Credit risk determinants in Sub-Saharan banking systems: Evidence from five countries and lessons learnt from Central East and South East European countries

Eftychia Nikolaidou a,*, 1, Sofoklis Vogiazas b

* Department of Economics, Faculty of Commerce, University of Cape Town, South Africa
b Department of Financial Analysis, Black Sea Trade and Development Bank, Greece

Abstract

Banking systems in Sub-Saharan Africa (SSA) have grown notably over the past decades due to benign macroeconomic, regulatory and financial trends. Nonetheless, downside risks remain elevated by structural issues, commodity price fluctuations, reversal of capital flows and spill-over effects from external shocks in a manner similar to the Central East and South East European (CESEE) countries. In the light of the 2008–2009 Global Financial Crisis, great attention has been given to understanding the causes of banking instability with most of the research focusing on advanced economies and, to a lesser extent, large emerging markets while little attention has been paid to the bank-based financial sectors of Sub-Saharan Africa. Furthermore, there is scarcity of studies aiming at knowledge-sharing among different emerging economies. This paper aims to identify the determinants of bank credit risk by focusing on five SSA countries: Kenya, Namibia, South Africa, Zambia and Uganda. Using the ARDL approach to cointegration, findings indicate that increased money supply conditions have a decreasing effect on NPLs in all counties, banking industry-specific variables play a significant role in the case of South Africa and Uganda while NPLs are driven by country-specific variables in the case of Kenya, South Africa and Zambia. The effect of the Global Financial Crisis is evidenced indirectly. Drawing on evidence from CESEE countries with long experience in banking crises, reforms and financial deepening process, the paper provides lessons for SSA countries and offers policy recommendations in the direction of strengthening banks’ balance sheets to ensure financial stability.

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1. Introduction

In most SSA countries, the bank-dominated financial sectors are in a developing stage. Supported by reform efforts, the depth and coverage of financial systems has been gradually increasing over the past decade, but still remains at low level (Kasekende et al., 2010). As EIB (2013) highlights, the scale of financial intermediation in the region remains significantly lower than in other developing regions of the world, while access to financial services is also relatively limited. The Global Financial Crisis of 2008 did not hit badly the African banking systems as they tend to have adequate capitalisation, low leverage, excess liquidity and limited dependence on external funding. However, most SSA countries’ banking systems were indirectly affected by the crisis through trade linkages and exchange rate depreciations, which increase the borrowers’ financial problems resulting to increasing Non-Performing Loans (NPLs hereafter).

Any policy response in the resolution of NPLs first requires identifying their underlying determinants. Motivated by the scarcity of case studies on the determinants of bank credit risk (including the effect of the Global Financial Crisis) in the SSA banking systems, this paper focuses on five SSA countries in order to empirically investigate the macroeconomic, banking industry-specific, country-specific and external factors that affect NPLs. Specifically, the paper considers five SSA countries that are found at different levels of economic development. These are: Kenya and Zambia (lower-middle income countries),

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South Africa and Namibia (upper-middle income countries) and Uganda (low income country). The selection of these countries was driven by data availability/reliability issues as well as by the need to include countries of different income levels. Furthermore, drawing on the experience of CESEE countries that went through similar processes of financial reforms and liberalization and severe sovereign debt and banking crises, the paper aims to compare the findings and experience of these regions and allow lessons to be learnt. Thus, the contribution of this paper is fourfold: First, it provides empirical evidence on the determinants of credit risk in five SSA countries on a case by case basis. This allows examining the country-specific aspects, which is missing from panel data studies. Second, it uses an extensive number of macroeconomic, banking industry-specific, country-specific as well external factors (including the Global Financial Crisis) and employs a systematic methodological approach in order to reach a model that best explains credit risk in each country. Third, it compares the experiences and findings of the SSA countries to those of CESEE countries in order to allow lessons to be learnt. Finally, it provides recommendations that can be utilised by policymakers and regulators in identifying and dealing with credit risk which can have a devastating impact on the stability of the banking sector and in turn can adversely affect the real economy. The rest of the paper is structured as follows: Section 2 briefly reviews the literature while Section 3 gives an overview of the five countries’ economies and banking sectors. Then, Section 4 describes the data and the methodology employed followed by the empirical findings in Section 5. Section 6 summarises the lessons to be learnt from CESEE countries and lastly, Section 7 provides the main conclusions and policy recommendations.

