

The impact of Financial Inclusion on Poverty Eradication in Iraq 2004-2022

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Abstract

Methodology

Autoregressive distributed lag (ARDL) model is employed to investigate the long and short run impact of Financial inclusion on poverty alleviation within the context of Iraq.

Purpose

The purpose of this paper is to analyze the influence of financial inclusion on poverty alleviation in Iraq throughout the timeframe spanning from 2004-2022.

Findings

Financial inclusion exhibits a positive impact on poverty alleviation both in the short and long run.

Research Limitations

Data on digital advances in Iraq limited our ability to examine the impact of technological innovation on financial inclusion and hence poverty alleviation.

Practical Implications

The finding are consistent with substantial body of research affirming the positive contribution of financial inclusion to poverty alleviation. Consequently, we advocate for increased government intervention and support to poverty alleviation policies.

Social Implications

Financial inclusion empowers individuals, enhancing their prospects for securing decent employment opportunities, elevating educational attainment, and fostering improvements in health and overall quality of life.

Originality

This paper will encourage further research into strategies aimed at poverty alleviation and the empowerment of marginalized segments of society.

Key words: Poverty Eradication, Financial Inclusion, 1st, 2nd, SDG Goals

Introduction:

Financial inclusion, defined as the access and usage of formal financial services, plays a pivotal role in economic development and poverty reduction. In the context of Iraq, a nation marked by historical challenges, the relationship between financial inclusion and poverty is of significant importance. This paper explores the multifaceted impact of financial inclusion, government social expenditure on poverty in Iraq, drawing upon relevant literature and studies to provide a comprehensive understanding of the subject.

Iraq has faced prolonged periods of conflict, political instability, and economic challenges, leading to a substantial portion of the population living in poverty. The exclusion of a significant portion of Iraqis from formal financial services has perpetuated poverty cycles and hindered economic growth.

Literature Review

Schmied and Marr (2016) utilizes panel data analysis with a distinct database covering the period from 2008 to 2010, focusing on financial inclusion in Peru. By exploiting interdepartmental variation, regression

outcomes demonstrate that financial inclusion contributes to the mitigation of multiple poverty indicators. Nevertheless, the coefficients associated with financial inclusion are found to be relatively diminutive.

Anwar & Amrullah (2017) examines the correlation between financial inclusion, poverty, and inequality, utilizing Gini coefficients as a measure of inequality. The findings suggest that while financial inclusion can positively impact overall economic growth and diminish poverty levels, it may concurrently exacerbate inequality.

M. Simatupang (2020) found that government expenditures have an important role to support economic growth and hence alleviate rate of poverty. He also found that financial inclusion has a positive role to increase the human development component along with government expenditure in the education and health sector.

Omar & Inaba (2020) utilizes an unbalanced annual panel dataset spanning from 2004 to 2016 to investigate the relationship between financial inclusion and various socio-economic factors in developing countries. The analysis reveals that per capita income, internet user ratio, age dependency ratio, inflation, and income inequality exert significant influences on the level of financial inclusion. Additionally, the findings demonstrate strong evidence that increased financial inclusion correlates with decreased poverty rates and income inequality in developing nations.

AlObaidy (2021) aims to measure the impact of financial inclusion and financial development indicators on economic growth in Iraq through the application of the Error Correction Model (ECM) approach. The results revealed a long-term equilibrium relationship between financial inclusion, economic growth, and per capita Gross Domestic Product (GDP).

Saha & Quin (2023) investigate the conditional relationship between gender inequality and financial inclusion, focusing on their impact on extreme and moderate poverty in developing nations. It reveals that advancements in gender equality amplify the influence of financial inclusion on poverty alleviation.

Olaoye & Zerihun (2023), examine the moderating influence of information and communication technology (ICT) on the relationship between financial inclusion and poverty in Nigeria. Employing a variety of econometric methods, including the generalized method of moments and fully modified ordinary least squares, the study addresses issues of heterogeneity and endogeneity prevalent in poverty research. The findings indicate that ICT plays a moderating role, regardless of the specific measure employed. Notably, the results suggest that ICT enhances the efficacy of financial inclusion efforts in mitigating poverty levels within the Nigerian context.

Benefits of Financial Inclusion:

Income Generation: Financial inclusion enables individuals to access credit, fostering entrepreneurship and income generation. According to Beck, Demirgüç-Kunt, Levine, and Singer (2017), increased access to credit positively correlates with higher income levels.

Savings and Insurance: Formal financial services offer secure avenues for savings and insurance, providing a safety net against financial shocks. The World Bank notes that savings and insurance contribute to poverty reduction by preventing households from falling into deeper financial distress (World Bank, 2020).

