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Financial Repression, Wellbeing and Financial Stability: The African perspective

Iddrisu Suhaibu[1], Freda Bonye[2] and Abdullai Tijani[3]

Abstract

Amidst the rising sovereign debt levels and inflation crisis following COVID-19, governments around the world contemplated reintroducing financial repression which has significant economic implications. Although these implications have been empirically examined, there is still limited literature on the effect of the policy on wellbeing and financial stability. This study examines the impact of financial repression on human wellbeing and financial stability with data spanning 2000-2019 in ten African countries using dynamic panel framework estimated with GMM strategy. The study finds that financial repression weakly but significantly and directly impact wellbeing and financial stability, and the macroeconomic environment negligibly influences repression effect on wellbeing but significantly influences repression effect on financial stability. Except interest rate controls, repressive high bank reserve ratio is good, but should be at moderate level to improve financial stability and human wellbeing, and some level of inflation is necessary to optimize repression benefits. Using more of the financial repression (FR) policy toolkits as proxy for FR could have captured repression better, instead of employing interest rate control and bank reserve ratio only. This nonetheless, will not adversely affect the findings since most of the FR toolkits are interconnected, and a trigger of one can trigger the others.

Key words: Financial Repression (FR); Wellbeing; Financial Stability (FS); Real Interest Rate (RIR); Bank Reserve Ratio (BRR)

JEL Classification: G40, G0, I31

1. Introduction

Just recovering from the 2007 - 2009 global financial crisis, the global economy has been hard-hit again by the COVID-19 pandemic, which has pushed about 97 million people into extreme poverty according to World Bank (Amoros, 2022; Jafarov et al., 2020). Governments increased expenditures to deal with the resultant high health care costs, unemployment, food insecurity and collapsed

[1] University for Development Studies; School of Business, City Campus, Tamale, Ghana
[2] C.K Tedam University of Technology and Applied Sciences; School of Mathematical Sciences, Navrongo
[3] University for Development Studies; School of Business, City Campus, Tamale, Ghana
Corresponding Author's Email: isuhaibu@uds.edu.gh/iddrisu.suhaibu@stu.ucc.edu.gh

businesses, culminating in high national debts, widening budget deficits and rising inflation, which has plagued countries with low growth-high debt trap (Amoros, 2022). This resulted in the highest global debt levels in half a century with Japan, Sudan, Greece, Eritrea, Cape Verde and Italy being the worst victims; recording debt-to-GDP ratios of 257%, 210%, 207%, 175% and 161% respectively in 2021 (Amoros, 2022). Consequently, many countries are considering re-introducing restrictive monetary systems as it was the major macroeconomic policy that helped reversed similar devastating debt crisis in advanced economies that arose from World War II and the Great Recession.

As direct government intervention in financial markets to access cheap funding and reduce the burden of debt repayment, financial repression channels funds at prices below the market determined level to government and other strategic state agencies, consistent with the interest group theory (Beyene, 2023; Davis et al., 2021). The policy includes state-imposed restrictions on bank deposit interest rates, bank reserve ratios, bank competition, international capital flows, bank portfolio composition, exchange rates, credit flow, and state ownership of financial institutions, preferential treatment of taxes on public debts, and obligatory holding of government bonds by financial institutions (Beyene, 2023; Carter, 2023; Sinanoglu, 2023). This policy was adopted as the main monetary policy tool following World War II and the Great Recession, to address the huge debt crisis occasioned by the resultant economic crisis (Tahir and Hayat, 2023). Even though the policy was largely successful in dealing with the debt crises, it was later largely abandoned for a renewed conception of government as an impartial referee in financial markets, as it retarded growth via inefficient allocation of economic resources and posed serious financial instability risk and welfare challenges (Yousuf, 2024; Ban and Bohle, 2021; Tahir and Hayat, 2023).

Juxtaposing repression benefits as it yields seigniorage revenue to manage public fiscal space and thus imperative for debt-distressed economies, with the negative welfare and financial stability consequences, should African countries reintroduce financial repression to deal with the COVID-19-induced debt crisis?

