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Non-linearity in the nexus between financial development and current account balances: New global evidence

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Non-linearity in the nexus between financial development and current account balances: New global evidence

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Abstract

This paper investigates the link between financial development and current account balances using a global sample of 218 countries during the 1993-2017 period. We find that financial development, proxied by domestic credit-to-GDP ratio, exhibits a U-shaped relationship with current account balances. A deeper investigation highlights that the U-shaped relationship between domestic credit and current account balances is more pronounced for developing countries. Further, our additional analyses find that the non-linear relationship between financial depth and current account balances can be partly attributed to the role of bank funding liquidity. Specifically, higher domestic credit can improve current account balances for countries with higher bank deposits ratio, and this finding is also more pronounced for developing countries. For developed countries, domestic credit has no clear impact on current account balances regardless of the role of bank funding liquidity. Our findings are consistent to a battery of robustness checks and provide a policy implication that boosting domestic credit is an important factor in improving financial imbalance as reflected in the current account balance.

o spur financial deepening without impairing macroeconomic stability.

JEL: G21, G28, F32, F41

Keywords: Global savings glut, financial development, bank funding liquidity, current account balances

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[1] All views in this paper are the authors' and do not necessarily reflect the views of the Indonesia Deposit Insurance Corporation. Some parts of this paper were written when the first author served as the Chairman of the Indonesia Deposit Insurance Corporation.

1. Introduction

Global imbalances have been perceived as one of the triggers of the 2008 global financial crisis and hence, research on the determinants of global imbalances emerges during the last decades, particularly in highlighting the role of financial development (e.g. Azis, 2009; Moral-Benito and Roehn, 2016; Obstfeld, 2012; Chinn, 2013; Chen et al., 2012; Chinn and Ito, 2007). Azis (2016) argue that there are four areas of elevated risks (so-called the 'Four-G' episodes) faced by emerging markets, particularly in emerging Asia, i.e. the Great Moderation that began in the late 1980s, the Global Imbalances that peaked in the mid-2000s, the Global Financial Crisis that burst in 2008, and the Great Divergence in Advanced Economies' monetary policy. Chinn and Ito (2007) point out that the 2008 global financial crisis was indeed preceded by a continuous increase in the US current account deficit as of 2000s, reaching 6.1% of gross domestic product (GDP) in 2006. Such a high level of current account deficit in the US, as compared to its historical trends and other advanced economies, can be partly attributed to excess savings and collapsing investment from Asian emerging market economies in the post-1997 Asian crisis. This line of thought is referred to as the "global savings glut" hypothesis (Bernanke, 2005; Clarida, 2005). This implies that excess savings from emerging market economies tend to enter developed countries, which in turn boosts credit booms in developed countries. Consequently, greater financial development is negatively associated with current account balances, if the global savings glut issues exist.

In spite of a growing literature on assessing the global savings glut hypothesis, empirical evidence is not conclusive whether greater financial development is indeed negatively linked to current account balances. For instance, Chinn and Ito (2007) documents that only in countries with highly developed legal systems and more liberalized financial markets, greater financial development deteriorates current account balances, supporting the global savings glut hypothesis. Nevertheless, they also show that greater financial development can improve current account balances in Asian emerging markets, although this positive association is due to depressed investment instead of excess savings. From a sample of 61 countries from 1982 through 2003, Gruber and Kamin (2007) fail to find a significant impact of financial development, measured by the private credit-to-GDP ratio, on current account balances. Building on their previous study, Gruber and Kamin (2009) incorporate several measures of stock market development in addition to the private credit-to-GDP ratio and differentiate countries based on their income status. Their

findings support the global savings glut hypothesis, as stock market development is negatively associated with current account balances. However, such negative association is reversed when they focus on a sub-sample to developed countries with higher industrialization. For developed countries, higher stock market capitalization and stock market turnover indeed improve current account balances, while the private credit-to-GDP ratio tends to deteriorate the current account to a lesser extent. In parallel, Ito and Chinn (2009) find the opposite results in which financial development, measured by stock market capitalization or private credit, exhibits a positive impact on current account balances in developing countries, but it is negatively correlated with the current account in developed countries.

There are at least two major reasons as to why greater financial development can improve current account balances, so that the global savings glut hypothesis is not supported. First, foreign investors are not attracted by country-level financial development and economic fundamentals (e.g. Gruber and Kamin, 2007). Consequently, the net payment of interests for foreign investors tends to decline and current account balances improve following greater financial development. Second, greater financial development can also increase aggregate productivity, economic growth, and savings (e.g. McKinnon, 1973; Shaw, 1973; Bencivenga and Smith, 1991). When greater financial development encourages higher savings than investment, the current account tends to increase. To this end, the dynamics of financial development and current account balances is far less understood and hence, it is clearly an empirical issue.

Instead of investigating the role of financial development, another strand of research studying the global saving gluts hypothesis emphasizes on the role of financial regulation in affecting current account balances. Financial deregulation is found to fuel credit and asset price booms, which in turn contribute to the build-up of global imbalances before financial crisis (e.g. Ferrero, 2012; Lanau and Wieladek, 2012; Borio and Disyatat, 2011). Meanwhile, Moral-Benito and Roehn (2016) document the impact of financial regulation on current account balances and find that different types of financial regulation may have different impact on the current account. Specifically, relaxing bank entry barriers is associated with a decline in the current account balance, while bank privatization and more liberalized securities market are associated with higher current account balances.