Entrepreneurship: Financial inclusion empowers individuals to start and sustain small businesses, contributing to economic growth and job creation. A study by Félix Zogning (2022) found a positive relationship between access to financial services and entrepreneurial activity.

Challenges and Considerations:

Infrastructure: Inadequate banking infrastructure in Iraq poses challenges to widespread financial inclusion. As highlighted by World Bank (2018), improving infrastructure is crucial for expanding access to financial services.

Financial Literacy: Promoting financial literacy is essential for the effective utilization of financial services. Shafiee, Zhang, & Rasmussen (2023) argue that financial literacy programs contribute to better financial decision-making.

Regulatory Environment: A supportive regulatory environment is necessary for sustainable financial inclusion. Chen and Divanbeigi (2019) emphasize the importance of regulatory frameworks in promoting financial inclusion.

Quantitative analysis

Data collected on financial inclusion and poverty rate in Iraq for the period 2004-2022. The poverty rate was station at level where inclusion rate was stationary at first difference as Table (1) shows.

Table (1) Stationary test of Poverty rate

Null Hypothesis: POVERTY has a unit root				
Exogenous: Constant				
Lag Length: 1 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-3.373875	0.0151
Test critical values:			1% level	-3.521579
			5% level	-2.901217
			10% level	-2.587981
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(POVERTY)				
Method: Least Squares				
Date: 03/24/24 Time: 08:29				
Sample (adjusted): 2004Q3 2022Q4				
Included observations: 74 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
POVERTY(-1)	-0.069793	0.020686	-3.373875	0.0012
D(POVERTY(-1))	0.766764	0.068382	11.21294	0.0000
C	1.537739	0.462235	3.326748	0.0014
R-squared	0.651594	Mean dependent var	-0.097500	
Adjusted R-squared	0.641779	S.D. dependent var	0.915218	
S.E. of regression	0.547772	Akaike info criterion	1.673780	
Sum squared resid	21.30383	Schwarz criterion	1.767188	
Log likelihood	-58.92986	Hannan-Quinn criter.	1.711042	
F-statistic	66.39252	Durbin-Watson stat	1.985567	
Prob(F-statistic)	0.000000			
Null Hypothesis: D(INCLUSION) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=11)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-3.262140	0.0203
Test critical values:			1% level	-3.521579
			5% level	-2.901217
			10% level	-2.587981
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(INCLUSION,2)				
Method: Least Squares				
Date: 03/24/24 Time: 08:36				
Sample (adjusted): 2004Q3 2022Q4				
Included observations: 74 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INCLUSION(-1))	-0.259726	0.079618	-3.262140	0.0017
C	0.042506	0.034930	1.216872	0.2276
R-squared	0.128768	Mean dependent var	0.006449	
Adjusted R-squared	0.116667	S.D. dependent var	0.303281	
S.E. of regression	0.285041	Akaike info criterion	0.354286	
Sum squared resid	5.849874	Schwarz criterion	0.416558	
Log likelihood	-11.10859	Hannan-Quinn criter.	0.379127	
F-statistic	10.64156	Durbin-Watson stat	1.762729	
Prob(F-statistic)	0.001692			

Source: Result of Eviews 12

Co-integration test carried on to test the long run relation between poverty eradication rate and financial inclusion rate. The results as Table (2) shows, that there is a long rage relation but on 6% significance.

Table (2) Cointegration rank test (trace)

Date: 03/24/24 Time: 08:38 Sample (adjusted): 2004Q4 2022Q4 Included observations: 73 after adjustments Trend assumption: Linear deterministic trend Series: POVERTY INCLUSION Lags interval (in first differences): 1 to 2				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.160631	15.07124	15.49471	0.0578
At most 1	0.030864	2.288577	3.841465	0.1303
Trace test indicates no cointegration at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				

Source: Results of Eviews

The best lag distribution shows of two periods as VAR lag order selection criteria Table (3) shows.

Table (3) Lag Order

VAR Lag Order Selection Criteria Endogenous variables: POVERTY INCLUSION Exogenous variables: C Date: 03/24/24 Time: 08:43 Sample: 2004Q1 2022Q4 Included observations: 72						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-373.0143	NA	114.5846	10.41706	10.48030	10.44224
1	-128.8081	468.0619	0.145005	3.744670	3.934392	3.820199
2	-66.48508	115.9901*	0.028704*	2.124586*	2.440789*	2.250467*
3	-65.35796	2.035069	0.031113	2.204388	2.647073	2.380622
4	-63.77952	2.762270	0.033324	2.271653	2.840820	2.498240
* indicates lag order selected by the criterion LR: sequential modified LR test statistic (each test at 5% level) FPE: Final prediction error AIC: Akaike information criterion SC: Schwarz information criterion HQ: Hannan-Quinn information criterion						

Source: Eviews Results

ARDL estimation method applied and the result as Table (4) shows. The sign of the inclusion rate was negative as most of the applied research suggested but insignificant.