McKinnon (1973) and Shaw (1973) linked financial market development to government's repressive interventions, reflecting the interest group theory of financial development (Beyene, 2023; Tahir and Hayat, 2023). Repressive policies dampen the operational efficiency of financial institutions, create moral hazard problems and financial instability risks by promoting rapid credit growth and debt accumulation through credit misallocation (Yousuf, 2024). Specifically, whilst high bank reserve ratio creates economic rents for banks, cause capital

redundancy and credit unavailability which affects investments and savings (Sulemana and Dramani, 2022), interest rate control promotes investments by lowering capital cost (Carter, 2023) and erodes the real value of debt as an inflation tax (seigniorage revenue) for government (Sinanoglu, 2023). Thus, contrary to the theory that repression lower savings, credit availability, investments, and consequently capital formation, the combined effect of interest rate caps, high reserve ratios and inflation impedes financial deepening (See Carter, 2023; Sinanoglu, 2023). Therefore, repression can weaken as well as enhance financial intermediation and capital formation through lower capital cost.

Further, even though the financial repression theory backed by intuition stipulates that low or negative real interest rate lowers returns to savers, creates financial stability risks, and leads to wealth creation and welfare problems (Carter, 2023; Saberi et al., 2024), no research has, has examined the welfare and financial stability implication of financial repression directly, and the available literature has not helped resolved the extent to which repressive policy directly impact wellbeing and financial stability either. Although Chauffour and Gobezie (2019) reported that Ethiopia's financial repression caused welfare challenges, and Chan (2021) and Xu and Gui (2019) provided evidence of the financial risk implications of financial repression, it remains unclear what the exact effect of repressive policies on human wellbeing and financial stability is and thus needs further examination.

As researchers continue to shape opinions on FR, the recent surge in public debts, inflation and low growth globally occasioned by the post-COVID-19 economic crisis has renewed calls and desires for the reintroduction of the policy (See Davis et al., 2021; Kliem et al., 2024.; Yousuf, 2024). However, the repression experience of countries like the US and China vis-a-vis the liberalization experience of the 1990s does not support the reintroduction of the policy. This study examines the cost of financial repression on African economies by answering the question: does changes in bank reserve ratios and real interest rates impact financial stability and wellbeing? the essence is to advice African countries including Tanzania and Ethiopia that are contemplating reintroducing financial repression on whether or not to do so. The paper contributes to literature by building a cross-country model that links the three magnitudes, aimed at guiding policy, practice and research.

The next section reviews relevant literature, section 3 presents the methodology and estimation strategy, section 4 presents empirical results and section 5 concludes and recommends.

2. Literature Review

Efficient financial systems drive economic growth through efficient allocation of funds in the economy, but financially repressive policies weaken economic and financial system efficiency by discouraging savings, investments and consequently financial intermediation, reflecting McKinnon (1973)'s prediction on the effect of low interest rates (Jafarov et al., 2020; Kilindo, 2020). The declining investments from interest rate repression and resultant liquidity trap hampers employment and thus stifles growth, as illustrated in Kilindo (2020) that deposit interest rate below market equilibrium stifles savings and investments. Conversely, low interest rates lower capital cost and stimulates investments and growth, as Keynesian theorized with interest rate control at reasonably low levels (Jeanne et al., 2023; Sinanoglu, 2023). At low interest rates, people would neither save nor invest but would hold onto their cash or spend increasing consumption, aggregate demand and consequently growth (Saberi et al., 2024). Since savings and investments are respectively direct and inverse functions of real interest rate, low deposit interest rates cause insufficient deposits to fund investments, forcing banks to ration credit thereby weakening capital formation and increasing financial instability risk (Chan, 2021; Xu and Gui, 2019).

Further, high bank reserve ratio (BRR) can decrease credit availability thereby discourage investment, dampen economic activities and hence growth (Matin and Hosseini, 2023), whilst currency devaluation makes domestic goods and services relatively cheaper and brightens export competitiveness which propels growth (Kliem et al., 2024). This implies, the outcome of financial repression (FR) depends on the particular policy toolkit employed, hence the assertion that the FR policy is an overly simplistic interpretation of Keynesian theories (Kilindo, 2020; Saberi et al., 2024). Consequently, this paper contends that repression can stimulate growth if maintained at modest level, consistent with the Keynesian prediction. Although this deduction is in sync with empirics, the challenge is how to determine that modest level of repression that will stimulate growth, hence, the need for further examination of the subject matter.