2. Literature overview

The deterioration of banks’ asset quality has been at the core of costly banking crises in both emerging and advanced economies. The bitter reality is that elevating non-performing loans dampens economic growth. Hence, deteriorating asset quality has been generally considered as the channel for macroeconomic shocks to banks’ balance sheets. The empirical literature on the determinants of credit risk and the interaction with the macroeconomic conditions is grounded in theoretical models that deal with the business cycle with an explicit role for financial intermediation. In the spirit of these models, the financial accelerator theory as discussed in Bernanke and Gertler (1989), Bernanke et al. (1999) and Kiyotaki and Moore (1997) has become the most influential theoretical framework for modelling macro-financial linkages. The empirical literature identifies two broad sets of drivers that explain NPLs: the macroeconomic and the bank-specific or institutional factors. In the former case, benign economic conditions captured by real GDP or other indicators such as industrial production, construction, rising commodities or food prices, depending on the specificities of each country, imply that borrowers can service their loans and as such, NPLs decrease (Ghosh, 2015; Beck et al., 2015).

As for the bank-specific determinants of NPLs, the literature identifies, among others the ‘bad management’ hypothesis\(^1\) captured by low efficiency, low capital, excess lending typically undertaken by riskier banks. Specifically, banks with low cost-efficiency tend to be badly managed with poor loan underwriting, poor monitoring and control which results in increasing NPLs (Berger and DeYoung, 1997; Podpiera and Weill, 2008). On the contrary, high costs could imply that banks are not allocating enough resources to monitor risks and as a result NPLs increase while certain profitability ratios are associated inversely with NPLs. Banks with low capital tend to be riskier and tend to have higher NPLs according to the ‘moral hazard hypothesis’ (Keeton and Morris, 1987). Equally, banks with low liquidity as measured by the loan to asset ratio or loan to deposits ratio are expected to face higher NPLs as they are unable to cover funding gaps.

Claessens and Kose (2013) suggest that financial crises can have multiple causes either fundamental (fiscal policy, slowdown in GDP growth, increase in interest rates or inflation) or exogenous. Similarly, Cull and Martínez Péra (2012) indicate that most banking crises have macroeconomic roots and occur in environments troubled by fiscal or trade deficits. Although, the country-specific factors are equally important, Llewelyn (2002) suggests that several common elements are visible in many crises. Although macro-instability has been a common feature, and may often have been the proximate cause, banking crises usually emerge because instability in the economy reveals existing weaknesses within the banking system.

Numerous panel data studies explain non-performing loans in a cross-country context (Rinaldi and Sanchis-Arellano, 2006; Nkusu, 2011; Klein, 2013; Castro, 2013; Beck et al., 2015) while other studies focus on a country’s financial sector (De Bock and Demyanets, 2012; Louzis et al., 2012; Ghosh, 2015). Castro (2013) finds that the macroeconomic environment significantly affects the banks’ credit risk, especially during the recent financial crisis and documents a significant impact of GDP growth, share price indices, unemployment rate, interest rates, credit growth and the real exchange rate. Kavlker and Festic (2010) results support the hypothesis that excessive growth of finance deteriorates NPL dynamics due to the overheating of the economies and find a pronounced role of current account deficits in financial instability. Klein’s (2013) panel regressions also confirm the stylised facts in line with findings of other studies (Nkusu, 2011; Espinoza and Prasad, 2010; Castro, 2013; De Bock and Demyanets, 2013). Ghosh (2015) finds that liquidity risks and operating inefficiencies increase NPLs, while increasing profitability lowers NPLs. As for macroeconomic variables, Ghosh (2015) results suggest that higher real GDP and real personal income growth rates reduce NPLs while inflation, unemployment and public debt significantly increase NPLs.

Through the use of VAR models, Espinoza and Prasad (2010), Nkusu (2011) and Klein (2013) document a feedback effect from NPLs to the macroeconomy. Thus, it appears that banks’ asset quality reinforces the business cycle in a pro-cyclical man-
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