Nowadays, empirical research on the interplay of financial development and current account balances is important for following reasons. In the last decade, the aggregate share of current

account balances to total output around the world is twice as large as in the mid-1980s, while gross foreign assets have quadrupled and net foreign asset positions have tripled (Bracke et al., 2010). This suggests increasing interconnectedness across countries from time to time, not only in the trade channel, but also in the financial channel. Understanding the empirical link between financial development and current account balances therefore enables policy makers around the world to prevent domestic credit booms from occurring when the global savings glut issue exists, because excessive bank lending tends to exacerbate bank risk taking that ends up in financial crises (e.g. Foos et al., 2010; Festić et al., 2011; Soedarmono et al., 2017). In addition, maintaining current account balances is also of particular importance for countries relying on short-term capital inflows in financing their current account deficits. This is because short-term foreign investors and fund managers will rely on the current account position to determine host countries' economic performance when only limited information are available (e.g. Calderón et al., 2002; Basri, 2017). Yet, maintaining current account surpluses is essential to deal with the adverse impact of transitory productivity shocks regardless of the origin of shocks (Ghosh, 1995; Razin, 1995).

In this paper, we extend previous studies on the "global savings glut" literature by focusing on a global sample of countries with different stage of economic development. Our contribution is twofold. First, we investigate whether the positive or negative association between financial development and the current account might occur simultaneously under certain conditions. In other words, we test whether financial development exhibits a non-linear impact on current account balances. To the best of our knowledge, no previous studies are devoted to test a non-linear relationship between financial development and current account balances. Second, we test whether such non-linear relationship can also occur for a sample of developed countries or developing countries. By differentiating sample into developed countries and developing countries, we follow previous studies testing the global savings glut hypothesis, although a non-linear relationship between financial development and current account balances remains unexplored (e.g. Moral-Benito and Roehn, 2016; Ferrero, 2012; Lanau and Wieladek, 2012; Borio and Disyatat, 2011; Ito and Chinn, 2009; Chinn and Ito, 2007).

This present paper is also built on the work of previous studies on the "too much finance" literature in which financial development exhibits an inverted U-shaped relationship with economic growth (e.g. Arcand et al., 2015; Cecchetti and Kharoubbi, 2012; Samargandi et al., 2015; Swamy et al., 2019). In other words, greater financial development is detrimental for

economic growth when financial development already reaches certain levels. That is, greater financial development exceeding certain levels may deteriorate real sector productivity due to talent shifts from the real sector to the financial sector, which in turn impedes economic growth. When economic growth declines after financial development exceeding certain levels, current account balance may also improve due to depressed investment or a decline in consumption. Hence, we postulate that financial development may exhibit a non-linear relationship (or U-shaped relationship) with current account balances, because economic growth may decline following greater financial development exceeding certain levels as in the "too much finance" literature.

Finally, the rest of this paper is structured as follows. Section 2 describes our dataset, variables and econometric methodology to test a non-linear relationship between financial development and current account balances. Section 3 presents empirical findings and robustness checks, while section 4 concludes and provides some policy implications to avoid the global savings glut issue.

2. Data, variables and method

2.1. Data

Our datasets are from the World Bank's World Development Indicators (WDI) database and the Global Financial Development database (GFDD) covering on a sample of 218 countries from 1993 to 2017. Hence, we cover more recent data than previous studies on the financial development-current account nexus. Meanwhile, several indicators representing economic openness and institutional development are also taken from the Heritage Foundation.

2.2. Variables

As the dependent variable, we use CAB defined as the ratio of current account balance to gross domestic product (GDP) retrieved from WDI. As an explanatory variable of interest reflecting financial development, we use domestic credit to private sector provided by banks as a ratio to GDP (BCRED) following previous studies (e.g. Gruber and Kamin, 2007; Arcand et al., 2015; Samargandi et al., 2015). BCRED is retrieved from GFDD database instead of WDI, because the number of observations for BCRED retrieved from GFDD is higher than the one obtained from WDI. Higher BCRED is associated with greater financial development. To ensure for robustness, we also consider the ratio of domestic credit provided by financial sector to GDP (FCRED) and

the ratio of domestic credit to private sector (PCRED). Both indicators are retrieved from WDI, because such indicators are not available in GFDD[2].

In this study, several control variables are incorporated following literature on the determinants of current account balances. Following Moral-Benito and Roehn (2016), we include some independent variables representing demographic factor, economic openness, economic development, population, institutional quality and crisis dummies.

As a demographic factor, we include the dependency ratio (DEPR) measured by the ratio of population aged zero to 14 and over 65 years old to the total number of population aged 15 to 64. Countries with higher DEPR is expected to have lower savings and hence, lower current account balances. DEPR is obtained from WDI.

To reflect economic openness, unlike Moral-Benito and Roehn (2016) who use measures of trade openness, we use the measure of economic freedom (EFREE) retrieved from Heritage Foundation. Higher EFREE is associated with greater degree of economic freedom in all business dimensions.

Moreover, the real GDP growth rate (GROWTH) obtained from WDI is used as a proxy for economic development as in Moral-Benito and Roehn (2006) and Das (2016). Previous findings highlight that faster economic growth tends to deteriorate current account balances. Because we consider the real GDP growth rate as a proxy for economic development, we also control for population growth rate (POPG) to control for the quality of living standards. Countries with faster population growth tends to have lower living standards, which might in turn increase consumption and deteriorate current account balances. POPG is obtained from WDI.