FR policies direct towards government funds that would otherwise go elsewhere in a perfectly competitive market and are classified broadly as monetary policy, fiscal policy, regulatory and direct state intervention (Davis et al., 2021). Though a holistic view of financially repressed system should capture all the policy toolkits including interest rate controls, creation of captive domestic markets for government debt, entry restriction into financial market, credit and capital controls and several others, the policies appear interconnected (Saberi et

al., 2024). Interest rate controls result in credit rationing based on non-economic criteria, resulting in government intervening to rationalize credit allocation, effectively directing lending (Jafarov et al., 2020). Similarly, ceilings on deposit interest rates yield economic rents to banks, rationing deposit rates requires entry restrictions into the sector and also encourage international capital movements, which must be restricted to prevent capital losses or accumulation of foreign debt (Jeanne et al., 2023; Beyene, 2023). Therefore, assessing the monetary policy component of the policy would capture the overall effect of financial repression.

Theoretically, the FR policy is premised on the interest group theory which calls on political powerbrokers to control the volumes and direction of credit in financial markets to their own benefit. However, this policy has significant implication for banking regulation, financial risk and human wellbeing, which the theory fails to consider. For instance, employing pension funds as captive audience reduces returns to savers and posing significant welfare problems for retirees, but can be beneficial overall if done well as some governments have used the policy to propel their development agenda (Davis et al., 2021). Corroborating the empirics, repressive policies in Ethiopia created significant buildup of large macro-financial imbalance leading to serious welfare related challenges (Saberi et al., 2024). Similarly, Aizenman et al (2016) found that public healthcare expenditure and financial development negatively impacts private savings, but the effects diminish as real interest rate (RIR) falls. Hence, the cost of wellbeing (healthcare) reduces as real interest rate reduces, thus interest rate repression promotes wellbeing, but creates excess budget deficit and accumulate net welfare losses which exceeds the primary costs of financial crisis.

Additionally, interest rate controls can be flexible or tight, resulting in large differences between administered and market rates in the latter case, including negative real interest rates which could have significant welfare implications (Calice et al., 2020). Similarly, interest rate repression lowers RIR, even if inflation remains unchanged, and may even go negative when interest rate controls are instituted alongside inflation hike, which is punitive to savers, retards financial development, and therefore disincentivize welfare (Matin and Hosseini, 2023). Thus, inflation and interest rate repression are inextricably linked to financial market development, an empiric that corroborate Fawaz et al (2019) evidence that inflation, financial development and other related variables are co-integrated.

Furthermore, by stimulating investments, industrial production, and decline in firms' capacity utilization, FR can increase the number of firms with solvency problems, exposing banks to financial risk (Chan, 2021). Again, credit

discrimination in the formal banking system can cause firms to resort to risky informal financing, which is linked to the formal banking system and may spillover the risk to the formal system (Xu and Gui, 2019). Also, due to credit misallocation and excessive credit volumes, firms that have the credit may not apply it efficiently raising default and financial instability risks, damaging the national asset-liability structure, causing debt accumulation and widening the credit-to-GDP gap which weakens economic efficiency (Xu and Gui, 2019; Chan, 2021).

Summarily, the costs and welfare implications of FR are dire in the literature, but it is unclear if these implications are visible in the African data, given that research on such costs are scarce in the African context. Empirically, Pourshahabi and Elyasi (2013) found significant negative effects of FR on financial depth, and Beyene (2023) found evidence supporting the interest group theory that government intervention in financial markets affects financial development. In all, whilst some authors found positive effects of FR (See Davis et al., 2021), others found negative effects (See Chauffour and Gobezie, 2019; Xu and Gui, 2019), thus, FR introduces financial distortions which comes with both cost and benefits, but the costs appear dominant, yet the policy is still being contemplated. Besides, most of the previous studies are single-country-based, and even the few cross-country-based studies on the subject matter focused mostly on Asia and the industrialized world. Therefore, establishing an African-based cross-country model of FR effects, given that African countries' economic structures differ from that of the developed world would contribute to literature and policy.

