity of FID, FIA FMA and FME variables. The coefficients of t-statistic and percentage increase depicted that FID, FIA, FMA, and FME strongly influenced selves, as their

pass realizations associated with 98.77%, 97.44%, 88.18%, and 76.51% increase in FID, FIA, FMA and FME respectively on average ceteris paribus. The co efficient of determination as represented by R square was 0.984114, 0.985390, 0.883394 and 0.932928 with adjusted R of 0.982648, 0.984041, 0.872630 and 0.926737 respectively. While, FIE and FMD was weakly endogenous and relatively exogenous as their pass realizations associated with 49.71% and 35.06% and the coefficients of t-statistic and percentage increase depicted that FIE and FMD weakly influenced selves. The coefficient of determination as represented by R square was 0.495905 and 0.887233 with adjusted R of 0.449374 and 0.876824 shows that FIE was strongly influenced by external factors aside the financial system development indicators while FMD was Deodat significantly influenced by other variables in the model. FID had weak positive influence on FIE and FMD, but weak negative influence on FIA, FMA and FME. All the variables had weak positive influence on FID except FMD with weak negative influence. Aside FIE, FIA had weak positive influence on all the variables. FIE and FMD had weak positive influence on FIA but FID, FMA and FME recorded weak negative influence.

Apart from FME, all the variables had weak positive influence on FIE confirming strong external influence, aside FID, FIE had weak negative influence on all the variables. FMD had strong positive influence on FME confirming its relative exogeneity, weak positive influence on FIA and FMA, but weak negative influence on FID and FIE. As FID strongly influenced FMD positively, other variables had weak positive influence on FMD excluding FMA with weak negative influence. FMA had weak positive influence on FID and FME, weak negative influence on FIA, FIE and FME. Other variables had weak positive influence on FMA except FID and FME with weak negative influence. FME had relative positive influence on FID and FMD, but weak negative influence on FIA, FIE and FMA. FIA, FMD and FMA exhibited weak positive influence on FME, but FID and FIE had negative influence on FME.

Authocorrelation		Heteroskedasticity		Normality
F- stat	Joint	0.0028	1	0.9731
Prob	Chi-sq (Joint = 318.5349)	34.25473	2	0.0001
		21.89735	3	0.0068
		23.06824	4	0.4269
		17.59608	5	0.5684
		15.23524	6	0.0193
		20.64902	Joint	0.0000

Table 4: Summary of Diagnostic Tests

VAR residual serial correlation LM test indicated absence of serial correction at lags 1 to h. The Normality Tests revealed that all the six components were normally distributed. Heteroskedasticity tests at levels and squares depict presence of Heteroskedasticity.

Variance Decomposition of FID:							
Period	S.E.	FID	FIA	FIE	FMD	FMA	FME
1	0.007384	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.010585	97.08688	0.090762	1.693268	0.040064	0.647854	0.441175
3	0.013200	94.04665	0.218610	3.268329	0.028644	1.530644	0.907122
4	0.015492	91.53321	0.368246	4.381787	0.025075	2.390883	1.300797
5	0.017561	89.51538	0.539312	5.132014	0.040190	3.150866	1.622243
Variance Decomposition of FIA:							
Period	S.E.	FID	FIA	FIE	FMD	FMA	FME
1	0.020363	9.274190	90.72581	0.000000	0.000000	0.000000	0.000000
2	0.029042	11.71519	85.45848	0.343164	2.005331	0.358397	0.119437
3	0.035864	13.08612	81.16808	1.016918	3.423736	1.174747	0.130402
4	0.041702	14.00374	77.42118	1.753106	4.372603	2.346939	0.102432
5	0.046917	14.70646	73.94668	2.430478	5.084536	3.746905	0.084935
Variance Decomposition of FIE:							
Period	S.E.	FID	FIA	FIE	FMD	FMA	FME
1	0.065696	1.730858	0.974651	97.29449	0.000000	0.000000	0.000000
2	0.074534	2.112670	0.857968	95.95583	0.072984	0.846442	0.154101
3	0.077582	2.467484	0.792166	94.16044	0.199196	2.061987	0.318728
4	0.079054	2.816482	0.783734	92.51995	0.321085	3.140463	0.418286
5	0.079929	3.176973	0.821137	91.22573	0.412582	3.907264	0.456309
Variance Decomposition of FMD:							
Period	S.E.	FID	FIA	FIE	FMD	FMA	FME
1	0.035702	24.88353	0.826661	0.310124	73.97968	0.000000	0.000000
2	0.040212	27.87086	0.663401	2.293058	66.16849	0.020894	2.983295
3	0.043107	29.69412	0.584581	3.419579	60.11282	0.054968	6.133936
4	0.045510	31.14534	0.555442	3.964693	55.56648	0.083931	8.684115
5	0.047663	32.39520	0.567289	4.245248	52.01121	0.103093	10.67797
Variance Decomposition of FMA:							
Period	S.E.	FID	FIA	FIE	FMD	FMA	FME
1	0.026233	0.391886	0.670509	7.072956	0.894473	90.97018	0.000000
2	0.034762	0.430680	1.013323	6.492916	0.906645	90.65221	0.504228
3	0.040138	0.525294	1.403875	6.013635	1.157216	89.44617	1.453808
4	0.043951	0.654428	1.799151	5.637885	1.570445	87.60206	2.736029
5	0.046851	0.805392	2.168101	5.337343	2.098410	85.33903	4.251721
Variance Decomposition of FME:							
Period	S.E.	FID	FIA	FIE	FMD	FMA	FME
1	0.093243	0.288382	1.273220	0.426788	0.216055	2.479195	95.31636
2	0.123070	0.315707	1.506539	0.388671	8.779178	2.267041	86.74287
3	0.143616	0.411769	1.403782	0.405329	14.51052	1.977956	81.29069
4	0.158721	0.463729	1.233294	0.387958	18.11329	1.708600	78.09312
5	0.170318	0.485738	1.081361	0.360246	20.56357	1.491865	76.01722
Cholesky Ordering: FID FIA FIE FMD FMA FME							