As the current account is also affected by investment, we also take into account the role of institutional quality by using a measure of property rights protection (PROP). Higher PROP is associated with stronger investor rights protection, which may boost investment and deteriorate current acccount balances. PROP is obtained from Heritage Foundation.

Finally, we control for the role of financial crises by including a crisis dummy variable (CRISIS) retrieved from GFDD. Financial crises tend to deteriorate domestic investment

[2] Following Samargandi et al. (2015), we do not use stock market-based measures as a proxy for financial development. Using stock market development indicators will limit our sample size and number of observations due to the fact that stock market development data with long-span time series are unavailable for many countries.

opportunities and hence, savings can increase permanently. Higher savings can in turn positively affect current account balances.

2.3. Method

In order to assess whether financial development has a non-linear relationship with current account balances, we proceed the analysis in two stages. First, using all countries in our sample, we conduct regressions of current account balances on financial depth measures and a set of control variables as shown in Eq. (1). Second, we run again previous regressions to estimate Eq. (1), but we estimate for two different groups of countries (i.e. developing countries and developed countries) in order to investigate whether countries with different economic development status behave differently in relation to the nexus between finance development and current account balances. Based on a country income status provided by WDI, we classify poor, lower middle-income and upper middle-income countries as developing countries, while high-income countries identified by WDI is classified as developed countries.

$$CAB_{it} = \beta_0 CAB_{it-1} + \beta_1 FD_{it} + \beta_2 FD^2_{it} + \sum_{k=3}^{5} \beta_k X_{k,it} + \varepsilon_{it} \qquad (1)$$

In Eq. (1), *i* and *t* represent country index and year index, respectively. FD represents a measure of financial development (BCRED, FSC, or PSC), while FD^2 is the squared term of financial development to assess whether or not the link between financial development and current account balances is non-linear. In Eq. (1), we also include the one-year lagged value of CAB to avoid potential reverse causality problems between explanatory variables and CAB. We consider that all explanatory variables are exogenous, while only dependent variable is considered as an endogenous variable.

Because we have the one-year lagged value of CAB as an independent variable, we use a dynamic panel data model to estimate Eq. (1). Specifically, we conduct the twostep system GMM (generalized methods of moments) estimation developed by Blundell and Bond (1998). In general, the twostep GMM estimation is more efficient and robust that the one-step GMM estimation, particularly in the presence of heteroscedasticity and autocorrelation isues in the error terms (Baltagi, 2005; Roodman, 2009).

Moreover, we also opt to use the system GMM approach instead of the difference GMM approach in implementing to the two-step GMM model estimation. This is because the difference GMM technique may suffer from the issue of poor performance of instruments, while the difference GMM estimation is also biased when the dependent variable is close to random walk in which the coeffcient of the one-year lagged value of the dependent variable is close to 1 (Blundell and Bond, 1998).

In addition, we take into account Windmeijer's (2005) finite sample correction in our twostep system GMM estimation to ensure that reported standard errors are robust to heteroscedasticity and autocorrelation issues. Finally, to avoid the proliferation of instruments, we also specify a collapsing technique of instruments as in Roodman (2009), so that the *p*-value of the Hansen-J test is not close to 1 and hence, the "too many instruments" problem can be avoided.

Although the quality of the two-step system GMM technique outweighs other types of GMM technique in terms of obtaining unbiased and efficient coefficient estimates, we also implement additional GMM techniques as robustness checks to ensure that our findings using the two-step GMM estimation are not altred. Specifically, we use the one-step system GMM technique assuming that heteroscedasticity and autocorrelation of errors are less of a concern, while we also use the one-step difference GMM technique as a standard GMM estimation proposed by Arellano and Bond (1991). Overall, all GMM techniques are valid when the AR(2) test and the Hansen-J test are not statistically significant. When the AR(2) test is not significant, it suggests that no second-order autocorrelation of errors can be detected. Meanwhile, the overidentifying restrictions of instruments are also valid when the Hansen-J test is not rejected.

3. Discussions

3.1. Empirical results

In Table 1, we provide summary statistics of all variables after we eliminate possible outliers in some variables. Specifically, we exclude the top-1% of observations for BCRED, FSC and PSC, because the initial maximum values of BCRED, FSC, and PSC may not be economically plausible, reaching 972%, 317% and 308%, respectively. Meanwhile, Table 3 presents the correlation structure of our variables after potential outliers are excluded. It is shown that all expalantory variables are not strongly correlated and hence, multicollinearity is not a potential problem in this study.

[Table 1 and Table 2]

Table 3 provides empirical results for baseline regressions of current account balances on financial development measures and control variables. For all countries, higher credit-to-GDP ratio indeed exhibits a U-shaped relationship with current account balances, particularly when BCRED and FSC are used as an explanatory variable of interest representing financial depth in the two-step system GMM estimation. Meanwhile, the U-shaped relationship between financial depth and current account balances is also robust to different measures of financial depth and econometric estimation.

From the two-step system GMM estimation, the U-shaped test by Lind and Mehlum (2010) also suggests that at the 5% significance level, the inflection point of BCRED is 63.04%, while the inflection point of FSC is 114.4% with the 1% significance level. In other words, greater financial development deteriorates current account balances at the beginning, but once financial development reaches a certain level, greater financial development increases the current account. The global savings glut issue tends to occur in countries with a low level of financial development.