3. Estimation Strategy

Following, Pourshahabi and Elyasi (2013), Dynamic Panel Data technique is employed in analyzing the impact of financial repression (FR) on wellbeing and financial stability in ten African countries. This choice is based primarily on data availability and secondarily on the evidence that Sub-Sahara Africa (SSA) remains the region that practice repression the most with FR index score of 0.43 compared to the scores of 0.07 by EU, 0.35 by LAC and 0.2 by MENA as at 2017 (See appendices). The ten countries sampled is representative of Sub-Sahara Africa with Nigeria the largest economy in Africa representing West Africa, Angola, Botswana, Mozambique, South Africa, and Zambia representing Southern Africa, and Kenya, Ethiopia, Uganda, and Tanzania representing Eastern Africa. The study variables are real interest rate (RIR), bank reserve ratio (BRR), wellbeing (HDI), financial stability index (FSI) and inflation rate (INFR).

3.1. Variable Measurement and Justification

To control money supply in an economy, commercial banks keep obligatory minimum amount (reserve ratio (BRR)) with central banks at zero interest rate, which contracts and represses the monetary regime characterized by limited and directed credit allocation (Campanella, 2022). BRR which is measured by bank capital to asset ratio (bank capital and reserves to total assets ratio) widens the lending and deposit rate gap and thus negatively impacts financial intermediation. Similarly, interest rate repression lowers real interest rates (inflation adjusted returns on financial assets) hampering savings and investment thereby making investors worse off and affects wellbeing negatively (Bacchetta et al., 2022), hence the employment of BRR and RIR as proxy for FR Following (Pourshahabi and Elyasi, 2013). Further, higher growth rate of consumer price index represses the economy and thus negatively impacts human wellbeing, hence, the inclusion of inflation in the study model to control for its influence on the macroeconomic environment.

Overall physical, mental, emotional and social health conditions (wellbeing) of people is linked to happiness and life satisfactions and can be described as general human feelings (Sabri et al., 2023). Though earlier measured in income, education and health dimensions, the contemporary view of wellbeing has human capabilities dimension as a function of the earlier dimensions (Loveridge et al., 2020). Though plausible justification for the non-income metric of wellbeing exists, the Human Development Index (HDI); an aggregate of income, education and health reflects life expectancy, education and per capita income, better measures wellbeing (Almansour et al., 2023; Bacchetta et al., 2022) as higher HDI means higher wellbeing. Hence, this paper employs HDI as proxy for wellbeing; arguing that FR causes changes in incomes and thus affordability of health and educational services that enhances human capabilities and freedoms, and thus affect wellbeing.

Measured as a ratio of liquid assets to total assets of the banking sector, financial stability indicates financial system's resilience to economic uncertainties (Akinci and Queralto, 2024). This measure reflects only short-term stability, and so to comprehensively capture financial stability following Akosah et al (2018), this study aggregates nonperforming loans to total gross loans ratio (credit risk), equity index (capital market risk), exchange rate in USD (exchange market risk), debt-to-GDP ratio (fiscal vulnerability) and risk premium (debt market risk), all of which contribute to financial system stability.

3.2. Data

The study draws annual data spanning 2000 to 2019 from World Bank database with only HDI data obtained from UNDP database. To avoid spurious regression, econometric theory requires that the data is stationary, otherwise it should be cointegrated.

3.3. Model Specification and Justification

This study proposes welfare as a function of RIR, BRR, INFR and FSI. The model is justified by Xu and Gui (2019)'s proposition that FR triggers financial instability which can lead to financial crisis possibly creating welfare problems. McKinnon (1973) and Shaw (1973) hypothesized that FR inhibits capital formation, savings and investment (Pagan, 1993) which has negative welfare implications. The model is thus specified as:

$$y_{it} = \alpha + \beta_{1,i} RIR_{it} + \beta_{2,i} BRR_{it} + \beta_{3,i} InfR_{it} + \varepsilon_{it} \quad (1)$$

$y_t = 2 \times 1$ vector of the explained variables HDI_i and FSI_i

All variables are as defined previously, i = country specific, and t = time dimension (yearly)

Assumption: During repression, returns to savers are hampered, credit availability and investment levels fall, economic uncertainty increases, credit discrimination and misallocation exposes the economy to higher financial risk and welfare challenges, and inflation surges aggravates information asymmetry in credit markets, reducing the real rate of return and credit volumes (Pourshahabi and Elyasi, 2013).

4. Results and Discussion

The integrational properties of the data are tested and the results in Table 2 confirms the existence of long run stochastic trend among the variables.

