FINANCIAL ECONOMICS | RESEARCH ARTICLE

The impact of financial liberalization on economic growth in sub-Saharan Africa

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Abstract: This study examines the impact of financial liberalization on economic growth, given the discrepancy and the gap in the literature, using a sample of 30 sub-Saharan African (SSA) countries. The study applies a dynamic panel estimation to examine the special role of financial liberalization and banking crises on economic growth in SSA. The linear generalized method of moments is estimated according to the Arellano and Bover approach. We also examine whether differences in income levels across countries in sub-Saharan Africa will affect the relative impact of financial liberalization in SSA. Our findings indicate that the coefficient of the financial liberalization variable is positive and significant for SSA. However, the financial liberalization dummy sign changed to negative for low-income countries, even though it was statistically insignificant. The results also show that there is a negative relationship between a banking crisis and economic growth, showing that the period of a banking crisis can drastically affect economic growth in sub-Saharan Africa. Considering the crucial role played by most financial intermediaries in developing countries, the results have some implications for different African countries, especially countries whose economies are still undergoing financial reforms.

Subjects: Macroeconomics; Econometrics; International Economics; Banking; Credit & Credit Institutions

Keywords: financial liberalization; economic growth; panel analysis

JEL classifications: E44; O16; E52; C58

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PUBLIC INTEREST STATEMENT

This study examines the relationship between economic growth and the effect of financial liberalization policy, given the discrepancy and the gap in the literature in sub-Saharan African (SSA) countries. We examined whether differences in income levels across countries in sub-Saharan Africa will affect the relative impact of financial liberalization in SSA. The results show that there is a negative relationship between a banking crisis and a growth model, showing that the period of a banking crisis can drastically affect economic growth in Africa. Considering the crucial role played by most financial intermediaries in developing countries, the results have some implications for different African countries, especially countries whose economies are still undergoing financial reforms.

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1. Introduction

In light of the recent global financial crisis, the role of the financial sector, as a determinant of economic growth, according to Gurley, McKinnon and Shaw, remains largely inconclusive (see Arestis & Demetriades, 1999; Greenwood & Jovanovic, 1990). Moreover, the belief that financial liberalization will bring the desired connection between economic growth and financial systems has not been substantiated in reality. Most international organizations like the World Bank and the International Monetary Fund (IMF) have advocated the introduction of financial liberalization policies to augment higher saving, investment and rapid economic growth in developing countries. The 1980s and 1990s witnessed the birth of economic reform programmes in most African countries after catastrophic economic crises. A major bedrock of these reforms was financial sector reform. Almost all countries in sub-Saharan Africa (SSA) have now partially liberalized their financial sectors, and they have introduced market-determined interest rates and exchange rates, while others have developed their local stock markets.

In recent years, SSA has experienced major changes in financial market policies. At the beginning of the financial liberalization, many African countries had to increase their interest rates and free their exchange rates. These policies encouraged capital flows and investment, which later increased economic growth and credit in most countries, but with a high cost of financial fragility. Unfortunately, the implementation of financial liberalization policies in most SSA countries has led to a number of challenges. These challenges include, amongst others: banking crises, shallow and unstable exchange rates, a widening spread between lending and deposit rates and a drastic decline or stagnation of the domestic credit to financial depth. A number of studies (Brownbridge, 1998; Daumont, Le Gall, & Leroux, 2004; Fowowe, 2013; Ikhide, 2015; Misati & Nyamongo, 2012) show that systemic banking crises occurred in many SSA countries [for example, Cameroon (1988–1991), Nigeria (1991–1995), Ghana (1982–1989) and Kenya (1993–1995)] immediately after they had implemented financial liberalization policies. Misati and Nyamongo (2012) believe that financial liberalization policies are still one of the most controversial policies because of its negative impact on the relationship between financial development and economic growth.

Financial market reforms aim to improve the financial system of a country. These reforms should, in particular, include policies that should induce higher economic growth. Most of the relevant literature has proposed that financial liberalization creates financial market efficiency, thereby generating savings, investment and higher growth. Various other authors have criticized financial liberalization policies and claimed that past financial crises are in fact linked with such policies. What are the consequences of financial liberalization? Are financial liberalization policies hastily implemented without any commitment to stable macroeconomic policies and financial deepening?