[Table 3]

Indeed, the "optimum" value of financial development may differ due to different econometric specifications and financial depth measures. However, we rely on empirical results from the two-step system GMM estimation to identify inflection points of financial depth. This is because coefficient estimates from the two-step system GMM model are more efficient than the one-step system GMM or the one-step difference GMM estimation, particularly when heteroscedasticity and autocorrelation issues exist (Baltagi, 2005; Roodman, 2009). We also document that the coefficients of the one-year lagged value of CAB using the one-step system GMM and the one-step difference GMM estimation are relatively close to 1, suggesting that the CAB pattern is close to a random walk. Accordingly, the two-step system GMM technique is more suitable to deal with this condition. Overall, our findings from various types of dynamic panel data estimation are valid, because the AR(2) test and the Hansen-J test are not rejected.

[Table 4 and Table 5]

In Table 4 and Table 5, we provide empirical evidence on the interplay of financial depth and current account balances for developing countries and developed countries, respectively. We highlight that the U-shaped relationship between financial depth and current account balances is more pronounced for developing countries as in Table 4. From the two-step system GMM estimation, the inflection points of BCRED, FSC and PSC are 68.9%, 125.7% and 83.4%, respectively. Likewise, the one-system GMM and the one-step difference GMM estimators also provide robust evidence on the U-shaped relationship between financial depth and current account balances for developing countries regardless of proxies for financial depth, although inflection points of financial depth also vary. These findings for developing countries are also econometrically valid, because the AR(2) test and the Hansen-t test are not significant. For developed countries, we find no significant impact of financial depth on current account balances.

Other than financial depth, some control variables also exhibit consistent and significant relationship with current account balances regardless of the measures of financial depth. Dependency ratio (DEPR) is negatively associated with current account balances, because countries with higher dependency ratio is expected to have lower savings. Meanwhile, crisis dummy (CRISIS) is positively associated with current account balances. Depressed investment during crisis periods tends to boost current account balances in this regard. All these findings are more pronounced for developing countries. For developed countries, to a lesser extent, greater economic freedom (EFREE) and stronger property rights protection (PROP) can boost current account balances. Meanwhile, economic growth (GROWTH) has no significant relationship with current account balances in all regression models. Population growth (POP) is indeed negatively linked to current account balances, but this finding only occurs in developing countries when the one-step difference GMM estimation is used.

3.2. Additional analyses

In the next turn, we augment the analysis by further investigating whether the U-shaped relationship between financial depth and current account balances can be attributed to another factor. For this purpose, we focus on analyzing the role of bank funding liquidity, because spurring domestic credit that exceeds its minimum value, in order to avoid the global savings glut issue,

will depend on bank funding liquidity. Hence, we add a measure of bank funding liquidity (DEPO) as an independent variable and replace the squared term of financial depth with the interaction term between financial depth and bank funding liquidity. DEPO is the ratio of total deposits by banks to GDP in which we eliminate the top 1% of its values before we conduct regressions with DEPO, because the initial maximum value of DEPO reaches 972%.

Table 6 provides our empirical findings for all countries regarding the interplay of financial depth, bank funding liquidity, and current account balances. We find robust evidence that the global savings glut issue, showing a negative association between financial depth and current account balances, is more pronounced for countries with lower bank liquidity. For countries with higher bank funding liqudity, greater financial development boosts current account balances. These results are consistent for different dynamic panel data models and financial depth measures. All dynamic panel data models in Table 6 are also valid, because the AR(2) test and the Hansen-J test are not statistically significant at least at the 5% level.

[Table 6]

Eventually, Table 7 and 8 documents our findings on the impact of bank funding liquidity on the financial depth-current account balance nexus for developing countries and developed countries, respectively. We find that only in developing countries, bank funding liquidity can be a moderating variable affecting the nexus between financial depth and current account balances. Phrased differently, greater financial depth can boost current account balances for developing countries when the degree of bank funding liqudity exceeds certain levels depending on model specifications and financial depth indicators. Overall, all dynamic models for developing countries are also valid from the insignificance of the AR(2) test and the Hansen-J test.

[Table 7 and Table 8]

3.3. Robustness checks

Although our empirical findings from Table 3 to Table 8 are already consistent using different dynamic panel data models and financial depth measures, we also provide additional

robustness checks. However, the results of these robustness checks are not presented in this present paper, but are available upon request to the authors.

First, we exclude EFREE, GROWTH and POPG as independent variables, because these variables do not exhibit robust association with current account balances. In turn, we repeat dynamic panel data model estimation without these control variables to obtain results from Table 3 to Table 8, but our new findings on the U-shaped relationship between financial depth and current account balances is not altered in which this evidence is also more pronounced for developing countries. Our new findings on the role of bank funding liquidity in the financial depth-current account balance nexus are also unaltered. Second, we use a two-way panel fixed effect model and we repeat estimation from Table 3 to Table 8. Overall, our previous findings with this new specification remain consistent.

4. Conclusion

Using a global sample of 218 countries from 1993 to 2017, this paper assesses whether or not financial development exhibits a non-linear relationship with current account balances. We find robust evidence that financial development has a U-shaped relationship with current account balances, which is more pronounced for developing countries. Moreover, a deeper investigation suggests that a non-linear relationship between financial depth and current account balances can be partly due to the influence of bank funding liquidity. We document that greater financial development can improve current account balances after bank funding liquidity reaches certain levels and this finding is also more pronounced for developing countries.