The t-statistic for the Levin-Lin-Chu test is significant at all levels, suggesting the data is stationary at level. The Hadri LM test rejects the null hypothesis that all panels are stationary, but that the data is of ***I(I)*** order, necessitating cointegration test. Since some of the variables contain panel unit roots, Kao (199) co-integration test (See Chen et al., 1999) is employed to check the existence of long-run relationship among the variables and the results is in Table 3.

Table 2: Levin-Lin-Chu unit-root test [Ho: Panels contain unit roots] and Hadri LM test [Ho: All panels are stationary]

Variable	Levin-Lin-Chu unit-root test		Hadri LM test	
	t-Statistic	p-value	z-Statistic	p-value
HDI	-5.8363	0.0000	25.4380	0.0000
FSI	1.6820	0.9537	32.7084	0.0000
INFR	-1.2993	0.0969	13.7669	0.0000
RIR	-4.2602	0.0000	1.5550	0.0600
BRR	-1.0793	0.1402	24.5931	0.0000

Source: Author's construct, 2024

Table 3: Kao Residual Co-integration test (Null Hypothesis: No Cointegration)

	t-Statistic	Prob.
ADF	-5.2389	0.0000*

Source: Authors' construct, 2022

The ADF test results reject the null hypothesis of no cointegration, hence all the variables are co-integrated within and across panels. The DPD models are estimated using Arellano and Bond (1991)'s GMM estimator in a balanced panel, which accounts for unobserved country specific effects, and allows for the control of endogeneity of explanatory variables and the inclusion of lagged dependent variables.

Table 4: Estimated coefficients of the DPD Models

Variable	Coefficient	t-stat.	Std Err	Variable	Coefficient	t-stat.	Std Err
HDI	L_1 .93051	7.4668	.1246	FSI	L_1 .95133	12.0632	.0789
INFR	.0425	0.11481*	.00037	INFR	.0761073	0.4132*	.1842
RIR	.3867	1.0609*	.00036	RIR	-.076784	0.4691*	.1636
BRR	.4859	0.5836*	.00083	BRR	.3757235	1.3246*	.2836
Cont	.0455546	1.0393	.04383	Con.	.2952862	0.0790	3.7365
Instruments for differenced equation: GMM-type: L(2/.).HDI				Instruments for differenced equation: GMM-type: L(2/.).FSI			
Standard: D.infr D.rir D.brr lnfsi				Standard: D.infr D.rir D.brr HDI			
Instruments for level equation - Standard: _cons				Instruments for level equation - Standard: _cons			
Prob > chi2 = 0.0000				Prob > chi2 = 0.0000			

Source: Author's construct, 2024

From Table 4, a one percentage change in real interest rate and bank reserve ratio, leads to 0.39% and 0.49% change in wellbeing respectively. This implies a direct relationship between wellbeing and each of real interest rate and bank reserve ratio, thus, lower real interest rate during FR negatively affects wellbeing. Intuitively, lower real interest rates during repression lowers income of savers which limits their abilities and capabilities to access wellbeing enablers and facilitators such as health and educational services. This is consistent with the empirical repression-wellbeing nexus and supports Matin et al (2023), Chauffour and Gobezie (2019) and Saberi et al (2024)'s view that FR led to welfare challenges in Ethiopia. It is also in tandem with the empirics that interest rate repression hampers savings and investment making investors worse off and thus impacts wellbeing negatively (See Bacchetta et al., 2022). However, the finding of negative

effects of RIR on wellbeing contrasts Aizenman et al (2016)'s evidence that interest rate repression (falling RIR) promotes wellbeing.

On the other hand, repressive high bank reserve ratio (BRR) positively affects wellbeing. This finding is intuitively sound as high BRR generates seineorage revenue for the state to finance social interventions and development related programs and projects that enhance human wellbeing. The seineorage revenue generated can be used by the state to build hospitals, schools, construct roads, finance agricultural activities, pay social security benefits for the aged, and the insurance benefits of the unemployed; all to improve human wellbeing. However, the positive high bank reserve ratio and wellbeing relationship departs from McKinnon (1973)'s prediction that repressive financial policies compromise the efficiency of financial systems thereby hampering growth and consequently injures wellbeing (See Saberi et al., 2024). The positive relationship also contrasts the intuition that high BRR increases lending rates and the lending-deposit interest rate gap, increases credit risk and reduces credit availability which consequently increases the financial system vulnerability and instability.