This paper examines the role of financial liberalization in economic growth using dynamic panel data on SSA countries that date back to the 1980s. The study employs a dynamic panel estimation to examine the special role of financial liberalization and banking crises in economic growth. The study entails empirical evidence regarding 30 African countries, which includes 1047 observations carried out through a dynamic panel analysis in respect of the period 1980–2015. This study is all-encompassing since it empirically examines the effect of financial liberalization and the impact of different banking crises on economic growth in Africa. The paper contributes to the literature; since it critically examines the role of financial liberalization in financial deepening and economic growth—without a trade-off in respect of financial stability. The study also aims to ascertain whether differences in income levels across countries in SSA would affect the relative impact of financial liberalization in SSA.

The rest of the paper is organized as follows: Section 2 gives a brief summary of the origin of financial liberalization in some selected SSA countries. Section 3 discusses the literature review. Section 4 covers the methodology and econometric issues; Section 5 concludes the paper and discusses some policy implications.

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2. The origin of financial liberalization in some selected SSA countries: An overview

Most countries in SSA have reformed their financial sector since the mid-1980s. These financial reforms were in the form of eliminating administrative credit allocation, liberalizing interest rates, improving financial infrastructure and bank regulations and shifting from direct to indirect monetary policy. This section highlights and reviews various financial sector reforms in SSA and the role these reforms have played in augmenting economic growth and boosting investment in the real sector. Fowowe (2013) asserts that most financial systems in SSA countries are still marked by inefficient resource mobilization, high-transaction costs and information asymmetry. For example, credits are disproportionately directed to specific sectors by governments at low-interest rates. These practices usually encourage financial repression and bank run. Financial liberalization policies were introduced to correct the deficiencies in financial systems in SSA countries and to enhance the financial depth and economic growth. Some African countries, including Ghana, Mauritius, Botswana, Côte d'Ivoire, Nigeria, Kenya and South Africa, implemented interest[1] rate liberalization policies in full. Other countries, for example, Cameroon and Mali implemented gradual financial liberalization through monetary unions such as those served by the Bank of Central African States (BEAC). However, after more than 30 years, the introduction of financial liberalization policies has not yielded a fruitful outcome. Most African countries are still not well developed and sophisticated enough to compete with the rest of the world. The stifled development of financial markets makes the financial sector vulnerable to global financial crises and can inhibit the development of the real sector.

A well-grounded economy is mainly hinged on an efficient and stimulating financial market. Prior to the 1980s, the government controlled most SSA countries' financial systems. This control was mainly characterized by imperfect information, regulatory impediments, and artificial structures. Table 1 shows an aspect of the financial repression policies in some SSA countries. The deposit rate in, for example, Malawi and Botswana was as low as −18 and −5.8%, respectively, in 1990. Similarly, Zimbabwe and Ghana had a deposit rate of −5.3 and −111.8%, respectively, in 1983. The government-controlled financial repression policies ultimately delivered a low saving and low growth economy. Goldsmith (1969), McKinnon (1973) and Shaw (1973) describe the poor performance of investment and growth in developing countries to "artificial" interest rate ceilings and quantitative restrictions in the credit allocation. Most SSA economies had no choice but to bring in financial reform policies that were mainly motivated by the structural adjustment programs (SAPs) introduced by the World Bank and the IMF. The reform policies were aimed at liberalizing interest rates and exchange rates, strengthening the banking sector with new financial instruments and securities market instruments and deregulating financial markets, especially stock markets. Their theory was stimulated by the drive to deepen the financial system through financial saving and investment. A higher market lending rate usually leads to a more efficient allocation of funds and removes the distortion arising from government-controlled administrative rates, promoting competition and higher economic growth in the end. The debate on financial liberalization is still an ongoing debate that deserves adequate attention, given the increased fragility of the financial sector due to haphazard liberalization action.

Table 1. Evolution of deposit rate in selected African countries during financial depression

Evolution of deposit rate in selected African countries

	1983	1986	1987	1988	1990	Mean
Gambia	−2.1	−54.2	−6.6	5.8	−2.6	−8.2
Ghana	−111.8	−6.1	−18.3	−12.2	N/A	−7.8
Kenya	−2	5.3	4.4	0.7	0.2	1.3
Zimbabwe	−5.3	−2.2	−2.7	2.6	−6.2	−2.6
Botswana	1.4	−2.3	0.4	−3.8	−5.8	−1.8
Malawi	0.7	−0.7	−9.6	−18.0	0.3	4.6

Source: Ikhide (2015, p. 5).