This present paper offers some policy recommendations. In order to avoid the global savings glut issue coming from the negative association between financial development and current account balances, domestic credit should exceed certain levels depending on the measurement of financial development and econometric specifications. In order to increase domestic credit to spur financial development, we also advocate the importance of enhancing bank funding liquidity and hence, strengthening deposit insurance schemes to maitain depositors' confidence in the banking system is essential.

However, spurring financial development exceeding certain levels, although it strengthens macroeconomic stability due to higher current account balances, can also hamper economic growth, particularly when the "too much finance" hypothesis occurs. Previous literature has

emphasized that financial development should not exceed certain levels to ensure that greater financial development is beneficial for economic growth. Eventually, future research on how to balance the role of financial development in boosting macroeconomic stability without impairing economic growth is therefore worth investigating.

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Appendix

Table 1. Summary statistics

Variables	Definition	Obs	Mean	Std. Dev.	Min	Max
CAB	Ratio of current account balance to GDP (%)	4,249	-3.05423	11.05236	-147.997	67.60452
BCRED	Ratio of domestic credit by banks to GDP (%)	4,330	40.24112	34.91722	0.114638	173.146
FSC	Ratio of domestic credit by financial sector to GDP (%)	4,304	53.53198	46.61311	-114.694	231.3309
PSC	Ratio of domestic credit to private sector to GDP (%)	4,335	44.86479	40.14708	0.18617	202.2927
DEPO	Ratio of total deposits to GDP (%)	4,289	44.28578	36.3647	0.097576	253.807
DEPR	The dependency ratio (%)	5,035	63.72794	19.32507	15.74309	116.6724
EFREE	Economic freedom index	4,022	59.63404	11.31494	5.8	90.5
GROWTH	Annual real GDP growth rate	5,146	3.700614	6.133061	-62.0759	149.973
POPG	Annual population growth rate	5,600	1.434863	1.540041	-10.9552	17.51095
PROP	Property rights protection index	4,049	48.18019	23.60039	0	98.4
CRISIS	Crisis dummy	5,350	0.055701	0.229365	0	1

Source: Authors' calculation

Table 2. Correlation matrix

Variables	CAB	BCRED	FSC	PSC	DEPO	DEPR	EFREE	GROWTH	POPG	PROP	CRISIS
CAB	1.0000										
BCRED	0.1712	1.0000									
FSC	0.0575	0.8965	1.0000								
PSC	0.1492	0.9328	0.8633	1.0000							
DEPO	-0.2530	-0.5497	-0.4814	-0.5358	1.0000						
DEPR	0.1296	0.7759	0.7756	0.7499	-0.4888	1.0000					
EFREE	0.1779	0.6077	0.5145	0.6009	-0.4440	0.5272	1.0000				
GROWTH	0.0141	-0.1529	-0.1582	-0.1398	0.0717	-0.1309	-0.1215	1.0000			
POPG	0.0382	-0.2441	-0.2517	-0.2422	0.5035	-0.1363	-0.1492	0.1110	1.0000		
PROP	0.1961	0.5948	0.5552	0.5872	-0.3534	0.4904	0.7799	-0.1430	-0.1855	1.0000	
CRISIS	0.0286	0.0987	0.1230	0.0863	-0.0401	0.0299	0.0283	-0.1725	-0.0920	0.0936	1.0000

Source: Authors' calculation

Table 3. Financial development and current account balances: Baseline regressions

Explanatory variables	**Dependent variables:** CAB								
	Two-step system GMM			*One-step system GMM*			*Difference GMM*		
L.CAB	0.72630***	0.72276***	0.72552***	0.74285***	0.73867***	0.73955***	0.76521***	0.78197***	0.77661***
	(0.047)	(0.052)	(0.049)	(0.048)	(0.049)	(0.047)	(0.057)	(0.058)	(0.056)
BCRED	-0.02021**			-0.03411***			-0.06406***		
	(0.012)			(0.013)			(0.023)		
$BCRED^2$	0.00016**			0.00023***			0.00031***		
	(0.000)			(0.000)			(0.000)		
FSC		-0.03273***			-0.03625***			-0.03568*	
		(0.012)			(0.011)			(0.020)	
FSC^2		0.00014***			0.00016***			0.00012*	
		(0.000)			(0.000)			(0.000)	
PSC			-0.01292			-0.02726**			-0.06095***
			(0.011)			(0.012)			(0.019)
PSC^2			0.00007			0.00013**			0.00021**
			(0.000)			(0.000)			(0.000)
DEPR	-0.02513	-0.03365*	-0.02438	-0.04047**	-0.04532***	-0.04245**	0.01108	0.00684	-0.00153
	(0.015)	(0.017)	(0.016)	(0.016)	(0.017)	(0.016)	(0.025)	(0.027)	(0.026)
EFREE	0.00189	0.01978	0.01364	0.00562	0.01705	0.01452	0.06632**	0.05319**	0.07051**
	(0.021)	(0.020)	(0.021)	(0.022)	(0.021)	(0.023)	(0.028)	(0.027)	(0.028)
GROWTH	0.00732	0.00257	0.00683	0.05346	0.06232	0.06192	0.05454	0.06849	0.06108
	(0.053)	(0.062)	(0.059)	(0.052)	(0.052)	(0.051)	(0.052)	(0.054)	(0.052)
POPG	0.01147	-0.05638	-0.07739	0.21166	0.14353	0.14803	-0.27484*	-0.31409**	-0.31831**
	(0.165)	(0.167)	(0.168)	(0.171)	(0.170)	(0.170)	(0.141)	(0.140)	(0.142)
PROP	0.01453*	0.01502	0.01268	0.01870**	0.01849*	0.01770*	0.00796	0.00609	0.00466
	(0.009)	(0.010)	(0.009)	(0.009)	(0.011)	(0.010)	(0.010)	(0.011)	(0.011)
CRISIS	0.59942*	0.77470**	0.71917**	0.73972**	0.87394**	0.81211**	0.90408**	0.94356**	1.01016***
	(0.306)	(0.349)	(0.327)	(0.307)	(0.345)	(0.324)	(0.349)	(0.363)	(0.366)
Observations	3,056	2,947	2,973	3,056	2,947	2,973	2,890	2,780	2,806
Number of countries	166	167	167	166	167	167	165	166	166
AR(2) test	0.395	0.645	0.631	0.268	0.485	0.472	0.302	0.522	0.542
Hansen-J test	0.136	0.111	0.118	0.136	0.111	0.118	0.133	0.156	0.157
Inflection point (%)	63.04**	114.4***	-	75.5***	114.7***	104.4**	104.7***	144.8*	146.6*