Further, a one percentage change in the real interest rate (RIR) and bank reserve ratio (BRR), leads to -.08% and .38% change in financial stability respectively. Thus, financial stability relates negatively to RIR and positively to BRR. Therefore, lower RIR and high BRR have positive impact on financial stability. By implication, high RIR leads to financial instability, while high BRR stabilizes the financial system. The intuition is that lower real interest rates stimulate investments (via increasing cheap access to funding) and increase the aggregate level of economic activity, thereby generating the needed finances and lowering the negative volatilities in the financial system. The negative relationship between RIR and financial stability is in line with McKinnon (1973)'s prediction that low interest rates weaken financial intermediation by discouraging savings, reduce credit availability, lower investments and hampers growth (See Pagan, 1993; Saberi et al., 2024). Low real interest rates lead to liquidity trap as people prefer to hold on to their cash balances rather than investing or saving in banks thus reducing bank liquidity and credit availability which negatively impacts the financial system.

Similarly, high bank reserve ratio generates inflation tax (seigniorage revenue) to help balance government finances and reduces state exposure to external financial shocks. This stabilizes the financial system in the economy and is thus consistent with the empirical evidence of positive financial repression effect (See Davis et al., 2021). However, the positive relationship between bank reserve

ratio (BRR) and financial stability contrasts the argument that high BRR can decrease credit availability and thus discourage investment, dampen economic activities and growth (Tahir and Hayat, 2023). Further, the finding contrasts Pourshahabi and Elyasi, 2013) evidence that higher BRR negatively impacts financial development. Furthermore, the finding of positive inflation effect on financial stability; as a percentage change in inflation explains about .076% of financial stability shifts does not support Pourshahabi and Elyasi (2013) position that higher inflation harms financial development. The findings however corroborate Fawaz et al (2019) evidence that inflation, financial development and other related variables are co-integrated. In all, the finding of positive impact of high BRR and inflation on financial stability is not in sync with theory and empirics, except for the seniorage revenue benefit of high BRR to government, thus, providing a gap for future research.

4.1. Robustness

To check the robustness of the results, a panel ARDL model is estimated using pooled mean group, specified as:

$$\Delta y_{it} = \sum_{j=1}^{p} \alpha_{ij} \Delta y_{i,t-1} + \sum_{j=0}^{q} \beta_{ij} \Delta X_{i,t-j} + \theta_i [y_{i,t-1} - \gamma_i x_i] + \varphi_i + \varepsilon_{it} \quad (2)$$

y_{it} - dependent variable, X_{it} is $k \times 1$ vector of the regressors that are *I(0)* and *I(1)* cointegrated, α_{ij} - coefficient of the lagged dependent variable, $i = 1 \dots \dots N$, $t = 1,2, \dots \dots T$, p and q are the optimal lag lengths of the dependent and independent variables respectively, ε_{it} is the error term.

Specifically; $y_{it} = HDI_{it}$ (3)

$y_{it} = FSI_i$ (4)

$X_{it} = f(RIR_{it}, BRR_{it}, InfR_{it})$ (5)

Other model components are

$\theta_i = -(1 - \alpha_i)$ - panel specific speed of adjustment coefficient ($\theta_i < 0$), γ_i −vector of long run relationships.

The error correction term; $ECT = [y_{i.t-1} - \gamma_i x_i]$ (6)

and then α_{ij}, and β_{ij} are the short-run dynamic coefficients, φ_i − fixed effects, and ε_{it} − idiosyncratic error terms.

The estimated ARDL model coefficients are captured in Table 5. The results show that a 1% change in bank reserve ratio, real interest rate and inflation rate leads to a corresponding 0.075%, 0.38% and 0.95% change in human development

index respectively in the long run. Hence there human wellbeing (HDI) relates directly to bank reserve ratio (BRR), real interest rate (RIR) and inflation (INFR). On the other hand, a 1% change in bank reserve ratio and inflation leads to a corresponding 7.23% and 1.07% change in financial stability respectively, but a 1% change in real interest rate leads to 1.42% change in the opposite direction. Hence, financial stability relates directly to bank reserve ratio and inflation but relates indirectly to real interest rate. By comparison the results produced by ARDL model is similar to that of the dynamic panel model except only the magnitudes. Also, the Wald test results conducted on the ARDL model as shown in Table 6 confirm that the estimated ARDL model is stable and the coefficients are statistically significant. Finally, the error correction coefficients of -0.0143 and -0.0010 of the wellbeing and financial stability models that the real interest rate (RIR) and bank reserve ratio (BRR) variables are cointegrated and granger-cause human wellbeing and financial stability. To that extent, the researchers conclude that the results of the study are robust and the prediction and forecasts are reliable.