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3. Literature review

Financial sector development is pivotal to the efficacy of any economy since it enhances economic growth and investment. Contemporary discussions on the role of finance in economic growth are based on different theories. The supply leading growth school of thought identifies financial intermediaries as an engine of economic growth that ensures efficient allocation of funds from savers to investors using market-based rates without direct government intervention (Cole & Park, 1983; King & Levine, 1993; Levine, 2005; Levine & Zervos, 1998; Park, 1993). Country case studies on financial deepening and growth linkages indicate that better functioning financial systems support faster growth in the long run. They bring to fore the impetus of liberalizing the financial sector to stimulate saving and investment. "Financial liberalization" advocates postulate that higher real interest rates will mobilize and encourage efficient allocation of loanable funds to the real sector (Fry, 1995; McKinnon, 1973; Rousseau & Wachtel, 1998; Shaw, 1973). For example, McKinnon (1973) and Shaw (1973) believe financial liberalization policies will eliminate distortion caused by administrative controls and could help to expand capital formation by augmenting aggregate demand in the real sector (Brownbridge & Harvey, 1998). This theory is contrary to the popular theory of Keynes (1936) and Tobin (1965), who recommend a model in terms of which saving and investment are functions of real interest rates, where investment and real interest rates are inversely related since an increase in interest rates can augment inflation.

The empirical literature on financial liberalization is like a two-sided coin: where one side examines the positive relationship between financial liberalization and economic growth (Aziakpono, 2004; Chang & Mendy, 2012; Ndikumana, 2000; Odhiambo, 2011; Oshikoya, 1994; Özdemir, 2014; Seck & El Nil, 1993), while the other side examines whether financial liberalization is actually responsible for financial fragility and banking crises in most SSA countries (Ahmed, 2013; Daumont et al., 2004; Honohan & Klingebiel, 2000; Philip, 2007). According to Arestis and Demetriades (1999), the financial liberalization thesis points to two striking findings. The first story observed the frequency and the severity of banking crises in SSA over the past 30 years (World Bank, 1989). The second important finding associated financial liberalization with banking crises and dealt with the substantial real economic costs of financial liberalization. Some other authors established the severity of banking crisis (Alawode & Ikhide, 1997; Arestis & Sawyer, 2005; Daumont et al., 2004; Honohan & Klingebiel, 2000).

Besides the above-mentioned studies, there are other studies that have attempted to examine the predictive power of financial conditions on growth after the global financial crisis of 2008. These include studies, such as Matheson (2012), Koop and Korobilis (2014), Angelopoulou, Balfoussia, and Gibson (2014), and Bulut (2017), amongst others. These papers usually construct a financial conditions index to measure the real state of economic and financial activities, instead of using the traditional interest rate variable. Bulut (2017) examined the relationship between the financial condition and inflation in Turkey by constructing a financial condition index (FCI). The paper argues that FCI can be used as a good indicator to ascertain inflation targets and to monitor development in the Turkish economy. Angelopoulou et al. (2014) also constructed a FCI; and they found that for countries, like Greece and Portugal, their financial condition deteriorated after the sovereign crisis and the global financial crisis, when compared with countries like Germany that enjoyed a strong financial condition. Therefore, the effect of financial liberalization can be heterogeneous across the globe.

The argument that liberalizing and opening up financial systems - to allow for diversification and the enhancement of economic growth, as well as the stability of financial deepening may not be correct after all, given the aftermath of the prevailing global financial crisis and its effect on emerging markets' economies. Broad empirical studies and cross-country analyses have shown that financial liberalization is systematically associated with greater instability and, for good reason; capital flows are markedly procyclical and exacerbate economic fluctuations when they do not actually cause them. In addition, some scholars believe that financial liberalization policies expose countries to vicissitudes associated with changes in economic circumstances outside the countries (Alawode & Ikhide, 1997; Philip, 2007), particularly in the case of countries perceived to be highly vulnerable

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and non-resilient to external stocks like some SSA countries. For example, a sudden change in lenders' perceptions of "emerging markets risks" can ultimately lead to huge capital outflows, undermining the viability of an entire financial system. Some scholars believe that free capital flows can deepen domestic economies through the stimulation of capital formation (Fischer, 1998).