Table 5: Cholesky Variance Decomposition Results

All the variables exhibited strong endogeneity and exogeneity both in the short run and long run. There was trace of weak influence from shocks of other variables, as no degree of unexpected variation was produced by innovations from these variables and this was in tandem with the VAR results. In the short run, 100% and 97.09% forecast error variance in FID was self-explained, while 94.05%, 91.53% and 89.52% explained on the long run. This confirms that FIA, FIE, FMD, FMA and FME had weak influence on FID both in the short run and long run. FIA 90.73% and 85.46% forecast variance in the short run was self-predicted and 81.17%, 77.42% and 73.95% on the long run, confirming that FID, FIE, FMD, FMA and FME had weak influence on FIA in both short and long run. In the short run, FIE was self-predicted by 97.29% and 95.96% forecast error variance, and 94.16%, 92.51% and 91.23% in the long run confirming weak influence of other variables on FIE. However, FMD revealed 73.98%, and 66.17% self-prediction on the short run, and 60.11%, 55.57% and 52.01% on the long run. 27.87% and 32.40% forecast error variance in FMD was predicted by FID in the short and long run respectively, and 10.68% was explained by FME in the long run, confirming relative positive influence of FID and FME on FMD. In the short run, FMA forecast error variance of 90.97% and 90.65%, and 89.45%, 87.60% and 85.34% in the long run, confirming weak influence of FIE in both short and long run. Finally, FME recorded 95.32% and 86.74% self-prediction in the short run, and 81.29%, 78.09% and 76.02% on the long run. 20.56% forecast error variance in FME was explained by FMD in the long, confirming its strong positive influence.

4. Conclusion/Implication of Results and Recommendations

Generally, the comparative analysis reveals that some MINT member countries especially Nigeria performed below standard in most of the indicators of financial system development compared to the emerging economies benchmark. VAR shows that indicators of financial system development had strong endogeneity and exogeneity except FIE and FMD, as independent influence and significant self-predictions were revealed both in the short and long run. Implying that movement in the individual components of financial system does not have strong external influence on the other, as all the segmented indicators of financial system development exhibited magnificent independence except FIE and FMD. Based on the findings, researchers recommend that MINT monetary zone should be established to facilitate cross border effect of financial institutions and markets development in member states, monetary authorities should legitimize currency swap to mitigate exchange rate huddles in the MINT and facilitate trade among member nations and establish common financial system development secretariat to pursue a robust financial institutions and markets development framework to complement and harness innovations in the different components of the financial system.

5. References

- i. Durotoye, A. (2014). The MINT countries as emerging economic power bloc: Prospects and Challenges. *Developing country studies*, 4(15), 99-106. www.iiste.org
- ii. Guru, B. K. and Yadav, I. S. (2019). Financial development and economic growth: panel evidence from BRICS. *Journal of economics, finance and administrative science*, 24 (47), 113-126. Doi 10.1108/JEFAS-12-2017-0125
- iii. Iheonu, C. O. et al. (2020). Financial sector development and Investment in selected countries of the Economic Community of West African States: Empirical evidence using heterogeneous panel data method. *Financial Innovation*, 6(29), 1-15. <https://doi.org/10.1186/s40854-020-00195-0>
- iv. Majumder, M. G., Ramalingam, N. and Ramudu, P. J. (2019). Modeling dynamic communications between financial development trade and growth: MINT economy. *SCMS Journal of Indian Management*.
- v. Mugova, S. (2017). Financial sector development and firmMug ova growth in BRICS countries. *Risk governance and control: Financial markets and institutions*, 7(4), 126 -134. <http://doi.org/10.22495/rgc7i4c1art4>
- vi. McManus, J. (2016). An Economic Perspective of the MINT Nations. *Management services*, 60(3), 13-19.
- vii. Ohiomu, S. and Oligbi, B. O. (2020). The influence of financial sector development and financial deepening on economic growth: Empirical evidence from Nigeria. *IOSR journal of economics and finance*, 11(1), 58-67. <https://www.researchgate.net/publication/338969004>
- viii. Osuji, O. (2015). Financial development and economic growth in Nigeria. *Journal of Economics and Sustainable Development*, 6(20), 26-40. www.iiste.org
- ix. Sulemana, M. and Dramani, J. B. (2020): Effect of financial sector development and institutions on economic growth in SSA. Does the peculiarities of regional blocs matter? *Journal of sustainable finance and investment*. Doi:10.1080/20430795.2020.1837500
- x. Sarwar, A. et al. (2020). Financial development, human capital and its impact on economic growth of emerging countries. *Asian Journal of Economics and Banking*. Doi 10.1108/AJEB-06-2020-0015
- xi. Sunanda, S. (2018). The BRICS Initiatives towards a new financial architecture: An assessment with some proposals. *Research and information system for developing countries*, RIS discussion paper number 205.
- xii. Stiglingh, A., Muzindutsi, P. F. and Bezuidenhout, D. V. (2018). An analysis of the relationship between economic growth and financial development for BRICS countries. <https://www.researchgate.net/publication/286904818>