Table 5: Estimated ARDL (1, 1, 1, 1) model selected by the Akaike info criterion (AIC) with explained variables HDI and FSI and Dynamic regressors (1 lag, automatic): BRR, RIR, and INFR, and no fixed regressor

HDI Model				
Variable	Coefficient	Std Err	t-Statistics	Prob.*
Long run equation				
BRR	0.0749	0.126	0.5923	0.554
RIR	0.3751	0.350	1.0686	0.286
INFR	0.9454	0.872	1.083	0.280
Short run equation				
COINTEQ01	-0.0143	0.011	-1.226	0.221
D(BRR)	0.0028	0.002	1.137	0.257
D(RIR)	0.0767	0.077	0.995	0.321
D(INFR)	-0.0356	0.033	-1.058	0.291

Akaike info criterion: -4.551599 and sum squared residual of 1957.434

FSI Model				
Variable	Coefficient	Std Err	t-Statistic	Prob.*
Long run equation				
BRR	7.2331	6.9399	1.0422	0.298
RIR	-1.4189	1.4653	0.9683	0.334
INFR	1.0662	1.2509	0.8523	0.395
Short run equation				
COINTEQ01	-0.0010	0.013	-0.079	0.937
D(BRR)	-0.4522	0.502	-0.900	0.369
D(RIR)	-0.1370	0.259	-0.528	0.597
D(INFR)	0.2624	0.414	0.6335	0.527

Akaike info criterion:6.582881 and sum squared residual of 33431.22

Source: Authors' construct with data from WDI and UNDP, 2024

Table 6: Wald test results for the HDI (wellbeing) and FSI models under the stated hypotheses

HDI (wellbeing) model

Test Statistic	Value	Df	Prob
F-statistic	0.546033	(2, 156)	0.5803
Chi-square	1.092066	2	0.5792
Null Hypothesis: C(1)=C(2)=C(3)			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(1) - C(3)		-0.870479	0.834005
C(2) - C(3)		-0.570296	0.556460

Restrictions are linear in coefficients

Financial Stability (FSI) model

Test Statistic	Value	Df	Prob
F-statistic	0.605665	(2, 156)	0.5470
Chi-square	1.211330	2	0.5457
Null Hypothesis: C(1)=C(2)=C(3)			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(1) - C(3)		6.166920	5.940109
C(2) - C(3)		0.352687	1.009141

Restrictions are linear in coefficients

Source: Authors' construct with data from WDI and UNDP, 2024

5. Conclusion

This study examines the link between financial repression, wellbeing and financial stability using annual data in a dynamic balanced panel data framework from 2000-2019 in ten African countries. The study finds a significant direct relationship between wellbeing and each of real interest rate (RIR) and bank reserve ratio (BRR), but significant negative effect of interest rate repression on wellbeing, consistent with the bulk of existing literature. Thus, financial repression impacts wellbeing, as low RIR negatively affects wellbeing whilst high BRR positively affects wellbeing. There is also significant negative relationship between RIR and financial stability, and a positive link between BRR and financial stability. Thus, financial repression (FR) has significant positive impact on financial stability, and the macroeconomic environment (proxy by inflation) has significant influence on that relationship but negligible influence on the effect of FR on wellbeing. This study recommends that interest rate controls should be avoided, high bank reserve ratios can be employed but at moderate levels and some level of inflation is necessary for improved wellbeing and financial stability.

References

Aizenman, J., Cheung, Y. W., & Ito, H. (2019). The interest rate effect on private saving: Alternative perspectives. *Journal of International Commerce, Economics and Policy*, 10(01), 1-15.

Akinci, Ö., & Queralto, A. (2024). Exchange rate dynamics and monetary spillovers with imperfect financial markets. *The Review of Financial Studies*, 37(2), 309-355.

Almansour, B. Y., Elkrghli, S., & Almansour, A. Y. (2023). Behavioral finance factors and investment decisions: A mediating role of risk perception. *Cogent Economics and Finance*, 11(2), 1-15.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277-297.