Source and notes: Authors' calculation. Regressions are carried out using the standard GMM estimation, taking into account orthogonal deviations of instruments and Windmeijer's (2005) finite sample correction. Robust standard errors are in parentheses. *** indicates statistical significance at the 1% level, while ** and * indicate statistical significance at the 5% and 10% levels, respectively. Constants in the two-step and one-step system GMM estimation are included, but not reported. The inflection point test follows Lind and Mehlum (2010).

Table 4. Financial development and current account balances in developing countries

Explanatory variables	**Dependent variables:** CAB								
	Two-step system GMM			*One-step system GMM*			*Difference GMM*		
L.CAB	0.67691***	0.66538***	0.69073***	0.71011***	0.70450***	0.71419***	0.73307***	0.75636***	0.75492***
	(0.061)	(0.065)	(0.060)	(0.061)	(0.063)	(0.058)	(0.077)	(0.076)	(0.072)
BCRED	-0.08788***			-0.09159***			-0.14733***		
	(0.025)			(0.027)			(0.047)		
$BCRED^2$	0.00064***			0.00063***			0.00078***		
	(0.000)			(0.000)			(0.000)		
FSC		-0.06068***			-0.05358***			-0.04736*	
		(0.017)			(0.016)			(0.027)	
FSC^2		0.00024***			0.00021***			0.00014	
		(0.000)			(0.000)			(0.000)	
PSC			-0.07308***			-0.08078***			-0.12317***
			(0.025)			(0.024)			(0.037)
PSC^2			0.00044***			0.00045***			0.00051**
			(0.000)			(0.000)			(0.000)
DEPR	-0.06783***	-0.07986***	-0.06784**	-0.08222***	-0.08067***	-0.08375***	-0.07019	-0.04259	-0.07015
	(0.025)	(0.028)	(0.027)	(0.027)	(0.027)	(0.026)	(0.044)	(0.040)	(0.042)
EFREE	0.02781	0.04079	0.03681	0.01670	0.02593	0.02865	0.04395	0.02010	0.04942
	(0.029)	(0.029)	(0.030)	(0.028)	(0.027)	(0.028)	(0.034)	(0.030)	(0.034)
GROWTH	0.02139	0.01545	0.03222	0.05884	0.06596	0.06657	0.05216	0.06512	0.06057
	(0.066)	(0.082)	(0.070)	(0.056)	(0.058)	(0.054)	(0.056)	(0.059)	(0.054)
POPG	-0.10274	-0.06658	-0.12289	0.20834	0.15463	0.15843	-0.40643*	-0.44827**	-0.44401**
	(0.302)	(0.316)	(0.303)	(0.292)	(0.296)	(0.289)	(0.212)	(0.215)	(0.212)
PROP	-0.00870	-0.01126	-0.01127	0.00286	-0.00050	-0.00132	-0.00308	-0.00224	-0.00519
	(0.011)	(0.012)	(0.012)	(0.011)	(0.012)	(0.011)	(0.012)	(0.012)	(0.012)
CRISIS	0.81660**	1.16882**	0.81933*	0.72889	1.01386*	0.73048	1.07216*	1.03932*	1.02700*
	(0.410)	(0.500)	(0.439)	(0.447)	(0.527)	(0.460)	(0.544)	(0.564)	(0.521)
Observations	1,999	2,015	2,011	1,999	2,015	2,011	1,887	1,902	1,898
Number of countries	112	113	113	112	113	113	111	112	112
AR(2) test	0.429	0.742	0.638	0.345	0.633	0.576	0.405	0.690	0.674
Hansen-J test	0.176	0.146	0.108	0.176	0.146	0.108	0.165	0.166	0.174
Inflection point (%)	68.9***	125.7**	83.4***	75.7***	129.4**	88.8***	94.4**	-	119.8*

Source and notes: Authors' calculation. Regressions are carried out using the standard GMM estimation, taking into account orthogonal deviations of instruments and Windmeijer's (2005) finite sample correction. Robust standard errors are in parentheses. *** indicates statistical significance at the 1% level, while ** and * indicate statistical significance at the 5% and 10% levels, respectively. Constants in the two-step and one-step system GMM estimation are included, but not reported. The inflection point test follows Lind and Mehlum (2010).