In conclusion, that which we have learned is controversial. We have shown that finance plays an important role in stimulating economic growth and development. However, financial liberalization policies should be implemented with caution, taking into cognisance the sequencing and timing of the policies to avoid endangering financial stability. Indeed, there are still issues relating to the financial liberalization–growth nexus that needs to be explored further.

4. Estimation technique and empirical analysis

4.1. Data measurement and sources

We investigated the impact of financial liberalization on economic growth in SSA countries. To estimate the model, this study employed the panel data of 30 selected countries in SSA based on data availability over the period 1980–2015. The data-sets were collected mainly from the World Development Indicators (WDI). We employed the financial liberalization dummy based on Fowowe's (2013) database and detailed a comprehensive liberalization policies episode in SSA countries. As a proxy of financial development, this study used the ratio of domestic credit to the private sector as a share of GDP (dc_gdp), which is important because it accurately captures the extent of financial intermediation in an economy. We estimated economic growth by the log of per capita GDP (log_ggdp). To account for control variables in the monetary process, the study used the following as control variables: log of foreign direct investment as a share of GDP (fdi_gdp), inflation (inf_gdp), log of gross investment (inv_gdp), secondary school enrolment (ssc) and log of export to GDP (x_gdp). We also employed the crisis dummy based on Laeven and Valencia's (2012) database on banking and currency crises and detailed a comprehensive crisis episode in SSA. We classified the SSA countries into two groups, namely, low-income countries and middle-income countries based on the World Bank's classification of countries (we classified the lower-middle-income and upper-middle incomecountries into the same group).

4.2. Econometric modeling

Following the literature of Daumont et al. (2004), Honohan and Klingebiel (2000), Arestis and Sawyer (2005), Misati and Nyamongo (2012), we estimated the following dynamic panels model:

$$GGDP_{it} = \beta_1(DC\_GDP)_{1,it} + \beta_2(LIB)_{2,it} + \beta_3(Crisis)_{3,it} + \beta_4(CV)_{4,it} + \eta_{it} + \acute{e}_{it}$$

where DC_GDP is the financial development proxy, GGDP is the log of per capita GDP proxy for economic growth, LIB is the dummy variable for financial liberalization policy measures in SSA, which takes the value of 1 for the period after liberalization and 0 otherwise, crisis is the dummy variable for the crisis period, which takes the value of 1 for the country, *i*, that experienced a banking crisis and a currency crisis at period *t* and 0 otherwise, CV is the vector of control variables accounting for other factors considered essential in growth process, which include secondary school enrollment, inflation, investment, export were included to capture human capital formation and macroeconomic effect on the economic growth model, η denotes an unobserved country's specific effect and $\acute{e}$ is the error term. We explored the panel regression model in accordance with empirical investigations from other similar studies. We used the linear generalized method of moments (GMM) estimators (Arellano & Bover, 1995; Bond, Hoeffler, & Temple, 2001).

The financial development proxy is expected to be positively correlated with the economic growth according to the supply leading argument. High inflation can destabilize the economy; and, consequently, the relationship between inflation and growth is expected to be negative. Export to GDP together with investment measures, are anticipated to be positively related to growth. We would have preferred to use trade openness, but we did not use this proxy because of the unavailability

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of data on import for certain SSA countries. Secondary school enrolment measurement should be positively correlated with economic growth since the human capital formation is expected to augment growth and stimulate the real sector.

Panel regression can be estimated using pooled least squares, fixed data, and random data. We employed the Hausman specification test to choose between the fixed effects and the random effects model in estimating the levels equations. The linear GMM was used to estimate a dynamic panel model according to the Arellano–Bond approach. Theses estimators were designed for situations with "small T, large N" panels, especially when the independent variables are not exogenous since they are correlated with past especially with fixed effect models, heteroscedasticity and autocorrelation within the individual variables. The dependent variable was lagged to capture the past relationship. We expect this model to capture the weakness of the past models with econometric problems.