Bacchetta, P., Benhima, K., & Renne, J. P. (2022). Understanding Swiss real interest rates in a financially globalized world. *Swiss Journal of Economics and Statistics*, 158(1), 1-16.

Ban, C., & Bohle, D. (2021). Definancialization, financial repression and policy continuity in East-Central Europe. *Review of International Political Economy*, 28(4), 874-897.

Bedemo Beyene, A. (2023). Political economy of financial development: Empirical evidence from Ethiopia. *Journal of Financial Economic Policy*, 15(4/5), 408-423.

Calice, P., Diaz Kalan, F., & Masetti, O. (2020). *Interest rate repression: a new database*. The World Bank.

Campanella, M. (2016). Financial repression and the debt build-up in China: Is there a way out? *ECIPE Policy Brief*, 5/2016, 1-6.

Carter, B. L. (2023). Can Western Donors Constrain Repressive Governments? Evidence from debt relief negotiations in Africa. *Journal of Conflict Resolution*, 67(6), 1183-1217.

Chan, S. (2021). Financial repression and financial risk: The case of China. *Post-Communist Economies*, 33(1), 119-132.

Chauffour, J. P., & Gobezie, M. A. (2019). Exiting financial repression: the case of Ethiopia. *World Bank Policy Research Working Paper*, 9082, 1-45.

Chen, B., Mc Coskey, S. K., & Kao, C. (1999). Estimation and inference of a cointegrated regression in panel data: A monte carlo study. *American Journal of Mathematical and Management Sciences,* 19(1-2), 75-114.

Jafarov, M. E., Maino, M. R., & Pani, M. M. (2019). Financial repression is knocking at the door, again. *International Monetary Fund*, 1-66.

Jeanne, O. (2023). *"Whatever It Takes": Government Default Versus Financial Repression*. Mimeo.

Kilindo, A. L. (2020). An Empirical appraisal of McKinnon's complementarity hypothesis in Tanzania. *African Journal of Economic Review*, 8(3), 20-48.

Akosah, N., Loloh, F., Lawson, N., & Kumah, C. (2018). Measuring financial stability in Ghana: A new index-based approach. *MPRA Paper*, 86634, 1-18.

Matin, S., & Shamseddin Hosseini, S. (2023). Financial repression and inflation-unemployment causality in Iran. *Quarterly Journal*, 18(2), 83-108.

Pagano, M. (1993). Financial markets and growth: An overview. *European Economic Review*, 37(2-3), 613-622.

Pourshahabi, F., & Elyasi, Y. (2013). Financial depth–financial repression linkage. *Iranian Economic Review*, 17(2), 65-81.

Saberi, E., Sabet, S. A. H., Razouh, M. S., & Hosseinpour, A. (2024). Analyzing the impact of financial repression policies and financial depth on macroeconomic variables in Iran: Simultaneous equations approach. *International Journal of Nonlinear Analysis and Applications*, 15(5), 155-168.

Sabri, M. F., Anthony, M., Law, S. H., Rahim, H. A., Burhan, N. A. S., & Ithnin, M. (2023). Impact of financial behaviour on financial well-being: Evidence among young adults in Malaysia. *Journal of Financial Services Marketing*, 29, 788-807.

Sulemana, M., & Dramani, J. B. (2022). Effect of financial sector development and institutions on economic growth in SSA. Does the peculiarities of regional blocs matter? *Journal of Sustainable Finance & Investment*, 12(4), 1102-1124.

Tahir, M. W., & Hayat, M. A. (2023). Financial repression and financial depth: A case study of Pakistan. *Forman Journal of Economic Studies*, 19(02), 83-108.

Xu, G., & Gui, B. (2019). From financial repression to financial crisis? The case of China. *Asian-Pacific Economic Literature*, 33(1), 48-63.

Yousuf, Md. (2024). Impact of financial repression on the economy of Bangladesh. *Finance & Economics Review*, 6(1), 13-25.

Appendix

Table 2: Financial repression Index Score by region and year

Year	ADV	AP	EU	LAC	MENA	SSA
1973	0	1	0.86	1	0.8	1
1995	0	0.36	0	0.12	0.4	0.43
2017	0.75	0.36	0.07	0.35	0.2	0.43

Source: Jafarov, 2024