Table (4) ARDL Estimator

Dependent Variable: POVERTY				
Method: ARDL				
Date: 03/24/24 Time: 08:44				
Sample (adjusted): 2004Q3 2022Q4				
Included observations: 74 after adjustments				
Maximum dependent lags: 2 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (2 lags, automatic): INCLUSION				
Fixed regressors: C				
Number of models evaluated: 6				
Selected Model: ARDL(2, 0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
POVERTY(-1)	1.706168	0.070352	24.25197	0.0000
POVERTY(-2)	-0.781794	0.069305	-11.28042	0.0000
INCLUSION	-0.022200	0.018466	-1.202243	0.2333
C	2.024963	0.613650	3.299865	0.0015
R-squared	0.969664	Mean dependent var		22.00520
Adjusted R-squared	0.968364	S.D. dependent var		3.070084
S.E. of regression	0.546062	Akaike info criterion		1.680369
Sum squared resid	20.87284	Schwarz criterion		1.804913
Log likelihood	-58.17365	Hannan-Quinn criter.		1.730051
F-statistic	745.8301	Durbin-Watson stat		2.046456
Prob(F-statistic)	0.000000			
*Note: p-values and any subsequent tests do not account for model selection.				

Source:

Eviews Results

Serial co

rrelation and hetroskedasticity test carried out and tables (5) and (6) shows the results.

Table (5) Serial Correlation LM test

Breusch-Godfrey Serial Correlation LM Test:				
Null hypothesis: No serial correlation at up to 2 lags				
F-statistic	0.032015	Prob. F(2,68)	0.9685	
Obs*R-squared	0.069615	Prob. Chi-Square(2)	0.9658	
Test Equation:				
Dependent Variable: RESID				
Method: ARDL				
Date: 03/24/24 Time: 08:46				
Sample: 2004Q3 2022Q4				
Included observations: 74				
Presample missing value lagged residuals set to zero.				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
POVERTY(-1)	0.011322	0.106741	0.106067	0.9158
POVERTY(-2)	-0.010772	0.100175	-0.107527	0.9147
INCLUSION	-0.000331	0.018782	-0.017638	0.9860
C	-0.005502	0.644317	-0.008539	0.9932
RESID(-1)	-0.035868	0.162897	-0.220191	0.8264
RESID(-2)	0.004221	0.149168	0.028295	0.9775
R-squared	0.000941	Mean dependent var	5.58E-16	
Adjusted R-squared	-0.072519	S.D. dependent var	0.534724	
S.E. of regression	0.553773	Akaike info criterion	1.733482	
Sum squared resid	20.85321	Schwarz criterion	1.920298	
Log likelihood	-58.13883	Hannan-Quinn criter.	1.808005	
F-statistic	0.012806	Durbin-Watson stat	1.997455	
Prob(F-statistic)	0.999943			