4.3. Empirical analysis

Tables A1–A3 in Appendix 1 report the pooled regression results for growth equations in this study. SSA countries were classified into low-income and middle-income countries according to the World Bank's classification of countries. We used the overall sample, which comprises 30 SSA countries, to represent the general picture for SSA. The results as shown in the lower section of Table A1 in Appendix 1 consistently indicate that the financial liberalization dummy's coefficient is positive and significant for SSA. However, the financial liberalization dummy sign changed to negative even though it is statistically insignificant for low-income countries. The results also show that there is a negative relationship between a banking crisis and economic growth, showing that the period of a banking crisis can drastically affect economic growth in sub-Sahara African countries. The financial development's coefficient shows a significant and positive relationship between the ratio of domestic credit to the private sector as a share of GDP and economic growth. The results of the relationship between the financial liberalization dummy and growth for different country classifications are mixed. For low-income countries, the financial liberalization indicator was negative and insignificant, while for middle-income countries the sign was positive and significant. In conclusion, this result supports the notion that financial liberalization may not be beneficial to all SSA countries, given different levels of financial development and macroeconomic stability in each country. The coefficient of the financial liberalization indicator is mixed, but significant overall as well as for middle-income countries. The results show that the impact of financial liberalization reform on growth was not uniform across SSA countries. It is essential for SSA countries to prioritize macroeconomic stability and prudential regulations before they implement radical policies. According to Alawode and Ikhide (1997), poor sequencing financial reform can ultimately affect financial stability. The positive relationship between financial reform and growth in middle-income countries is consistent with findings in the studies of Bekaert, Harvey, and Lundblad (2006), Ndebbio (2004) and Misati and Nyamongo (2012).

5. Conclusion

This study has examined the impact of financial liberalization on economic growth, given the discrepancy and the gap in the literature, using a sample of 30 SSA countries during the period 1980–2015. The study utilized a dynamic panel estimation approach to examine this linkage. Though a number of papers have been published on countries during the period 1980-2015 the relationship between financial liberalization and growth, our paper adds to the existing empirical evidence in two ways.

Firstly, the study was all-encompassing; since it examines empirically examined the effect of financial liberalization and the impact of different banking crises on economic growth in sub-Saharan Africa, rather than sticking to just one of these critical episodes. Unlike previous studies, this study attempts to capture financial reforms in different sub-Saharan African countries, including reforms during banking crises. Moreover, the dataset used allows us to investigate the relationship by using a reasonable timespan.

Secondly, the paper contributes to the literature; since it critically examines the role of financial liberalization in financial development and economic growth—without a trade-off in respect of financial stability. The study also aims to ascertain whether differences in income levels across countries in SSA would affect the relative impact of financial liberalization on economic growth in the study countries. The sampled countries are classified into low-income and middle-income countries, according to the World Bank's classification of countries

Our findings are thought provoking. The results, as shown in the empirical analyses can be summarized as follows. The lower section of Table A1 in Appendix 1 consistently indicates that the financial liberalization proxy's coefficient is positive and significant for SSA. However, the financial liberalization dummy sign changed to negative for low-income countries. The results also show that there is a negative relationship between a banking crisis and economic growth, showing that the period of a banking crisis can drastically affect economic growth in sub-Saharan Africa. The financial development coefficient shows a significant and positive relationship between the ratio of domestic credit to the private sector as a share of GDP and economic growth. When considering the crucial role played by most financial intermediaries in developing countries, the results have some implications for sub-Saharan African countries, especially countries whose economies are still undergoing financial reforms. Financial liberalization policies should be implemented with caution, taking into cognisance the sequencing and timing of the policies to avoid endangering financial stability.

An extension of this study is to take into account the quality of the existing financial regulation. As was pointed out in Section 2 of this paper, it has been argued by some authors that financial liberalization in combination with a weak regulatory structure may have strongly adverse effects on growth. Re-estimating growth, and saving and investment models, including measures of the quality of financial regulation, may be a fruitful way forward here. Another extension of the research in this paper would be to increase the number of countries included in the data-set to include other developing countries in other regions such as MENA countries, Latin America and Europe. As was already mentioned in the introduction to this paper, one region that has experienced major changes with respect to financial market policies in recent years is the African region.

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Note
1. For more details on the structure and the process of financial liberalisation in SSA, refer to Fowowe (2013, pp. 16–26).