Table 5. Financial development and current account balances in developed countries

Explanatory variables	**Dependent variable:** CAB								
	Two-step system GMM			*One-step system GMM*			*Difference GMM*		
L.CAB	0.81513***	0.80090***	0.79009***	0.78059***	0.79975***	0.77198***	0.79132***	0.79789***	0.77658***
	(0.068)	(0.042)	(0.066)	(0.045)	(0.035)	(0.049)	(0.057)	(0.049)	(0.060)
BCRED	-0.00520			-0.00135			-0.01398		
	(0.015)			(0.012)			(0.019)		
$BCRED^2$	0.00002			0.00001			0.00005		
	(0.000)			(0.000)			(0.000)		
FSC		-0.00921			-0.00314			-0.02128	
		(0.012)			(0.011)			(0.017)	
FSC^2		0.00003			0.00002			0.00005	
		(0.000)			(0.000)			(0.000)	
PSC			0.00790			0.00754			-0.01295
			(0.011)			(0.011)			(0.017)
PSC^2			-0.00005			-0.00005			0.00001
			(0.000)			(0.000)			(0.000)
DEPR	-0.00199	-0.01126	0.00419	-0.01334	-0.01344	-0.01010	0.01851	0.00002	-0.00618
	(0.017)	(0.019)	(0.016)	(0.020)	(0.019)	(0.020)	(0.048)	(0.054)	(0.056)
EFREE	-0.02519	-0.02510	0.00713	-0.01942	-0.00656	-0.01104	0.06482*	0.06612*	0.06392
	(0.028)	(0.029)	(0.028)	(0.026)	(0.024)	(0.026)	(0.038)	(0.037)	(0.039)
GROWTH	-0.02815	0.01511	-0.02737	0.07604	0.10563	0.10495	0.09108	0.11861	0.11201
	(0.092)	(0.087)	(0.063)	(0.120)	(0.124)	(0.122)	(0.127)	(0.134)	(0.135)
POPG	-0.00363	-0.01577	-0.07225	0.10110	0.03214	0.02593	-0.14757	-0.15976	-0.19497
	(0.185)	(0.171)	(0.137)	(0.159)	(0.130)	(0.141)	(0.240)	(0.222)	(0.227)
PROP	0.02877**	0.03283**	0.01398	0.03064**	0.02694**	0.03142**	0.02399	0.03216	0.02913
	(0.014)	(0.016)	(0.018)	(0.012)	(0.013)	(0.012)	(0.017)	(0.022)	(0.022)
CRISIS	0.22457	0.18286	0.18896	0.31835	0.32746	0.31932	0.53437	0.50896	0.50395
	(0.379)	(0.410)	(0.331)	(0.459)	(0.480)	(0.469)	(0.498)	(0.490)	(0.503)
Observations	1,057	932	962	1,057	932	962	1,003	878	908
Number of countries	54	54	54	54	54	54	54	54	54
AR(2) test	0.207	0.252	0.420	0.219	0.225	0.264	0.224	0.214	0.267
Hansen-J test	0.051	0.081	0.384	0.051	0.081	0.384	0.035	0.055	0.098

Source and notes: Authors' calculation. Regressions are carried out using the standard GMM estimation, taking into account orthogonal deviations of instruments and Windmeijer's (2005) finite sample correction. Robust standard errors are in parentheses. *** indicates statistical significance at the 1% level, while ** and * indicate statistical significance at the 5% and 10% levels, respectively. Constants in the two-step and one-step system GMM estimation are included, but not reported.

Table 6. Additional analysis: Financial development, funding liqudity and current account balances

Explanatory variables	**Dependent variables:** CAB								
	Two-step system GMM			*One-step system GMM*			*Difference GMM*		
L.CAB	0.72011***	0.71589***	0.71169***	0.74005***	0.73870***	0.73968***	0.75260***	0.75695***	0.76333***
	(0.049)	(0.053)	(0.051)	(0.048)	(0.049)	(0.048)	(0.057)	(0.067)	(0.063)
BCRED	-0.00595			-0.01246*			-0.03162**		
	(0.007)			(0.007)			(0.016)		
BCRED x DEPO	0.00026***			0.00034***			0.00064***		
	(0.000)			(0.000)			(0.000)		
FSC		-0.01167			-0.01735**			-0.04159**	
		(0.008)			(0.008)			(0.017)	
FSC x DEPO		0.00010			0.00020*			0.00075***	
		(0.000)			(0.000)			(0.000)	
PSC			-0.01054			-0.01665**			-0.04779***
			(0.007)			(0.007)			(0.016)
PSC x DEPO			0.00019**			0.00028***			0.00066***
			(0.000)			(0.000)			(0.000)
DEPO	-0.02715***	-0.00960	-0.02053*	-0.03790***	-0.02677	-0.03292***	-0.13394***	-0.15745***	-0.13620***
	(0.010)	(0.016)	(0.011)	(0.011)	(0.017)	(0.011)	(0.029)	(0.033)	(0.033)
Observations	3,008	2,875	2,904	3,008	2,875	2,904	2,844	2,710	2,739
Number of countries	164	165	165	164	165	165	163	164	164
AR(2) test	0.387	0.491	0.519	0.262	0.351	0.374	0.317	0.390	0.462
Hansen-J test	0.131	0.098	0.107	0.131	0.098	0.107	0.115	0.097	0.101

Source and notes: Authors' calculation. Regressions take into account orthogonal deviations of instruments and Windmeijer's (2005) finite sample correction. Robust standard errors are in parentheses. *** indicates statistical significance at the 1% level, while ** and * indicate statistical significance at the 5% and 10% levels, respectively. Constants in the two-step and one-step system GMM estimation are included, but not reported. All control variables (DEPR, EFREE, GROWTH, POPG, PROP and CRISIS are also incorporated, but not reported.