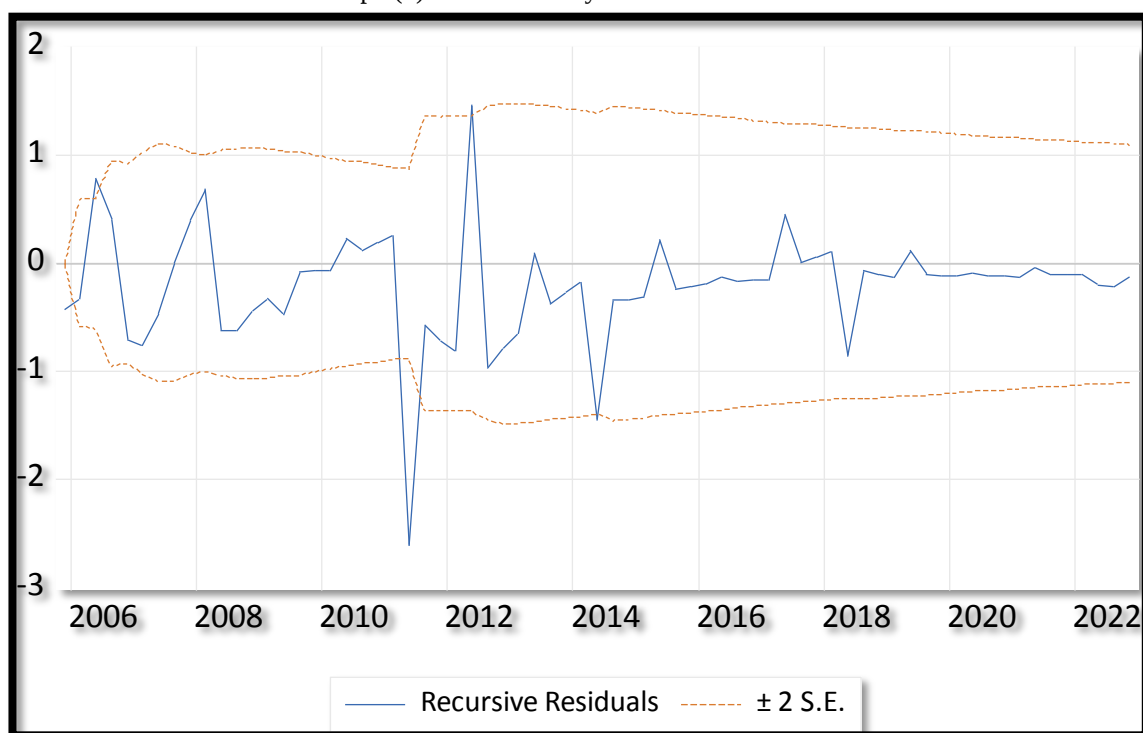
Source: Eviews results

Table (6) Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey				
Null hypothesis: Homoskedasticity				
F-statistic	1.574634	Prob. F(3,70)	0.2032	
Obs*R-squared	4.678138	Prob. Chi-Square(3)	0.1969	
Scaled explained SS	19.56400	Prob. Chi-Square(3)	0.0002	
Test Equation:				
Dependent Variable: RESID^2				
Method: Least Squares				
Date: 03/24/24 Time: 08:47				
Sample: 2004Q3 2022Q4				
Included observations: 74				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.144213	0.964398	-0.149537	0.8816
POVERTY(-1)	-0.091545	0.110563	-0.827989	0.4105
POVERTY(-2)	0.130660	0.108919	1.199612	0.2343
INCLUSION	-0.028276	0.029020	-0.974373	0.3332
R-squared	0.063218	Mean dependent var	0.282065	
Adjusted R-squared	0.023070	S.D. dependent var	0.868251	
S.E. of regression	0.858177	Akaike info criterion	2.584526	
Sum squared resid	51.55276	Schwarz criterion	2.709070	
Log likelihood	-91.62745	Hannan-Quinn criter.	2.634208	
F-statistic	1.574634	Durbin-Watson stat	2.120749	
Prob(F-statistic)	0.203232			

Source: Eviews Results

The model is stable as graph (1) shows and the model will go back to stability if it has been subjected to
Graph (1) Model Stability



Source: Eviews Results

shock within three years as Table (7) shows.

Table(7) Error Correction

ARDL Error Correction Regression				
Dependent Variable: D(POVERTY)				
Selected Model: ARDL(2, 0)				
Case 2: Restricted Constant and No Trend				
Date: 03/24/24 Time: 08:48				
Sample: 2004Q1 2022Q4				
Included observations: 74				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(POVERTY(-1))	0.781794	0.066994	11.66954	0.0000
CointEq(-1)*	-0.075626	0.020753	-3.644111	0.0005
R-squared	0.658642	Mean dependent var		-0.097500
Adjusted R-squared	0.653901	S.D. dependent var		0.915218
S.E. of regression	0.538424	Akaike info criterion		1.626315
Sum squared resid	20.87284	Schwarz criterion		1.688587
Log likelihood	-58.17365	Hannan-Quinn criter.		1.651156
Durbin-Watson stat	2.046456			
* p-value incompatible with t-Bounds distribution.				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	4.303557	10%	3.02	3.51
K	1	5%	3.62	4.16
		2.5%	4.18	4.79
		1%	4.94	5.58

Source: Eviews Results

The long run relation presented by Table (8) and the F bound test shows the existence of the integration between Financial Inclusion and Poverty rate and this relation is negative which means that the expansion of the Financial Inclusion will support the effort of the government to eradicate poverty in Iraq, although the coefficient of the Financial Inclusion was negative but insignificant.

Conclusion:

The result of our quantitative empirical analysis shows that the Financial Inclusion has a positive factor in fighting and on the eradication of poverty in Iraq although statistically insignificant. This is because the expansion of the financial services will generate new jobs, new small projects, rise on education level, improvement of health, which is all contribute to the eradication of poverty effort in Iraq.

The Iraqi government should recognize the importance of financial inclusion and has undertaken initiatives to address challenges. The National Financial Inclusion Strategy, launched in 2018, should aims to increase access to financial services and promote financial literacy.

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