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Appendix 1

Table A1. Financial liberalization and economic growth dynamic panel regression for selected SSA countries

Variables	Dynamic fixed effect	System GMM1	System GMM2
L.lngdp_cap		0.981***	
		(0.00789)	
lndc_gdp	0.164***	0.0228***	0.628***
	(0.0133)	(0.00576)	(0.0113)
ssc	−0.0267	0.00708	0.0155
	(0.0192)	(0.00616)	(0.0160)
lninv_gdp	0.0312**	0.0321***	−0.0953***
	(0.0154)	(0.00581)	(0.0218)
inf	−3.35e-06	−3.32e-07	−0.000150***
	(2.29e-05)	(1.03e-05)	(4.88e-05)
lnx_gdp	0.192***	0.0303***	0.440***
	(0.0167)	(0.00731)	(0.0227)
fin_lib	0.0504***	−0.00376	0.197***
	(0.0177)	(0.00805)	(0.0183)
fin_crisis	−0.0507*	−0.0291***	0.0303
	(0.0274)	(0.00933)	(0.0290)
Constant	5.791***	0.0116	4.061***
	(0.0627)	(0.0431)	(0.0877)
Observations	949	924	949
R^2	0.316		
Number of country_id	30	30	30

*$p < 0.1$, standard errors in parentheses.

**$p < 0.05$, standard errors in parentheses.

***$p < 0.01$, standard errors in parentheses.

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Table A2. Financial liberalization and economic growth dynamic panel regression for low-income countries in selected SSA countries

Variables	Dynamic fixed effect	System GMM1	System GMM2
L.lngdp_cap		0.943***	
		(0.0169)	
lndc_gdp	0.0980***	0.0118	0.154***
	(0.0154)	(0.00811)	(0.00827)
ssc	0.0428*	0.0138	−0.000512
	(0.0242)	(0.0101)	(0.0103)
lninv_gdp	0.0442***	0.0251***	0.0275***
	(0.0158)	(0.00713)	(0.00935)
inf	−4.83e-05*	−1.18e-06	0.000202***
	(2.04e-05)	(9.42e-06)	(1.84e-05)
lnx_gdp	0.256***	0.0267***	0.164***
	(0.0215)	(0.00998)	(0.0116)
fin_lib	0.0277	−0.00377	−0.00335
	(0.0202)	(0.0105)	(0.0104)
fin_crisis	−0.0644**	−0.0284**	−0.0731***
	(0.0320)	(0.0140)	(0.0140)
Constant	5.084***	0.235***	5.265***
	(0.0679)	(0.0883)	(0.0364)
Observations	534	521	534
R-squared	0.362		
Number of country_id	17	17	17

*$p < 0.1$, standard errors in parentheses.

**$p < 0.05$, standard errors in parentheses.

***$p < 0.01$, standard errors in parentheses.

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Table A3. Financial liberalization and economic growth dynamic panel regression for middle-income countries in selected SSA countries

Variables	Dynamic fixed effect	System GMM1	System GMM2
L.lngdp_cap		0.985***	
		(0.00690)	
lndc_gdp	0.243***	0.0158***	0.402***
	(0.0204)	(0.00437)	(0.00876)
ssc	−0.0411	0.00842	−0.0418***
	(0.0270)	(0.00544)	(0.0140)
lninv_gdp	−0.0780**	0.0303***	−0.281***
	(0.0308)	(0.00661)	(0.0203)
inf	0.00157***	7.12e-05**	0.000672***
	(0.000151)	(2.90e-05)	(9.87e-05)
lnx_gdp	0.0577**	0.0208***	0.284***
	(0.0225)	(0.00560)	(0.0187)
fin_lib	0.0282	0.00907	0.135***
	(0.0278)	(0.00777)	(0.0168)
fin_crisis	0.0341	−0.0261***	0.0756***
	(0.0390)	(0.00827)	(0.0211)
Constant	7.124***	−0.00951	6.421***
	(0.110)	(0.0499)	(0.0927)
Observations	415	403	415
R-squared	0.517		
Number of country_id	15	15	15

*$p < 0.1$, standard errors in parentheses.

**$p < 0.05$, standard errors in parentheses.

***$p < 0.01$, standard errors in parentheses.