Table 7. Additional analysis: Financial development, funding liqudity and current account balances in developing countries

Explanatory variables	Dependent variables								
	Two-step system GMM			*One-step system GMM*			*Difference GMM*		
	CAB	CAB	CAB	CAB	CAB	CAB	CAB	CAB	CAB
L.CAB	0.66929***	0.65925***	0.66610***	0.70515***	0.70317***	0.70993***	0.70901***	0.70877***	0.72681***
	(0.063)	(0.066)	(0.064)	(0.062)	(0.062)	(0.060)	(0.076)	(0.087)	(0.083)
BCRED	-0.02150*			-0.02589*			-0.04722		
	(0.013)			(0.013)			(0.030)		
BCRED x DEPO	0.00060***			0.00062***			0.00102**		
	(0.000)			(0.000)			(0.000)		
FSC		-0.03735**			-0.03753***			-0.05690**	
		(0.015)			(0.014)			(0.025)	
FSC x DEPO		0.00017			0.00025			0.00100***	
		(0.000)			(0.000)			(0.000)	
PSC			-0.02992**			-0.03415***			-0.06408**
			(0.011)			(0.011)			(0.026)
PSC x DEPO			0.00059***			0.00062***			0.00099***
			(0.000)			(0.000)			(0.000)
DEPO	-0.06562***	-0.01371	-0.06359***	-0.07036***	-0.03079	-0.06908***	-0.21604***	-0.21921***	-0.20845***
	(0.017)	(0.028)	(0.017)	(0.018)	(0.026)	(0.018)	(0.042)	(0.041)	(0.044)
Observations	1,995	1,996	1,996	1,995	1,996	1,996	1,883	1,883	1,883
Number of code	112	113	113	112	113	113	111	112	112
AR(2) test	0.417	0.482	0.444	0.334	0.395	0.389	0.428	0.463	0.508
Hansen-J test	0.174	0.139	0.143	0.174	0.139	0.143	0.159	0.161	0.133

Source and notes: Authors' calculation. Regressions take into account orthogonal deviations of instruments and Windmeijer's (2005) finite sample correction. Robust standard errors are in parentheses. *** indicates statistical significance at the 1% level, while ** and * indicate statistical significance at the 5% and 10% levels, respectively. Constants in the two-step and one-step system GMM estimation are included, but not reported. All control variables (DEPR, EFREE, GROWTH, POPG, PROP and CRISIS are also incorporated, but not reported.

Table 8. Additional analysis: Financial development, funding liqudity and current account balances in developed countries

Explanatory variables	Dependent variables								
	Two-step system GMM			*One-step system GMM*			*Difference GMM*		
	CAB	CAB	CAB	CAB	CAB	CAB	CAB	CAB	CAB
L.CAB	0.75284***	0.77806***	0.78344***	0.77605***	0.79370***	0.76862***	0.78584***	0.80137***	0.77757***
	(0.082)	(0.052)	(0.075)	(0.048)	(0.036)	(0.051)	(0.058)	(0.047)	(0.060)
BCRED	-0.00617			-0.00301			-0.00749		
	(0.011)			(0.008)			(0.014)		
BCRED x DEPO	0.00007			0.00007			0.00011		
	(0.000)			(0.000)			(0.000)		
FSC		-0.00180			-0.00198			-0.01242	
		(0.015)			(0.006)			(0.013)	
FSC x DEPO		0.00004			0.00003			0.00010	
		(0.000)			(0.000)			(0.000)	
PSC			-0.00479			-0.00441			-0.01769
			(0.011)			(0.008)			(0.015)
PSC x DEPO			0.00003			0.00001			0.00011
			(0.000)			(0.000)			(0.000)
DEPO	-0.00609	-0.00488	0.00064	-0.00617	0.00049	0.00423	-0.02994	-0.02340	-0.02390
	(0.014)	(0.024)	(0.025)	(0.009)	(0.013)	(0.012)	(0.021)	(0.030)	(0.030)
Observations	1,013	879	908	1,013	879	908	961	827	856
Number of code	52	52	52	52	52	52	52	52	52
AR(2) test	0.189	0.397	0.478	0.198	0.322	0.366	0.210	0.319	0.385
Hansen-J test	0.110	0.242	0.112	0.110	0.242	0.112	0.039	0.109	0.146

Source and notes: Authors' calculation. Regressions take into account orthogonal deviations of instruments and Windmeijer's (2005) finite sample correction. Robust standard errors are in parentheses. *** indicates statistical significance at the 1% level, while ** and * indicate statistical significance at the 5% and 10% levels, respectively. Constants in the two-step and one-step system GMM estimation are included, but not reported. All control variables (DEPR, EFREE, GROWTH, POPG, PROP and CRISIS are also incorporated, but not reported.